Dominion Resource Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
dom.com

May 23, 2016

Ms. Emilee Adamson
VPDES Permit Manager
Virginia Department of Environmental Quality
Piedmont Regional Office
4949A Cox Road
Glen Allen, Virginia 23060

RE: Additional Information to Support the Application to Reissue Existing VPDES Individual Permit VA0004146 for the Chesterfield Power Station located in Chesterfield County, Virginia

Dear Ms. Adamson:

In accordance with recent discussions, Dominion Virginia Power is submitting the attached additional information to support the reissuance of the existing VPDES Individual Permit VA0004146 for the Chesterfield Power Station. This additional information is being provided to update and supplement the VPDES application package submitted on July 20, 2015 and application addendum submitted on May 5, 2016.

If you need additional information or have any questions regarding this submittal, please contact Ken Roller at (804) 273-3494 or by email at Kenneth.Roller@dom.com. Thank you for your assistance.

Sincerely,

for

Paula A. Hamel
Director
Generation Environmental Services

Attachments

Additional Information to Support the Reissuance of VPDES Permit VA0004146

Chesterfield Power Station

Chesterfield County, Virginia

May 23, 2016

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Mark D. Mitchell, VP Generation Construction

Name and Official Title

Mark D Mitchell 5/23/2016

Signature and Date Signed

Description of Contents

A. Form 2C Revised Narrative
    a. Revised Intermediate Condition One Line Diagram
    b. Revised Final Condition One Line Diagram
    c. Revised Map Showing Location of VPDES Permitted Outfalls
B. Updated Chemical Matrix with Worst Case Expected Outfall 301 Concentrations

Attachment A

Revised Form 2C Narrative

FORM 2C - NPDES

Item II-A: LINE DRAWING

Steam and Evaporative Losses

A precise water balance cannot be provided as a considerable amount of water is released to the atmosphere as steam or evaporation, and we do not have estimates or measurements of these water losses, which can vary greatly with season and station operating conditions. The dashed lines on the drawing represent flows that occur on an intermittent basis. Rainfall runoff contributing to average flows of internal discharges is not available for several sources or treatment units.

Industrial Storm Water Discharges

Industrial storm water discharges from the station to the James River, Farrar Gut, and Aiken Swamp are identified for informational purposes only. These discharges are permitted under the VPDES General Storm Water Permit VAR051023

Item II-B: WASTEWATER SOURCES TO EACH OUTFALL

II-B.1: Existing Sources

Non-Process Water Discharges

- Intake screen backwash
- Occasional pumping of river water from intake screen wells to gain access for maintenance
- Discharges associated with the routine testing of the fire fighting system involving the withdrawal and direct return of water from the river
- The discharge from one sump pump each in the condenser cooling water intake pump rooms for Units 7 and 8.

Lower (Old) Ash Pond (Outfall 004)

The Lower (Old) Ash Pond is located across Coxendale Road south of the Chesterfield Power Station (CPS). Fly ash, bottom ash, and pyrites produced by generating units 3, 4, 5, and 6 are currently sluiced to the head of the ash pond using water withdrawn from the circulating river water system. The ash sluicing system typically operates 24 hours per day and alternates between bottom ash and fly ash as needed with the flow rate dependant on which generating units are on line. Wastewater treatment in the Lower Ash Pond (LAP) consists primarily of settling, and chemical coagulants may be added from time to time to facilitate this process. Chemicals may also be added as needed for pH adjustment to ensure that the discharge pH is within the allowable range. Ash that settles within the ash pond is manually removed and is transported via truck to the New Ash Pond, otherwise known as the Upper Ash Pond (UAP),

where it is used in the pond closure project. Bottom ash sluice may be directed to a processing area where a portion of the bottom ash is removed for beneficial reuse.

In addition to ash sluice water, the LAP also currently receives most of the station's low volume wastes, non-chemical cleaning wastes, chemical cleaning wastes (via the metals pond), and coal pile runoff. The ash pond also receives effluent from the FGD chloride purge stream wastewater treatment plant, screen backwash associated with the reuse of Proctors Creek WWTP effluent, wastewater from the station's car wash (non-chemical), and storm water from the Unit 6 FGD runoff collection system, from a portion of Drainage Area 4 (includes demineralizer building and associated ASTs), and from various other onsite tank containment areas including the station's light oil storage tank.

Metals Cleaning Waste Treatment Basin or Metals Pond (Newly Designated Internal Outfall 401)

The influent flows to the metals cleaning waste treatment basin (formerly referred to as Internal Outfall 104 and newly designated to Internal Outfall 401 as part of this permit renewal) consist of chemical cleaning wastes from periodic cleanings of the station's boilers, and non-chemical wastewater from precipitator and air preheater washes. Non-chemical cleaning wastewater from exterior boiler washes is typically routed directly to the ash pond via the master sump. The volume of wastewater generated by individual chemical and non-chemical washings is not measured. In addition, wastewater from the master sump may be routed to the metals cleaning waste treatment basin through the emergency sump line during maintenance periods. These wastewaters are generated infrequently, and the volume of water generated during a particular washing event is dependent on the amount, type, and condition of the equipment being cleaned.

Flue Gas Desulphurization Chloride Purge Stream Wastewater Treatment Plant (New Internal Outfall 402)

Flue gas desulphurization (FGD) is the state-of-the art technology used for removing sulfur dioxide (SO_2) from the exhaust flue gases from steam electric power plants that burn coal or oil. Dominion installed FGD technology at CPS to reduce SO_2 emissions from the four pulverized coal-fired generating units (Units 3, 4, 5, and 6). Installation of the FGD technology associated with Unit 6 was completed, and the unit became operational, during 2008. A second FGD was installed to handle the combined SO_2 emissions from Units 3, 4, and 5 through a common wet stack. The common scrubber became operational in 2011.

The FGD technology installed at CPS involves a wet scrubbing system where pulverized limestone is blended with water to form a slurry. The slurry is then sprayed into the exhaust flue gas and the calcium carbonate (CaCO3) in the slurry reacts with the SO2 in the flue gas to form calcium sulfate (CaSO4) or gypsum. The resulting gypsum is collected, and then dewatered using two stages of hydro-cyclones followed by vacuum filtration to separate and reclaim the gypsum. The remaining water is returned for reuse in the scrubber.

The primary source of make-up water to the FGD units is final effluent from the Proctors Creek Wastewater Treatment Plant (WWTP). Wastewater from the Proctors Creek WWTP is discharged to the James River through two pipes, which run along a Chesterfield County easement through Dominion property just west of the station's barge slip. The wastewater for reuse at CPS is diverted from the two discharge pipes via a pumping station located on Dominion property adjacent to the County's discharge pipes. James River water serves as a back-up water source to the FGD.

Each FGD unit requires approximately 1,400 gpm (2.016 mgd) of make-up water. The great majority of the make-up water to each FGD will be lost to the atmosphere through evaporation. Dominion may also use Proctors Creek effluent as make-up water to other plant processes that are currently supplied by water withdrawn from the James River.

Dominion currently reclaims gypsum that is suitable for use in the manufacture of commercial wallboard. The production of wallboard-quality gypsum requires the use of a high purity limestone in conjunction with a gypsum reclamation process designed to maintain a chloride concentration of less than 30,000 mg/L in the circulating FGD water system. Chloride concentration is controlled through the use of a blowdown (or purge) stream. Each FGD generates approximately 0.115 mgd that is directed to the station's FGD wastewater treatment plant (WWTP) located south of the Unit 6 FGD and just southeast of the station's fuel oil storage tank. The treated wastewater is then discharged through the new Internal Outfall 402 to the LAP.

Limestone for use in the FGD units is delivered to the station by barge. The limestone is unloaded at the station's existing barge slip and is transferred via conveyor to a covered storage area located just northwest of the station's existing fuel oil storage tank. Reclaimed gypsum is stored in a covered area located just south of the barge slip unloading area and is then loaded onto barges for delivery to a wallboard manufacturer. Reclaimed gypsum may also be placed, along with other coal combustion by-products, in the New (Upper) Ash Pond closure project at CPS.

Storm water runoff from the Unit 6 FGD site, including the limestone and gypsum storage areas and barge slip collection sump, is collected in three (3) separate yard sumps, Yard Sump #1, Yard Sump #2, and Yard Sump #3. Yard Sump #1 discharges to the FGD sump pipe which is routed to the LAP. Yard Sumps #2 and #3 and the effluent from the FGD WWTP tie into the FGD sump pipe.

The wastewater treatment and storm water management facilities associated with the FGD at CPS were described in detail in a Concept Engineering Report that was submitted to DEQ by letter dated October 23, 2007. The CER was approved by DEQ staff by letter dated March 5, 2008.

Proctors Creek Wastewater Reuse Screen Backwash

There has been some growth of algae on the discharge structure associated with the Proctors Creek WWTP and also within Dominion's sump that receives the Proctors

Creek effluent. Periodically, this algae sloughs off and clogs the strainers that are located downstream from the sump but prior to the FGD process. Historically, the station removed the material from the screens by hand (~ 1/2 of 55 gallon drum per week) but has now installed self cleaning screens, which use a backwash stream of about 180 gpm for 3 minutes and cycle at about 5 cycles per hour (~65,000 gpd). This backwash stream is routed to the Yard Sump #1.

The Old (Lower) Ash Pond will be closed in accordance with the EPA's Coal Combustion Residuals Rule and the Virginia Solid Waste Management Regulations as part of the station's conversion to a dry ash handling system. A new Low Volume Wastewater Treatment System (LVWWTS) will be constructed to replace the Old (Lower) Ash Pond for treatment of the station's low volume waste streams. The new Low Volume Wastewater and Coal Pile Treatment Systems will undergo commissioning prior to being placed into service. During commissioning, and prior to ceasing discharge through Outfall 004, either system may be discharged to the LAP until commissioning of the system is complete.

New (Upper) Ash Pond Sedimentation Basin (Outfall 005)

The New (Upper) Ash Pond (also referred to as the east ash pond) is being closed. The pond is currently being closed in accordance with the revised Ash Pond Closure Plan (September 2003), Phasing Plan (May 2003), and Construction Quality Assurance Plan (May 2003), approved by DEQ in September 2003 and amended in April 2015. An application has been submitted to DEQ for a solid waste permit to complete closure of the Upper Ash Pond (UAP) in accordance with EPA's Coal Combustion Residuals Rule and the Virginia Solid Waste Management Regulations. Closure of the Upper Ash Pond will transition from the VPDES permit to the solid waste permit in accordance with the terms of those permits.

As the UAP is closed, surface runoff is being channeled to a sedimentation basin located at the eastern end of the ash pond. This sedimentation basin discharges through the existing Outfall 005 to Farrar Gut. The retention time of the basin varies depending on the amount of rainfall that is received during a given period of time. During certain periods, the sedimentation pond may be routed to the Old (Lower) Ash Pond and discharged through existing Outfall 004 to Farrar Gut. Solids that accumulate in the basin are removed as needed and returned to the active cells associated with the UAP closure. In addition to surface runoff, the sedimentation pond also currently receives ground water collected in four (4) toe drains.

Intake Screen Backwash Discharges (Outfalls 006 – 011)

The cooling water intake structures at the CPS are equipped with trash bars, vertical traveling screens, and an intake screen backwash system (ISBS). Collectively the ISBS consists of 13 individual backwash flows (designated as Outfalls 006 – 011 in the current VPDES permit) to the main channel of the James River. Operation of the ISBS is on an "as needed" basis with the frequency of operation dependent on the amount of debris that is present in the river. Typically spring (March and April) and fall (October and November) are the periods of highest ISBS operation. During other periods of the year, the ISBS is operated approximately two hours per day.

The intake screen wash water for all units is James River water that is taken from the station's circulating water system before contact with industrial processes. Historically, chlorine was added to the circulating water system at points prior to removal of the water for use in the ISBS. As a result, monitoring data indicated that some residual chlorine was present in the ISBS discharges and, consequently, water quality-based effluent limits for total residual chlorine (TRC) were included on Outfalls 006 – 011 when the permit was reissued effective December 10, 2004. Also included in the permit was a four-year schedule requiring compliance with the TRC limits by December 10, 2008.

By letter dated June 8, 2006, Dominion submitted to DEQ a Plan of Action and Concept Engineering Report for achieving compliance with the TRC limits. The compliance method selected was to relocate the points for chlorine injection to locations downstream from where the water is withdrawn for use in the ISBS. The compliance plan was approved by DEQ on June 23, 2006, and Dominion began implementation of the plan in August 2006. Relocation of all chlorine injection points was officially completed during the fall of 2008 and there is no longer a station source of chlorine to the screen backwash discharges. Consequently, all ISBS discharges now consist of James River water that has not been contaminated by use in any plant processes, and these outfalls are being removed from the permit as part of this reissuance process.

II-B.2: Intermediate and Final Conditions

The CPS is currently undertaking an integrated ash project (IAP). The IAP is an extensive, multi-year project that is being driven by recently promulgated regulatory requirements that affect almost every aspect of how the station currently manages wastewater. The IAP includes the closure of the UAP and LAP, construction of a Fossil Fuel Combustion Product (FFCP) Management Facility, and conversion from a wet to dry ash management system. Wastewater management under the IAP involves: 1) construction of a new Low Volume Wastewater Treatment System (LVWWTS) to manage wastewaters that will remain following closure of the LAP and UAP and that will be generated by the new FFCP Management Facility; 2) management of wastewaters that will be produced during closure of the LAP and UAP; and 3) installation of a new wastewater treatment system to remove selenium from the station's FGD waste stream. The timing for construction and operation of the LVWWTS and the new FGD wastewater treatment system, as well as the process for management of wastewaters associated with the ash pond closures, was described in Dominion's May 5, 2016 VPDES permit application addendum.

II-B.2.a: Intermediate Condition

The intermediate wastewater condition represents wastewater configurations that are expected to exist during the process leading to completion of the IAP (see Intermediate Condition One-Line Diagram attached) and after cessation of discharge through Outfall 004. Wastewater sources that are expected to be discharged during the Intermediate Condition include those sources associated with the construction and operation of the new LVWWTS and FFCP Management Facility, and wastewaters that will be generated during closure of the UAP and

LAP. In addition to the existing Master Sump, FGD Yard Sump, New (Upper) Ash Pond Toe Drains, and S-Ditch pump station, the following are intermediate sources.

Low Volume Wastewater Treatment System (New Internal Outfall 301)

The LVWWTS will be constructed to manage the station's low volume wastewater streams. An equalization (EQ) basin will be constructed to receive the wastewater streams listed below and allow sufficient residence time for equalization of water quality constituents. Effluent from the EQ basin will be discharged into a new Discharge Basin. The effluent from the Discharge Basin will be discharged through a new Internal Outfall 301 via a diffuser into the Thermal Channel. The Thermal Channel will continue to discharge through the existing Outfall 003 to Farrar Gut. The approximate locations of Outfall 301 and the internal outfalls listed below are shown on Figure 3, and details will be provided in Concept Engineering Reports that will be submitted to DEQ for review and approval.

FGD Wastewater Treatment Plant (Internal Outfall 302)

The FGD WWTP will discharge through newly designated Internal Outfall 302. The outfall location will remain the same, and the discharge will still connect to the FGD Yard Sump discharge pipe; however, the outfall will discharge to the EQ basin and eventually to the Thermal Channel through Internal Outfall 301.

Metals Cleaning Waste Treatment Basin or Metals Pond (Internal Outfall 303)

The Metals Pond will discharge through newly designated Internal Outfall 303 to the EQ basin and eventually to the Thermal Channel through Internal Outfall 301.

Landfill Leachate (Internal Outfall 304)

The FFCP Management Facility (Landfill) will be constructed for the disposal of dry ash and other coal combustion residuals collected at the station. Leachate generated at the Landfill and collected by the leachate management system will be pumped to the EQ basin through a new Internal Outfall 304 and eventually discharge to the Thermal Channel through Internal Outfall 301. The approximate location of Internal Outfall 304 is shown on Figure 3. The Landfill leachate will not discharge to the EQ basin until the LVWWTS is in operation and discharging to Outfall 301.

Coal Pile Runoff Stormwater Treatment System (Internal Outfall 305)

The Coal Pile runoff will be collected in a new basin designed to manage a 25-year, 24-hour rain event. Effluent from the coal pile basin will then be directed to a new treatment system. The treatment system will discharge through a new Internal Outfall 305 to the EQ Basin and will eventually discharge to the Thermal Channel through Internal Outfall 301. The approximate location of Internal Outfall 305 is shown on Figure 3.

Landfill Contact Stormwater

During operation of the Landfill, stormwater runoff that comes into contact with coal combustion residuals will be collected in a contact stormwater basin. The basin will discharge through a pipe that will connect to the existing FGD Yard Sump discharge pipe and discharge to the EQ Basin. Prior to reaching the FGD Yard Sump pipe, the contact stormwater will combine with Fly Ash Silo stormwater runoff and wash down water described below.

Fly Ash Silo Stormwater and Wash Down Water

As part of the wet-to-dry ash management conversion, silos will be constructed to collect dry ash through a pneumatic delivery system. The fly ash will be deposited from the silos into haul trucks that will transport the ash, after being conditioned and covered, to the Landfill. Stormwater runoff collected in the fly ash silo drainage area and wash down water collected in fly ash silo area floor drains will be discharged to the EQ basin through a pipe that combines with the Landfill Contact Stormwater and eventually with the FGD Yard Sump pipe.

LAP Toe Drain

During closure of the LAP, a new toe drain will be created and will be directed to the EQ Basin. The toe drain will serve as a concentrated water collection system along the toe of the LAP's western embankment slope.

UAP Toe Drains

The existing UAP toe drains will be directed to the EQ Basin.

Bottom Ash Management Area Truck Wash

A truck wash is located adjacent to the closed loop bottom ash management system. Occasionally, the truck wash water will be discharged to the EQ Basin.

Lower and Upper Ash Pond Dewatering Treatment System (Internal Outfall 101/201)

As previously noted, both the Lower and Upper Ash Ponds will undergo closure to comply with EPA's Coal Combustion Residuals Rule and the Virginia Solid Waste Management Regulations. As part of the closure process, both the LAP and the UAP sedimentation basin will be dewatered to allow for the construction of subgrade to support the installation of the final cover system. The dewatering discharge from both the LAP and the UAP sedimentation basin will be treated at a Centralized Source Water Treatment System (CSWTS) that will discharge treated effluent through a new Internal Outfall 101/201. The approximate location of Internal Outfall 101/201 is shown on Figure 3. The treated effluent from Internal Outfall 101/201 will be discharged through existing Outfall 001 or 002 into the James River.

II-B.2.b: Final Condition

The final wastewater condition represents wastewater configurations that are expected to exist following completion of the IAP. Final Condition sources will include a new FGD wastewater treatment system, with removal of the ash pond dewatering system outfalls and the ash pond discharge outfalls. Other than the changes described below, the sources described in II-B.1 and II-B.2 remain the same.

FGD Wastewater Treatment Plant (Internal Outfall 302)

In order to achieve compliance with the Steam Electric Effluent Limitation Guidelines (ELG) limit for selenium, a selenium treatment system will be added to the existing FGD WWTP. The selenium treatment system and possible modifications to the existing FGD WWTP, as well as the final location of Internal Outfall 302, will be described in a Concept Engineering Report that will be submitted to DEQ for review and approval.

Removal of Ash Pond Dewatering Systems (Internal Outfall 101/201)

Once contact stormwater is no longer generated at either the Upper or Lower Ash Ponds, the CSWTS will cease treatment and be decommissioned. Outfall 101/201 will be removed, and treated effluent from the CSWTS will no longer discharge through Outfall 001 or 002.

Removal of Lower Ash Pond (Outfall 004)

During the LAP closure process, a stormwater management basin will be constructed to manage non-contact stormwater runoff. The basin will be activated once dewatering is complete and contact stormwater is no longer generated. At this point, Outfall 004 will be removed.

Removal of Upper Ash Pond (Outfall 005)

The UAP sedimentation basin will be filled and capped as one of the last closure tasks. Once contact stormwater is no longer generated, Outfall 005 will be removed.

ITEM II-C: INTERMITTENT AND/OR SEASONAL DISCHARGES

New (Upper) Ash Pond Sedimentation Basin (Outfall 005)

The UAP sedimentation basin associated with Outfall 005 is typically only discharged during two or three months out of the year, and the duration of each discharge is usually less than 5 days. The sedimentation basin will be closed as part the New (Upper) Pond closure.

Metals Cleaning Waste Treatment Basin or Metals Pond (Internal Outfall 401/303)

The Metals Cleaning Waste Treatment Basin is a batch operated system, which is designed for non-seasonal, intermittent use. Operations that contribute flows to the basin are shown on the

one-line drawings and as described in the narrative under Item 2-B.1 above. Typically, the valve is opened to begin the discharge and is not closed again until the pond is drained. A typical, average discharge flow is approximately 3 mgd. The pond level at the start of a discharge is not consistent from discharge to discharge and, therefore, the total volume discharged from the metals pond during any single discharge event can vary substantially depending on the volume present in the pond prior to discharge.

Landfill Leachate (Internal Outfall 304)

The leachate removal system for management of leachate at the FFCP Management Facility (Landfill) is designed to discharge leachate from a pump station when the liquid level within the pump station reaches a set liquid level. Influent into the pump station will occur when leachate is removed from sumps located within the Landfill footprint. During dry periods, the discharge from the Landfill will likely be intermittent. During wet periods, the maximum discharge of leachate is anticipated to be 0.19 mgd. The actual discharge volume will vary considerably based on weather conditions.

Outfall 305 (Coal Pile Discharge)

The coal pile discharge basin is designed to manage a 25-year, 24-hour storm event, and stormwater runoff from the coal pile is the only input to the basin and treatment system. Discharge from the treatment system is generally expected to occur during a precipitation event and shortly thereafter. During dry periods, discharge from the coal pile basin and treatment system will either be significantly reduced or it will cease until the next precipitation event. The actual discharge volume will vary considerably based on weather conditions.

ITEM IV-A: IMPROVEMENTS

FFCP Management Facility

The FFCP Management Facility (Landfill) is located on a parcel adjacent to and northwest of the CPS. The Landfill will be constructed with a composite geosynthetic base liner system, including leachate collection, and will be managed with a system consisting of permeable drainage material and piping. The piping will collect leachate and direct it to a pump station which ultimately discharges as described in II-B.2. Contact stormwater will be managed as described in II-B.2.

Wet-to-Dry Ash Management Conversion

The wet-to-dry ash conversion is designed to manage fly ash as a dry material rather than as a sluiced material. Fly ash will be blown from the collection area into storage silos. From the storage silos, ash will be moisturized and loaded into haul trucks that will carry the ash to the FFCP Management Facility. Stormwater runoff collected in and around the fly ash silo storage area, and water collected in the fly ash silo area floor drains, will be managed as described in II-B.2.

The wet-to-dry ash conversion also includes the construction of a closed loop bottom ash management system. Bottom ash will be conveyed from the station to a bottom ash management area utilizing a remote flight conveyor system to separate the coarse bottom ash from water. A mechanical system will remove bottom ash solids from the water prior to the water being recirculated back to the station. The bottom ash management area will include an impermeable pad on which bottom ash will be stacked for management. Storm water runoff, water from the stacked bottom ash that collects on the pad, and bottom ash blowdown from occasional maintenance will be collected and discharged to the LVWWTS.

Upper Ash Pond Closure (Outfall 005)

The closure of the UAP is an ongoing activity. The UAP will be closed in accordance with the EPA's Coal Combustion Residuals Rule and the Virginia Solid Waste Management Regulations. UAP toe drains will discharge as described in II-B.2. The final closure of the UAP will lead to the removal of Outfall 005 as described in II-B.2.b.

Lower Ash Pond Closure (Outfall 004)

The LAP currently receives sluiced fly ash and bottom ash from the station. The LAP also receives multiple low-volume wastewater streams associated with station operations, as well as storm water runoff. The LAP discharges by gravity through an engineered riser structure located in the southwestern corner of the facility, which is also the location of existing Outfall 004. The LAP will be closed in accordance with the EPA's Coal Combustion Residuals Rule and the Virginia Solid Waste Management Regulations as part of the station's conversion to a dry ash management system. The toe drain system will discharge as described in II-B.2. The final closure of the LAP will lead to the removal of Outfall 004 as described in II-B.2.b.

Low Volume Wastewater Treatment System (Internal Outfall 301)

The LVWWTS will be designed to manage the low volume waste streams described in II-B for Outfall 301. The LVWWTS will be implemented in a phased approach. The various components of the final LVWWTS will be described in Concept Engineering Reports to be submitted to DEQ for review and approval prior to their installation.

SEWAGE
COUNTY STP
DOMESTIC WATER
JAMES RIVER
PROCTORS CREEK WWTP EFFLUENT
SCREEN BACKWASH
RAIN
STORMWATER RUNOFF
OUTFALLS
050
051
052
053
055
056
057
058
059
060
INTAKE SCREEN BACKWASH 0.215 MGD UNITS 7 & 8
INTAKE SCREEN BACKWASH 0.388 MGD UNITS 3, 4, 5, 6
NON-CHEMICAL CLEANING WASTE
ASH SLUICE MAKE-UP
COMP COOLING TOWER BLOWDOWN 0.06 MGD
DEMIN WASTES 0.03 MGD
BEARING COOLING UNIT 3 0.3 MGD
BOILER BLOWDOWN ALL UNITS 0.005 MGD
EVAP BLOWDOWN 0.005 MGD
FLOOR AND ROOF DRAINS FLOW N/A
HOUSE SERVICE MISC. 0.07 MGD
NOx INJECTION UNITS 7 & 8 0.58 MGD
ATMOSPHERE
WATER TREATMENT PLANT 1.7 MGD
COOLING WATER UNITS 7,8 168.0 MGD (001)
COOLING WATER UNIT 3 73.0 MGD (002)
COOLING WATER UNITS 4,5,6 681.0 MGD (003)
ASH SLUICE UNITS 3-6
ASH SLUICE CLOSED LOOP
VACUUM PUMP HOUSE 0.021 MGD
RAIN
CHEMICAL TANK SECONDARY CONTAINMENTS
THERMAL DISCHARGE CHANNEL
CHEMICAL CLEANING METAL WASTE
LIME SLURRY TANKS
METALS POND 2.7 MGD AVG 5.0 MGD MAX (303)
EMERGENCY SUMP LINE
MASTER SUMP 2.7 MGD AVG 4.0 MGD MAX
WTP BLOWDOWN
EVAPORATION
FGD WWT 0.11 MGD AVG 0.35 MGD MAX (302)
FGD MAKE-UP
FGD YARD SUMP2
FGD YARD SUMP 1
FGD YARD SUMP3
FUEL OIL STORAGE TANK SECONDARY CONTAINMENT
FGD YARD SUMPS
INSET
STORMWATER RUNOFF AREA 5 (S-DITCH)
LANDFILL LEACHATE 0.19 MGD MAX (304)
BOTTOM ASH HANDLING CLOSED LOOP SYSTEM
TRUCK WASH
FGD YARD SUMPS 1.1 MGD AVG 3.4 MGD MAX (INSET)
EMERGENCY PUMP STATION
COAL PILE RUNOFF STORMWATER TREATMENT SYSTEM (305)
TRUCK WASH
LOW VOLUME WASTEWATER SYSTEM PHASE 1 (301) 4.3 MGD AVE 6 MGD MAX
LEGEND:
INTERMITTENT
CONTINUOUS
UPPER ASH POND CLOSURE TOE DRAIN SYSTEMS 0.035 MGD MAX
COAL PILE EMERGENCY SPILLWAY
COAL PILE RETENTION BASIN
CONTROLLED DRAWING
ANY CHANGES MADE TO THIS SYSTEM SHALL BE DOCUMENTED AS NOTED IN FOSSIL AND HYDRO CONTROLS MANUAL SECTION 6.3 .
LANDFILL CONTACT STORMWATER 0.4 MGD MAX
ASH POND CLOSURE DECANTING/DEWATERING
UPPER ASH POND SETTLING BASIN (005)
FARRAR GUT
OUTFALL 003 SAMPLING LOCATION
FLY ASH SILO FLOOR DRAINS
FLY ASH SILO STORMWATER 0.4 MGD MAX
JAMES RIVER VIA 001 OR 002
STORM WATER RUNOFF FROM UPPER POND CLOSURE
LOWER ASH POND CLOSURE DISCHARGE (004)
UPPER AND LOWER ASH POND CLOSURE CSWTS 5.0 MGD MAX (101/201)
ASH POND CLOSURE DECANTING/DEWATERING
THIS DWG SUPERSEDES DWG CH-VPDES-VA0004146-001

DOMINION
POWER FOSSIL & HYDRO ENGINEERING
RICHMOND, VIRGINIA

INTERMEDIATE CONDITION
ONE LINE DIAGRAM
WATER FLOW BALANCE LINE DIAGRAM
CHESTERFIELD POWER STATION

DRAWING NO. CH-0-SP-STA-600
REV.
SCALE UNLESS OTHERWISE NOTED
SH OF

REV	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
3	04-24 16		TAW	KEL	SKS							
2	06-24 15		KRP	KEL	SKS							
1	03-04 15		CLW	RAW	RWM							
0	12-30 10		KTC	RAW	RWM							

3 LVWWTS REVISIONS
2 LVWWTS ADDITION
1 REVISED TO SHOW ENVIRONMENTAL REDLINE.
0 ORIGINAL ISSUE. CONVERTED TO ACAD 600 SERIES DRAWING.

DSGN | DSGN SUPV
DRWN | ENGR SUPV
CHKD | PROJ ENGR
DISPL ENGR

SEWAGE
COUNTY STP
DOMESTIC WATER
JAMES RIVER
PROCTORS CREEK WWTP EFFLUENT
SCREEN BACKWASH
RAIN
STORMWATER RUNOFF
OUTFALLS
050
051
052
053
055
056
057
058
059
060
016
017
018
019
020
021
022
023
024
025
026
027
028
INTAKE SCREEN BACKWASH 0.388 MGD UNITS 3, 4, 5, 6
INTAKE SCREEN BACKWASH 0.215 MGD UNITS 7 & 8
NON-CHEMICAL CLEANING WASTE
ASH SLUICE MAKE-UP
COMP COOLING TOWER BLOWDOWN 0.06 MGD
DEMIN WASTES 0.03 MGD
BEARING COOLING UNIT 3 0.3 MGD
BOILER BLOWDOWN ALL UNITS 0.005 MGD
EVAP BLOWDOWN 0.005 MGD
FLOOR AND ROOF DRAINS FLOW N/A
HOUSE SERVICE MISC. 0.07 MGD
NOx INJECTION UNITS 7 & 8 0.58 MGD
ATMOSPHERE
WATER TREATMENT PLANT 1.7 MGD
COOLING WATER UNITS 7,8 168.0 MGD (001)
COOLING WATER UNIT 3 73.0 MGD (002)
COOLING WATER UNITS 4,5,6 681.0 MGD (003)
ASH SLUICE UNITS 3-6
ASH SLUICE CLOSED LOOP
VACUUM PUMP HOUSE 0.021 MGD
CHEMICAL TANK SECONDARY CONTAINMENTS
THERMAL DISCHARGE CHANNEL
CHEMICAL CLEANING METAL WASTE
METALS POND 2.7 MGD AVG 5.0 MGD MAX (303)
EMERGENCY SUMP LINE
MASTER SUMP 2.7 MGD AVG 4.0 MGD MAX
WTP BLOWDOWN
LIME SLURRY TANKS
EVAPORATION
FGD YARD SUMP2
FGD YARD SUMP 1
FGD YARD SUMP3
FUEL OIL STORAGE TANK SECONDARY CONTAINMENT
FGD YARD SUMPS INSET
STORMWATER RUNOFF AREA 5 (S-DITCH)
FGD WWT 0.11 MGD AVG 0.35 MGD MAX (302)
FGD MAKE-UP
DOMESTIC WATER
LANDFILL LEACHATE 0.19 MGD MAX (304)
BOTTOM ASH HANDLING CLOSED LOOP SYSTEM
TRUCK WASH
FGD YARD SUMPS 1.1 MGD AVG 3.4 MGD MAX (INSET)
EMERGENCY PUMP STATION
COAL PILE RUNOFF STORMWATER TREATMENT SYSTEM (305)
TRUCK WASH
LOW VOLUME WASTEWATER TREATMENT SYSTEM PHASE 2 (301) 4.3 MGD AVG 6 MGD MAX
LEGEND:
INTERMITTENT
CONTINUOUS
LANDFILL CONTACT STORMWATER 0.4 MGD MAX
UPPER ASH POND CLOSURE TOE DRAIN SYSTEMS 0.035 MGD MAX
LOWER ASH POND CLOSURE TOE DRAIN SYSTEMS 0.035 MGD MAX
COAL PILE EMERGENCY SPILLWAY
COAL PILE RETENTION BASIN
CONTROLLED DRAWING
ANY CHANGES MADE TO THIS SYSTEM SHALL BE DOCUMENTED AS NOTED IN FOSSIL AND HYDRO CONTROLS MANUAL SECTION 6.3 .
FARRAR GUT
OUTFALL 003 SAMPLING LOCATION

DOMINION
POWER FOSSIL & HYDRO ENGINEERING
RICHMOND, VIRGINIA

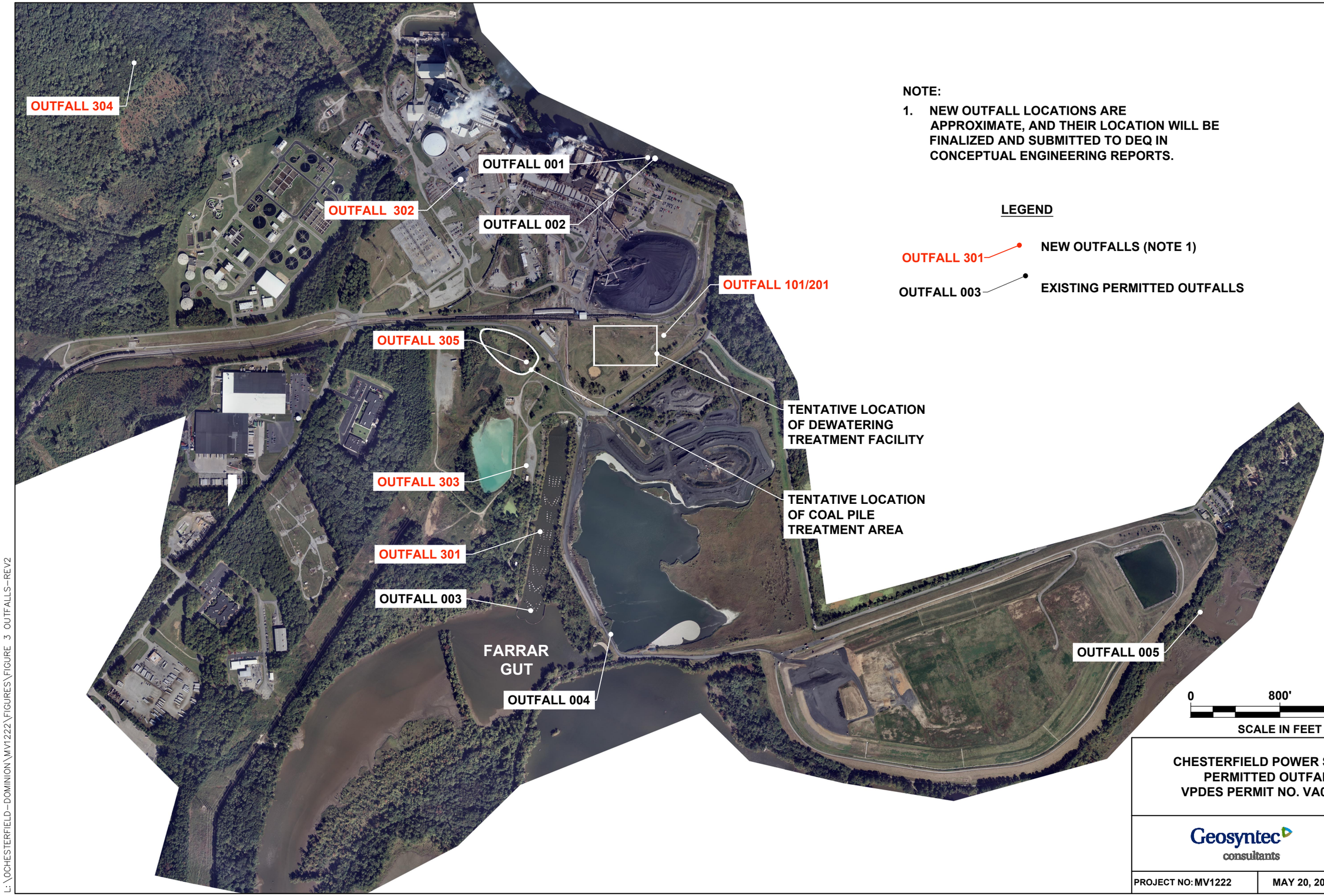
FINAL CONDITION
ONE LINE DIAGRAM
WATER FLOW BALANCE LINE DIAGRAM
CHESTERFIELD POWER STATION

THIS DWG SUPERSEDES DWG
CH-VPDES-VA0004146-001

REV	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
3	04-24 16		TAW	KEL	SKS							
2	06-24 15		KRP	KEL	SKS							
1	03-04 15		CLW	RAW	RWM							
0	12-30 10		KTC	RAW	RWM							

3 LVWWTS REVISIONS
2 LVWWTS ADDITION
1 REVISED TO SHOW ENVIRONMENTAL REDLINE.
0 ORIGINAL ISSUE. CONVERTED TO ACAD 600 SERIES DRAWING.

DSGN | DSGN SUPV
DRWN | ENGR SUPV | DRAWING NO. CH-0-SP-STA-601 | REV.
CHKD | PROJ ENGR
DISPL ENGR | SCALE UNLESS OTHERWISE NOTED | SH OF



NOTE:

1. NEW OUTFALL LOCATIONS ARE APPROXIMATE, AND THEIR LOCATION WILL BE FINALIZED AND SUBMITTED TO DEQ IN CONCEPTUAL ENGINEERING REPORTS.

N

LEGEND

OUTFALL 301 — NEW OUTFALLS (NOTE 1)

OUTFALL 003 — EXISTING PERMITTED OUTFALLS

0 800' 1600'

SCALE IN FEET

CHESTERFIELD POWER STATION
PERMITTED OUTFALLS
VPDES PERMIT NO. VA0004146

Geosyntec consultants

PROJECT NO: MV1222

MAY 20, 2016

FIGURE 3

L:\CHESTERFIELD-DOMINION\MV1222\FIGURES\FIGURE 3 OUTFALLS-REV2

Attachment B

Updated Chemical Matrix

		SCENARIO 1 RESULTS	SCENARIO 2 RESULTS	MAX RESULTS
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment in either Scenario (mg/L)
1,1,1-trichloroethane	mg/L	0.0003004	0.0002773	0.0003004
1,1,2,2-tetrachloroethane	mg/L	0.0002190	0.0001959	0.0002190
1,1,2-trichloroethane	mg/L	0.0002117	0.0001930	0.0002117
1,1-dichloroethane	mg/L	0.0001328	0.0001181	0.0001328
1,1-dichloroethene	mg/L	0.0003102	0.0002866	0.0003102
1,2,4-trichlorobenzene	mg/L	0.0007271	0.0006753	0.0007271
1,2-dichlorobenzene	mg/L	0.0001640	0.0001469	0.0001640
1,2-dichloroethane	mg/L	0.0002288	0.0002053	0.0002288
1,2-dichloropropane	mg/L	0.0001155	0.0000976	0.0001155
1,2-Trans-dichloroethene	mg/L	0.0001821	0.0001649	0.0001821
1,3-dichlorobenzene	mg/L	0.0001246	0.0001094	0.0001246
1,3-Dichloropropene	mg/L	0.0005073	0.0004738	0.0005073
1,4-dichlorobenzene	mg/L	0.0002231	0.0002030	0.0002231
2,3,7,8-Tetrachlorooxanthrene	mg/L	2.12E-11	8.43E-12	2.12E-11
2,4,6-trichlorophenol	mg/L	0.0017175	0.0016123	0.0017175
2,4-dichlorophenol	mg/L	0.0003424	0.0003167	0.0003424
2,4-dimethylphenol	mg/L	0.0008393	0.0007981	0.0008393
2,4-dinitrophenol	mg/L	0.0059730	0.0057243	0.0059730
2,4-Dinitrotoluene	mg/L	0.0005411	0.0005098	0.0005411
2,6-dichlorophenol	mg/L	0.0000162	0.0000065	0.0000162
2,6-dinitrotoluene	mg/L	0.0007955	0.0007530	0.0007955
2-Chloroethylvinyl ether	mg/L	0.0003194	0.0002631	0.0003194
2-chloronaphthalene	mg/L	0.0001625	0.0001482	0.0001625
2-chlorophenol	mg/L	0.0016497	0.0015644	0.0016497
2-methylphenol	mg/L	0.0000809	0.0000322	0.0000809
2-nitrophenol	mg/L	0.0016758	0.0015964	0.0016758
3,3-Dichlorobenzidine	mg/L	0.0011749	0.0010700	0.0011749
3,4-Benzo-fluoranthene	mg/L	0.0001697	0.0001546	0.0001697
4,4-DDE	mg/L	0.0000011	0.0000009	0.0000011
4,6-Dinitro-2-methylphenol	mg/L	0.0021685	0.0020644	0.0021685
4-bromophenyl phenyl ether	mg/L	0.0006355	0.0006019	0.0006355
4-chlorophenyl phenyl ether	mg/L	0.0005055	0.0004741	0.0005055
4-nitrophenol	mg/L	0.0063459	0.0060541	0.0063459
a-BHC	mg/L	0.0000032	0.0000023	0.0000032
Accrolein	mg/L	0.0027081	0.0024919	0.0027081
Acenaphthene	mg/L	0.0001568	0.0001390	0.0001568
Acenaphthylene	mg/L	0.0001625	0.0001482	0.0001625
Acrylonitrile	mg/L	0.0009274	0.0009534	0.0009534
Aldrin	mg/L	0.0000020	0.0000014	0.0000020
Alkalinity (Bicarbonate as CaCO3)	mg/L	93.0153174	82.2154070	93.0153174
Alkalinity (Carbonate as CaCO3)	mg/L	50.5530691	21.5794186	50.5530691
Alkalinity (total) as CaCO3	mg/L	148.3436151	101.3433140	148.3436151
Aluminium	mg/L	1.2137517	9.1982366	9.1982366
Ammonia as N	mg/L	1.7954554	1.1157267	1.7954554
Anthracene	mg/L	0.0001666	0.0001483	0.0001666
Antimony	mg/L	0.0041831	0.0023848	0.0041831
Arochlor 1016	mg/L	0.0000029	0.0000025	0.0000029
Arochlor 1221	mg/L	0.0000053	0.0000034	0.0000053
Arochlor 1232	mg/L	0.0000031	0.0000028	0.0000031
Arochlor 1242	mg/L	0.0000024	0.0000019	0.0000024
Arochlor 1248	mg/L	0.0000029	0.0000024	0.0000029
Arochlor 1254	mg/L	0.0000019	0.0000014	0.0000019
Arochlor 1260	mg/L	0.0000019	0.0000014	0.0000019
Arsenic	mg/L	0.0242846	0.0245589	0.0245589
Azinophos methyl	mg/L	0.0001125	0.0000571	0.0001125
Barium	mg/L	0.2281199	0.2351446	0.2351446
b-BHC	mg/L	0.0000042	0.0000026	0.0000042
Benz(a)anthracene	mg/L	0.0002248	0.0001711	0.0002248
Benzene	mg/L	0.0001262	0.0001097	0.0001262
Benzidine	mg/L	0.0339973	0.0324477	0.0339973
Benzo(a) pyrene	mg/L	0.0001469	0.0001296	0.0001469
Benzo(g,h,i)perylene	mg/L	0.0001625	0.0001482	0.0001625
Benzo(k)fluoranthene	mg/L	0.0005510	0.0005192	0.0005510
Beryllium	mg/L	0.0005723	0.0044892	0.0044892
Biochemical Oxygen Demand	mg/L	6.2786851	6.3954942	6.3954942
Bis(2-chloroethoxy) methane	mg/L	0.0005831	0.0005505	0.0005831
Bis(2-chloroethyl)ether	mg/L	0.0002610	0.0002403	0.0002610
Bis(2-chloroisopropyl) ether	mg/L	0.0002117	0.0001935	0.0002117

ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment in either Scenario (mg/L)
Bis(2-ethylhexyl) phthalate	mg/L	0.0124097	0.0118422	0.0124097
Bisphenol A	mg/L	0.0003112	0.0005227	0.0005227
Boron	mg/L	38.6533858	19.6088517	38.6533858
Bromide	mg/L	74.2301880	39.5070058	74.2301880
Bromoform	mg/L	0.0002091	0.0001866	0.0002091
Butyl benzyl phthalate	mg/L	0.0014192	0.0013307	0.0014192
Cadmium	mg/L	0.0005013	0.0013822	0.0013822
Carbon tetrachloride	mg/L	0.0001526	0.0001369	0.0001526
Chemical Oxygen Demand	mg/L	76.6634688	76.1203488	76.6634688
chlordane	mg/L	0.0000046	0.0000035	0.0000046
Chloride	mg/L	1286.3990862	965.5514535	1286.3990862
Chlorine, Total Residual	mg/L	0.6582562	0.5182267	0.6582562
Chlorobenzene	mg/L	0.0001453	0.0001340	0.0001453
Chlorodibromomethane	mg/L	0.0004125	0.0003704	0.0004125
Chloroethane	mg/L	0.0002215	0.0002024	0.0002215
Chloroform	mg/L	0.0092130	0.0088057	0.0092130
Chlorpyrifos	mg/L	0.0001127	0.0000559	0.0001127
Chromium (Hexavalent)	mg/L	0.0089701	0.0421279	0.0421279
Chromium (Total)	mg/L	0.0033224	0.0095347	0.0095347
Chrysene	mg/L	0.0001526	0.0001374	0.0001526
cis-1,3-dichloropropene	mg/L	0.0002018	0.0001837	0.0002018
Cobalt	mg/L	0.0036689	0.0550824	0.0550824
Color	o	0.1460154	0.0581395	0.1460154
Copper	mg/L	0.0196311	0.0852873	0.0852873
Cyanide (Total)	mg/L	0.0039990	0.0036875	0.0039990
d-BHC	mg/L	0.0000004	0.0000005	0.0000005
DDD	mg/L	0.0000007	0.0000010	0.0000010
DDT	mg/L	0.0000009	0.0000008	0.0000009
Demeton (total)	mg/L	0.0000314	0.0000304	0.0000314
Demeton-O	mg/L	0.0000949	0.0000378	0.0000949
Demeton-S	mg/L	0.0000949	0.0000378	0.0000949
Diazinon	mg/L	0.0001130	0.0000551	0.0001130
Dibenz(a,h)anthracene	mg/L	0.0001697	0.0001529	0.0001697
Dichlorobromomethane	mg/L	0.0015309	0.0016057	0.0016057
Dichlorodifluoromethane	mg/L	0.0000146	0.0000058	0.0000146
Dieldrin	mg/L	0.0000016	0.0000038	0.0000038
Diesel Range Organics	mg/L	0.2320876	0.2738372	0.2738372
Diethylphthalate	mg/L	0.0014526	0.0013772	0.0014526
Dimethyl phthalate	mg/L	0.0007659	0.0007249	0.0007659
Di-n-butyl phthalate	mg/L	0.0012410	0.0011507	0.0012410
Di-n-octyl phthalate	mg/L	0.0020673	0.0019526	0.0020673
Diphenylhydrazine	mg/L	0.0007222	0.0006462	0.0007222
E. Coli	cfu/100 ml	0.0146015	0.0058140	0.0146015
EC (field)	µS/cm	6505.8168439	2491.1468023	6505.8168439
Endosulfan I	mg/L	0.0000016	0.0000012	0.0000016
Endosulfan II	mg/L	0.0000075	0.0000076	0.0000076
Endosulfan sulphate	mg/L	0.0000364	0.0000202	0.0000364
Endrin	mg/L	0.0000017	0.0000013	0.0000017
Endrin aldehyde	mg/L	0.0000009	0.0000009	0.0000009
Enterococci	MPN/100 mL	0.0146015	0.0058140	0.0146015
Ethylbenzene	mg/L	0.0002463	0.0002219	0.0002463
Fecal Coliforms	MPN/100 mL	0.0292031	0.0116279	0.0292031
Fluoranthene	mg/L	0.0001724	0.0001576	0.0001724
Fluorene	mg/L	0.0002312	0.0002104	0.0002312
Fluoride	mg/L	1.4944091	0.8781468	1.4944091
Gasoline Range Organics	mg/L	0.0367344	0.0348183	0.0367344
g-BHC (Lindane)	mg/L	0.0000008	0.0000008	0.0000008
Hardness	mg/L	20.0041057	7.9651163	20.0041057
HEM	mg/L	1.2065481	1.1380814	1.2065481
Heptachlor	mg/L	0.0000275	0.0000150	0.0000275
Heptachlor epoxide	mg/L	0.0000015	0.0000012	0.0000015
Hexachlorobenzene	mg/L	0.0002154	0.0001856	0.0002154
Hexachlorobutadiene	mg/L	0.0001796	0.0001623	0.0001796
Hexachlorocyclopentadiene	mg/L	0.0005214	0.0004911	0.0005214
Hexachloroethane	mg/L	0.0006295	0.0005925	0.0006295
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002117	0.0001935	0.0002117
Iron	mg/L	1.0666870	22.1858541	22.1858541
Isophorone	mg/L	0.0006423	0.0006066	0.0006423
Kepone	mg/L	0.0094587	0.0090538	0.0094587

ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment in either Scenario (mg/L)
Lead	mg/L	0.0031498	0.0049029	0.0049029
Lithium	mg/L	0.0727598	0.0747882	0.0747882
Magnesium	mg/L	120.6684244	79.4206686	120.6684244
Malathion	mg/L	0.0000356	0.0000259	0.0000356
Manganese	mg/L	0.1773479	0.7100262	0.7100262
Mercury	mg/L	0.0000800	0.0000696	0.0000800
Methoxychlor	mg/L	0.0000001	0.0000000	0.0000001
Methyl Bromide	mg/L	0.0003201	0.0002960	0.0003201
Methyl Chloride	mg/L	0.0002978	0.0002708	0.0002978
Methylene Chloride	mg/L	0.0002597	0.0011925	0.0011925
Mirex	mg/L	0.0000005	0.0000005	0.0000005
Molybdenum	mg/L	0.0266343	0.0185834	0.0266343
Naphthalene	mg/L	0.0002176	0.0004179	0.0004179
Nickel	mg/L	0.0221284	0.1064634	0.1064634
Nitrate	mg/L	0.0058406	0.0023256	0.0058406
Nitrate (as N)	mg/L	15.8133627	9.1848328	15.8133627
Nitrite	mg/L	0.0011681	0.0004651	0.0011681
Nitrite (as N)	mg/L	0.2273397	0.1911047	0.2273397
Nitrobenzene	mg/L	0.0009028	0.0008178	0.0009028
Nitrogen (Organic)	mg/L	0.0087609	0.0034884	0.0087609
Nitrogen (Total Oxidised)	mg/L	0.0058406	0.0023256	0.0058406
Nitrogen (Total)	mg/L	0.0449727	0.0179070	0.0449727
N-Nitrosodimethylamine	mg/L	0.0007526	0.0007033	0.0007526
N-nitrosodi-n-propylamine	mg/L	0.0003322	0.0003011	0.0003322
n-Nitrosodiphenylamine	mg/L	0.0009123	0.0008271	0.0009123
Nonylphenol	mg/L	0.0000730	0.0000291	0.0000730
Nonylphenol Diethoxylate (Technical mixture)	mg/L	0.0018989	0.0018023	0.0018989
Nonylphenol Monoethoxylate (Technical mixture)	mg/L	0.0031122	0.0029713	0.0031122
Oil and Grease	mg/L	1.0348437	1.5151163	1.5151163
para-tert-Octylphenol	mg/L	0.0003112	0.0002971	0.0003112
Parathion	mg/L	0.0000457	0.0000357	0.0000457
P-Chloro-M-Cresol	mg/L	0.0008180	0.0007368	0.0008180
Pentachlorophenol	mg/L	0.0007269	0.0006512	0.0007269
pH (Field)	SU	9.4331332	7.1937645	9.4331332
Phenanthrene	mg/L	0.0004989	0.0004313	0.0004989
Phenol	mg/L	0.0015861	0.0010981	0.0015861
Phenolics Total	mg/L	0.0087993	0.0090465	0.0090465
Phosphorus	mg/L	0.3960571	0.5706068	0.5706068
p-Nonylphenol (Technical mixture)	mg/L	0.0015382	0.0014977	0.0015382
Potassium	mg/L	31.2140604	22.8444041	31.2140604
Pyrene	mg/L	0.0002347	0.0001805	0.0002347
Radium-226	pCi/L	0.2363316	0.3728554	0.3728554
Radium-228	pCi/L	0.4067776	0.5953888	0.5953888
Redox	mV	135.9675050	200.3162791	200.3162791
Selenium	mg/L	0.0188901	0.0129347	0.0188901
Silver	mg/L	0.0002824	0.0001428	0.0002824
Sodium	mg/L	364.8100263	383.4978924	383.4978924
Specific Conductivity (lab)	µS/cm	0.0000000	0.0000000	0.0000000
Sulfate	mg/L	1085.2848089	1349.9789244	1349.9789244
Sulfide	mg/L	0.6372921	0.5872674	0.6372921
sulfide (as H2S)	mg/L	0.6135454	0.4460538	0.6135454
Surfactants	mg/L	0.0014602	0.0005814	0.0014602
Temperature	oC	28.1106950	28.0342878	28.1106950
Tetrachloroethene	mg/L	0.0001624	0.0001462	0.0001624
Thallium	mg/L	0.0050065	0.0013820	0.0050065
Tin	mg/L	0.0002920	0.0001163	0.0002920
Titanium	mg/L	0.0000730	0.0000291	0.0000730
Toluene	mg/L	0.0001624	0.0001480	0.0001624
Total Dissolved Solids	mg/L	4716.0378987	3501.6061047	4716.0378987
Total Kjeldahl Nitrogen	mg/L	8.5788578	8.8912064	8.8912064
Total Organic Carbon	mg/L	5.1142204	4.3504360	5.1142204
Total Suspended Solids	mg/L	93.5278524	176.4317587	176.4317587
Toxaphene	mg/L	0.0000207	0.0000180	0.0000207
trans-1,2-Dibromoethene	mg/L	0.0000146	0.0000058	0.0000146
trans-1,3-dichloropropene	mg/L	0.0001624	0.0001462	0.0001624
Tributyltin	mg/L	0.0000466	0.0000453	0.0000466
Trichloroethene	mg/L	0.0001526	0.0001369	0.0001526
Trichlorofluoromethane	mg/L	0.0000146	0.0000058	0.0000146
Turbidity	NTU	22.5550374	85.3857558	85.3857558

ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment in either Scenario (mg/L)
Vinyl chloride	mg/L	0.0002412	0.0002211	0.0002412
Zinc	mg/L	0.0782445	0.3751538	0.3751538

Note: The assumptions made in the flow-weighted calculations used to estimate worst case concentrations remain the same for both the 13.7 MDG and 6 MGD maximum discharge scenarios.

Legend	Description
	No color - < MDL in all waste streams.
	Blue - Parameter >= MDL and < RL in one or more waste streams.
	Yellow - Parameter >=RL in one or more waste streams

		RESULTS	BOTTOM ASH				METALS POND				COAL YARD				SIERRA DITCH				LEACHATE			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0003004	0.00029	0.00029	0.001	0.0000000	0.00029	0.00029	0.001	0.000111433	0.00029	0.00029	0.001	0	0.00029	0.00029	0.001	0	0.001	0.001	0.005	1.46015E-05
1,1,2,2-tetrachloroethane	mg/L	0.0002190	0.0002	0.0002	0.001	0.0000000	0.0002	0.0002	0.001	7.68502E-05	0.0002	0.0002	0.001	0	0.0002	0.0002	0.001	0	0.0015	0.0015	0.005	2.19023E-05
1,1,2-trichloroethane	mg/L	0.0002117	0.0002	0.0002	0.001	0.0000000	0.0002	0.0002	0.001	7.68502E-05	0.0002	0.0002	0.001	0	0.0002	0.0002	0.001	0	0.001	0.001	0.005	1.46015E-05
1,1-dichloroethane	mg/L	0.0001328	0.00012	0.00012	0.001	0.0000000	0.00012	0.00012	0.001	4.61101E-05	0.00012	0.00012	0.001	0	0.00012	0.00012	0.001	0	0.001	0.001	0.005	1.46015E-05
1,1-dichloroethene	mg/L	0.0003102	0.0003	0.0003	0.001	0.0000000	0.0003	0.0003	0.001	0.000115275	0.0003	0.0003	0.001	0	0.0003	0.0003	0.001	0	0.001	0.001	0.005	1.46015E-05
1,2,4-trichlorobenzene	mg/L	0.0007271	0.00068	0.00068	0.0019	0.0000000	0.00068	0.00068	0.0019	0.000261291	0.0007	0.0007	0.002	0	0.00068	0.00068	0.0019	0	0.00222	0.00222	0.005556	3.24154E-05
1,2-dichlorobenzene	mg/L	0.0001640	0.00015	0.00015	0.001	0.0000000	0.00015	0.00015	0.001	5.76376E-05	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	0	0.00111	0.00111	0.005556	1.62077E-05
1,2-dichloroethane	mg/L	0.0002288	0.00021	0.00021	0.001	0.0000000	0.00021	0.00021	0.001	8.06927E-05	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	0	0.0015	0.0015	0.005	2.19023E-05
1,2-dichloropropane	mg/L	0.0001155	0.000095	0.000095	0.001	0.0000000	0.000095	0.000095	0.001	3.65038E-05	0.000095	0.000095	0.001	0	0.000095	0.000095	0.001	0	0.0015	0.0015	0.005	2.19023E-05
1,2-Trans-dichloroethene	mg/L	0.0001821	0.00017	0.00017	0.001	0.0000000	0.00017	0.00017	0.001	6.53227E-05	0.00017	0.00017	0.001	0	0.00017	0.00017	0.001	0	0.001	0.001	0.005	1.46015E-05
1,3-dichlorobenzene	mg/L	0.0001246	0.00011	0.00011	0.001	0.0000000	0.00011	0.00011	0.001	4.22676E-05	0.00011	0.00011	0.001	0	0.00011	0.00011	0.001	0	0.00111	0.00111	0.005556	1.62077E-05
1,3-Dichloropropene	mg/L	0.0005073	0.0005	0.0005	0.002	0.0000000	0.0005	0.0005	0.002	0.000192125	0.0005	0.0005	0.002	0	0.0005	0.0005	0.002	0	0.001	0.001	0.01	1.46015E-05
1,4-dichlorobenzene	mg/L	0.0002231	0.00021	0.00021	0.001	0.0000000	0.00021	0.00021	0.001	8.06927E-05	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	0	0.00111	0.00111	0.005556	1.62077E-05
2,3,7,8-Tetrachlorooxanthrene	mg/L	2.12E-11				0				0				0				0	1.45E-09	1.45E-09	0.000000011	2.11722E-11
2,4,6-trichlorophenol	mg/L	0.0017175	0.0017	0.0017	0.0096	0.0000000	0.0017	0.0017	0.0095	0.000653227	0.0017	0.0017	0.0099	0	0.0017	0.0017	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
2,4-dichlorophenol	mg/L	0.0003424	0.00032	0.00032	0.0019	0.0000000	0.00032	0.00032	0.0019	0.00012296	0.00033	0.00033	0.002	0	0.00032	0.00032	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
2,4-dimethylphenol	mg/L	0.0008393	0.00082	0.00082	0.0096	0.0000000	0.00081	0.00081	0.0095	0.000311243	0.00084	0.00084	0.0099	0	0.00082	0.00082	0.0096	0	0.00056	0.00056	0.005556	8.17686E-06
2,4-dinitrophenol	mg/L	0.0059730	0.0059	0.0059	0.048	0.0000000	0.0058	0.0058	0.048	0.002228656	0.0061	0.0061	0.05	0	0.0059	0.0059	0.048	0	0.00056	0.00056	0.005556	8.17686E-06
2,4-Dinitrotoluene	mg/L	0.0005411	0.00052	0.00052	0.0096	0.0000000	0.00051	0.00051	0.0095	0.000195968	0.00053	0.00053	0.0099	0	0.00052	0.00052	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
2,6-dichlorophenol	mg/L	0.0000162				0				0				0				0	0.00111	0.00111	0.005556	1.62077E-05
2,6-dinitrotoluene	mg/L	0.0007955	0.00077	0.00077	0.0096	0.0000000	0.00076	0.00076	0.0095	0.000292031	0.00079	0.00079	0.0099	0	0.00077	0.00077	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
2-Chloroethylvinyl ether	mg/L	0.0003194	0.00025	0.00025	0.002	0.0000000	0.00025	0.00025	0.002	9.60627E-05	0.00025	0.00025	0.002	0	0.00025	0.00025	0.002	0	0.005	0.005	0.005	7.30077E-05
2-chloronaphthalene	mg/L	0.0001625	0.00015	0.00015	0.0019	0.0000000	0.00014	0.00014	0.0019	5.37951E-05	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
2-chlorophenol	mg/L	0.0016497	0.0016	0.0016	0.0096	0.0000000	0.0016	0.0016	0.0095	0.000614802	0.0016	0.0016	0.0099	0	0.0016	0.0016	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
2-methylphenol	mg/L	0.0000809				0				0				0				0	0.00554	0.00556	0.005556	8.08925E-05
2-nitrophenol	mg/L	0.0016758	0.0016	0.0016	0.0096	0.0000000	0.0016	0.0016	0.0095	0.000614802	0.0017	0.0017	0.0099	0	0.0016	0.0016	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
3,3-Dichlorobenzidine	mg/L	0.0011749	0.0011	0.0011	0.0096	0.0000000	0.0011	0.0011	0.0095	0.000422676	0.0011	0.0011	0.0099	0	0.0011	0.0011	0.0096	0	0.00444	0.00444	0.005556	6.48308E-05
3,4-Benzo-fluoranthene	mg/L	0.0001697	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.76376E-05	0.00016	0.00016	0.002	0	0.00015	0.00015	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
4,4-DDE	mg/L	0.0000011	0.00000076	0.00000076	0.0000013	0.00E+00	0.00000076	0.00000076	0.0000013	2.92031E-07	0.00000077	0.00000077	0.0000013	0	0.00000078	0.00000078	0.00000130	0	0.000005	0.000005	0.00005155	7.30077E-08
4,6-Dinitro-2-methylphenol	mg/L	0.0021685	0.0021	0.0021	0.048	0.0000000	0.0021	0.0021	0.048	0.000806927	0.0022	0.0022	0.05	0	0.0021	0.0021	0.048	0	0.00111	0.00111	0.005556	1.62077E-05
4-bromophenyl phenyl ether	mg/L	0.0006355	0.00061	0.00061	0.0096	0.0000000	0.0006	0.0006	0.0095	0.000230551	0.00063	0.00063	0.0099	0	0.00061	0.00061	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
4-chlorophenyl phenyl ether	mg/L	0.0005055	0.00048	0.00048	0.0096	0.0000000	0.00048	0.00048	0.0095	0.00018444	0.0005	0.0005	0.0099	0	0.00048	0.00048	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
4-nitrophenol	mg/L	0.0063459	0.0062	0.0062	0.048	0.0000000	0.0062	0.0062	0.048	0.002382356	0.0064	0.0064	0.05	0	0.0062	0.0062	0.048	0	0.00111	0.00111	0.005556	1.62077E-05
a-BHC	mg/L	0.0000032	0.00000063	0.00000063	0.0000013	0.00E+00	0.00000063	0.00000063	0.0000013	2.42078E-07	0.000001	0.00000063	0.0000012	0	0.0000021	0.00000065	0.0000013	0	0.00002	0.00005155	0.005	2.92031E-07
Accrolein	mg/L	0.0027081	0.0026	0.0026	0.02	0.0000000	0.0026	0.0026	0.02	0.000999053	0.0026	0.0026	0.02	0	0.0026	0.0026	0.02	0	0.01	0.01	0.01	0.000146015
Acenaphthene	mg/L	0.0001568	0.00014	0.00014	0.0019	0.0000000	0.00014	0.00014	0.0019	5.37951E-05	0.00014	0.00014	0.002	0	0.00014	0.00014	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Acenaphthylene	mg/L	0.0001625	0.00015	0.00015	0.0019	0.0000000	0.00014	0.00014	0.0019	5.37951E-05	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Acrylonitrile	mg/L	0.0009274	0.00055	0.00055	0.02	0.0000000	0.00055	0.00055	0.02	0.000211338	0.00055	0.00055	0.02	0	0.00055	0.00055	0.02	0	0.0085	0.0085	0.01	0.000124113
Aldrin	mg/L	0.0000020	0.0000008	0.0000008	0.0000013	0.00E+00	0.0000008	0.0000008	0.0000013	3.07401E-07	0.00000081	0.00000081	0.0000013	0	0.00000082	0.00000082	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Alkalinity (Bicarbonate as CaCO3)	mg/L	93.0153174	60	0.41	5	0.0000000	0.41	0.41	5	0.157542899	0.41	0.41	5	0	110	0.41	5	0				0
Alkalinity (Carbonate as CaCO3)	mg/L	50.5530691	16	0.41	5	0.0000000	36	0.41	5	13.83303506	0.41	0.41	5	0	0.41	0.41	5	0				0
Alkalinity (total) as CaCO3	mg/L	148.3436151	64	0.41	5	0.0000000	56	0.41	5	21.51805453	0.41	0.41	5	0	110	0.41	5	0				0
Aluminium	mg/L	1.2137517	0.92	0.0024	0.03	0.0000000	0.42	0.0024	0.03	0.161385409	44	0.0024	0.03	0	0.98	0.0024	0.03	0	1.09	0.02	0.05	0.015915675
Ammonia as N	mg/L	1.7954554	0.65	0.086	0.1	0.0000000	2.6	0.086	0.1	0.999052532	0.99	0.086	0.1	0	0.4	0.086	0.1	0	3.03	0.05	0.1	0.044242657
Anthracene	mg/L	0.0001666	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.76376E-05	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Antimony	mg/L	0.0041831	0.0011	0.00004	0.002	0.0000000	0.00032	0.00004	0.002	0.00012296	0.00058	0.00004	0.002	0	0.00049	0.00004	0.002	0	0.00344	0.00011	0.002	5.02293E-05
Arochlor 1016	mg/L	0.0000029	0.0000024	0.0000024	0.0000096	0.00E+00	0.0000024	0.0000024	0.0000096	9.22202E-07	0.0000024	0.0000024	0.0000097	0	0.0000025	0.0000025	0.0000099	0	0.00003	0.00003	0.0005155	4.38046E-07
Arochlor 1221	mg/L	0.0000053	0.0000024	0.0000024	0.0000096	0.00E+00	0.0000024	0.0000024	0.0000096	9.22202E-07	0.0000024	0.0000024	0.0000097	0	0.0000025	0.0000025	0.0000099	0	0.0002	0.0002	0.0005155	2.92031E-06
Arochlor 1232	mg/L	0.0000031	0.0000028	0.0000028	0.0000096	0.00E+00	0.0000028	0.0000028	0.0000096	1.0759E-06	0.0000028	0.0000028	0.0000097	0	0.0000029	0.0000029	0.0000099	0	0.00002	0.00002	0.0005155	2.92031E-07
Arochlor 1242	mg/L	0.0000024	0.0000018	0.0000018	0.0000096	0.00E+00	0.0000018	0.0000018	0.0000096	6.91652E-07	0.0000018	0.0000018	0.0000097	0	0.0000018	0.0000018	0.0000099	0	0.00004	0.00004	0.0005155	5.84061E-07
Arochlor 1248	mg/L	0.0000029	0.0000022	0.0000022	0.0000096	0.00E+00	0.0000022	0.0000022	0.0000096	8.45352E-07	0.0000022	0.0000022	0.0000097	0	0.0000023	0.0000023	0.0000099	0	0.00005	0.00005	0.0005155	7.30077E-07
Arochlor 1254	mg/L	0.0000019	0.0000013	0.0000013	0.0000096	0.00E+00	0.0000013	0.0000013	0.0000096	4.99526E-07	0.0000013	0.0000013	0.0000097	0	0.0000013	0.0000013	0.0000099	0	0.00004	0.00004	0.0005155	5.84061E-07
Arochlor 1260	mg/L	0.0000019	0.0000013	0.0000013	0.0000096	0.00E+00	0.0000013	0.0000013	0.0000096	4.99526E-07	0.0000013	0.0000013	0.0000097	0	0.0000013	0.0000013	0.0000099	0	0.00004	0.00004	0.0002062	5.84061E-07
Arsenic	mg/L	0.0242846	0.0072	0.00012	0.001	0.0000000	0.003	0.003	0.01	0.001152753	0.049	0.00012	0.001	0	0.034	0.00012	0.001	0	0.0495	0.00061	0.001	0.000722776
Azinophos methyl	mg/L	0.0001125	0.000022	0.000022	0.0002	0.0000000	0.000022	0.000022	0.00019	8.45352E-06	0.000022	0.000022	0.0002	0	0.000022	0.000022	0.0002	0	0.0062	0.0065	0.0065	9.05295E-05
Barium	mg/L	0.2281199	0.11	0.000088	0.01	0.0000000	0.08	0.000088	0.01	0.030740078	0.084	0.000088	0.01	0	0.1	0.000088	0.01	0	0.193	0.002	0.01	0.002818097
b-BHC	mg/L	0.0000042	0.00000096	0.00000096	0.0000013	0.00E+00	0.00000096	0.00000096	0.0000013	3.68881E-07	0.00000097	0.00000097	0.0000013	0	0.00000099	0.00000099	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Benz(a)anthracene	mg/L	0.0002248	0.00014	0.00014	0.0019	0.0000000	0.00014	0.00014	0.0019	5.37951E-05	0.00015	0.00015	0.002	0	0.00014	0.00014	0.0019	0	0.00556	0.00556	0.00556	8.11845E-05
Benzene	mg/L	0.0001262	0.00011	0.00011	0.001	0.0000000	0.00011	0.00011	0.001	4.22676E-05	0.00011	0.00011	0.001	0	0.00011	0.00011	0.001	0	0.001	0.001	0.005	1.46015E-05
Benzidine	mg/L	0.0339973	0.033	0.033	0.19	0.0000000	0.033	0.033	0.19	0.012680282	0.034	0.034	0.2	0	0.033	0.033	0.19	0	0.00551	0.00556	0.005556	8.04545E-05
Benzo(a) pyrene	mg/L	0.0001469	0.00013	0.00013	0.0019	0.0000000	0.00013	0.00013	0.0019	4.99526E-05	0.00013	0.00013	0.002	0	0.00013	0.00013	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Benzo(g,h,i)perylene	mg/L	0.0001625	0.00015	0.00015	0.0019	0.0000000	0.00014	0.00014	0.0019	5.37951E-05	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Benzo(k)fluoranthene	mg/L	0.0005510	0.00053	0.00053	0.0019	0.0000000	0.00052	0.00052	0.0019	0.000199811	0.00054	0.00054	0.002	0	0.00053	0.00053	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Beryllium	mg/L	0.0005723	0.00084	0.000036	0.001	0.0000000	0.000036	0.000036	0.001	1.3833E-05	0.022	0.000036	0.001	0	0.000095	0.000036	0.001	0	0.002	0.002	0.004	2.92031E-05
Biochemical Oxygen Demand	mg/L	6.2786851	2	2	2	2	2	2	2	0.768501948	2.2	2	2	0	6.2	2	2	0	2.9	0.2	2	0.042344457
Bis(2-chloroethoxy) methane	mg/L	0.0005831	0.00056	0.00056	0.0096	0.0000000	0.00055	0.00055	0.0095	0.000211338	0.00058	0.00058	0.0099	0	0.00056	0.00056	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
Bis(2-chloroethyl)ether	mg/L	0.0002610	0.00024	0.00024	0.0019	0.0000000	0.00024	0.00024	0.0019	9.22202E-05	0.00025	0.00025	0.002	0	0.00024	0.00024	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002117	0.00019	0.00019	0.0019	0.0000000	0.00019	0.00019	0.0019	7.30077E-05	0.0002	0.0002	0.002	0	0.00019	0.00019	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0124097	0.012	0.012	0.019	0.0000000	0.012	0.012	0.019	0.004611012	0.012	0.012	0.02	0	0.012	0.012	0.019	0	0.00111	0.00111	0.005556	1.62077E-05
Bisphenol A	mg/L	0.0003112	0.0042	0.00032	0.001	0.0000000	0.00031	0.00031	0.00097	0.000119118	0.00031	0.00031	0.00098	0	0.00031	0.00031	0.00097	0				0
Boron	mg/L	38.6533858	0.16	0.00046	0.005	0.0000000	2.6	0.00061	0.2	0.999052532	0.97	0.00046	0.005	0	0.49	0.00046	0.005	0	3.76	0.05	0.05	0.054901779
Bromide	mg/L	74.2301880	0.19	0.19	0.5	0.0000000	5.3	0.19	0.5	2.036530161	1.2	0.19	0.5	0	0.52	0.19	0.5	0	5	5	5	0.073007685
Bromoform	mg/L	0.0002091	0.00019	0.00019	0.001	0.0000000	0.00019	0.00019	0.001	7.30077E-05	0.00019	0.00019	0.001	0	0.00019	0.00019	0.001	0	0.0015	0.0015	0.005	2.19023E-05
Butyl benzyl phthalate	mg/L	0.0014192	0.0014	0.0014	0.0096	0.0000000	0.0014	0.0014	0.0095	0.000537951	0.0014	0.0014	0.0099	0	0.0014	0.0014	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
Cadmium	mg/L	0.0005013	0.00024	0.000074	0.001	0.0000000	0.00013	0.00013	0.005	4.99526E-05	0.0063	0.000074	0.001	0	0.00011	0.000074	0.001	0	0.00011	0.00011	0.0003	1.60617E-06
Carbon tetrachloride	mg/L	0.0001526	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.37951E-05	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0	0.001	0.001	0.005	1.46015E-05
Chemical Oxygen Demand	mg/L	76.6634688	6.1	2	10	0.0000000	11	2	10	4.226760712	120	4	20	0	130	4	20	0	12.7	10	10	0.18543952
chlordane	mg/L	0.0000046	0.0000016	0.0000016	0.000012	0.00E+00	0.0000016	0.0000016	0.000012	6.14802E-07	0.0000061	0.0000016	0.000012	0	0.0000016	0.0000016	0.000012	0	0.000206	0.000206	0.0002062	3.00792E-06
Chloride	mg/L	1286.3990862	22	0.2	1	0.0000000	310	2	10	119.1178019	84	0.2	1	0	37	0.2	1	0	52.4	10	10	0.765120539
Chlorine, Total Residual	mg/L	0.6582562	0.04			0.0000000	0			0	0.44			0	0.04			0				0
Chlorobenzene	mg/L	0.0001453	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.37951E-05	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0	0.0005	0.0005	0.005	7.30077E-06
Chlorodibromomethane	mg/L	0.0004125	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.37951E-05	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0	0.001	0.001	0.005	1.46015E-05
Chloroethane	mg/L	0.0002215	0.00021	0.00021	0.001	0.0000000	0.00021	0.00021	0.001	8.06927E-05	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	0	0.001	0.001	0.005	1.46015E-05
Chloroform	mg/L	0.0092130	0.00017	0.00017	0.001	0.0000000	0.00035	0.00017	0.001	0.000134488	0.00017	0.00017	0.001	0	0.00018	0.00017	0.001	0	0.001	0.001	0.005	1.46015E-05
Chlorpyrifos	mg/L	0.0001127	0.00002	0.00002	0.0002	0.0000000	0.000019	0.000019	0.00019	7.30077E-06	0.00002	0.00002	0.0002	0	0.00002	0.00002	0.0002	0	0.0064	0.0065	0.0065	9.34498E-05
Chromium (Hexavalent)	mg/L	0.0089701	0.0023	0.0019	0.01	0.0000000	0.0019	0.0019	0.01	0.000730077	0.2	0.048	0.25	0	0.0019	0.0019	0.01	0	0.061	0.1	0.003	0.000890694
Chromium (Total)	mg/L	0.0033224	0.0013	0.00023	0.002	0.0000000	0.00092	0.00077	0.005	0.000353511	0.039	0.00023	0.002	0	0.0016	0.00023	0.002	0	0.0355	0.001	0.01	0.000518355
Chrysene	mg/L	0.0001526	0.00013	0.00013	0.0019	0.0000000	0.00013	0.00013	0.0019	4.99526E-05	0.00014	0.00014	0.002	0	0.00013	0.00013	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
cis-1,3-dichloropropene	mg/L	0.0002018	0.00019	0.00019	0.001	0.0000000	0.00019	0.00019	0.001	7.30077E-05	0.00019	0.00019	0.001	0	0.00019	0.00019	0.001	0	0.001	0.001	0.005	1.46015E-05
Cobalt	mg/L	0.0036689	0.00097	0.00005	0.0005	0.0000000	0.00063	0.00005	0.0005	0.000242078	0.3	0.00005	0.0005	0	0.0012	0.00005	0.0005	0	0.002	0.002	0.004	2.92031E-05
Color	o	0.1460154				0				0				0				0	10	10	10	0.14601537
Copper	mg/L	0.0196311	0.0029	0.00027	0.002	0.0000000	0.015	0.0015	0.025	0.005763765	0.38	0.00027	0.002	0	0.034	0.00027	0.002	0	0.00239	0.00022	0.001	3.48977E-05
Cyanide (Total)	mg/L	0.0039990	0.0025	0.0025	0.01	0.0000000	0.0025	0.0025	0.01	0.000960627	0.0025	0.0025	0.01	0	0.0025	0.0025	0.01	0	0.01	0.01	0.01	0.000146015
d-BHC	mg/L	0.0000004	0.00000037	0.00000037	0.0000013	0.00E+00	0.00000037	0.00000037	0.0000013	1.42173E-07	0.00000052	0.00000036	0.0000012	0	0.0000025	0.00000038	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
DDD	mg/L	0.0000007	0.00000064	0.00000064	0.0000013	0.00E+00	0.00000064	0.00000064	0.0000013	2.45921E-07	0.00000065	0.00000065	0.0000013	0	0.0000069	0.00000066	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
DDT	mg/L	0.0000009	0.00000071	0.00000071	0.0000013	0.00E+00	0.00000071	0.00000071	0.0000013	2.72818E-07	0.00000072	0.00000072	0.0000013	0	0.0000018	0.00000073	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Demeton (total)	mg/L	0.0000314	0.000032	0.000032	0.00039	0.0000000	0.000031	0.000031	0.00038	1.19118E-05	0.000032	0.000032	0.00039	0	0.000032	0.000032	0.00039	0				0
Demeton-O	mg/L	0.0000949				0				0				0				0	0.0065	0.0065	0.0065	9.491E-05
Demeton-S	mg/L	0.0000949				0				0				0				0	0.0065	0.0065	0.0065	9.491E-05
Diazinon	mg/L	0.0001130	0.000018	0.000018	0.0002	0.0000000	0.000018	0.000018	0.00019	6.91652E-06	0.000018	0.000018	0.0002	0	0.000018	0.000018	0.0002	0	0.0065	0.0065	0.0065	9.491E-05
Dibenz(a,h)anthracene	mg/L	0.0001697	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.76376E-05	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Dichlorobromomethane	mg/L	0.0015309	0.00013	0.00013	0.001	0.0000000	0.00013	0.00013	0.001	4.99526E-05	0.00013	0.00013	0.001	0	0.00013	0.00013	0.001	0	0.001	0.001	0.005	1.46015E-05
Dichlorodifluoromethane	mg/L	0.0000146				0				0				0				0	0.001	0.001	0.005	1.46015E-05
Dieldrin	mg/L	0.0000016	0.00000079	0.00000079	0.0000013	0.00E+00	0.00000079	0.00000079	0.0000013	3.03558E-07	0.0000008	0.0000008	0.0000013	0	0.000047	0.00000081	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Diesel Range Organics	mg/L	0.2320876				0	0.22	0.22	0.46	0.084535214	0.31	0.24	0.5	0				0				0
Diethylphthalate	mg/L	0.0014526	0.0014	0.0014	0.0096	0.0000000	0.0014	0.0014	0.0095	0.000537951	0.0014	0.0014	0.0099	0	0.0014	0.0014	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
Dimethyl phthalate	mg/L	0.0007659	0.00074	0.00074	0.0096	0.0000000	0.00073	0.00073	0.0095	0.000280503	0.00076	0.00076	0.0099	0	0.00074	0.00074	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
Di-n-butyl phthalate	mg/L	0.0012410	0.0012	0.0012	0.0096	0.0000000	0.0012	0.0012	0.0095	0.000461101	0.0012	0.0012	0.0099	0	0.0012	0.0012	0.0096	0	0.00222	0.00222	0.005556	3.24154E-05
Di-n-octyl phthalate	mg/L	0.0020673	0.002	0.002	0.0096	0.0000000	0.002	0.002	0.0095	0.000768502	0.002	0.002	0.0099	0	0.002	0.002	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05

		RESULTS	BOTTOM ASH				METALS POND				COAL YARD				SIERRA DITCH				LEACHATE			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)
Diphenylhydrazine	mg/L	0.0007222	0.00063	0.00063	0.0096	0.0000000	0.00063	0.00063	0.0095	0.000242078	0.00065	0.00065	0.0099	0	0.00063	0.00063	0.0096	0	0.00526	0.00526	0.005556	7.68041E-05
E. Coli	cfu/100 ml	0.0146015				0.0000000				0.000000				0.000000				0.000000	1.000000	1.000000	1.000000	0.014602
EC (field)	µS/cm	6505.8168439	303			0.0000000	5695			2188.309296	1638			0	174			0				0
Endosulfan I	mg/L	0.0000016	0.0000009	0.0000009	0.0000013	0.00E+00	0.0000009	0.0000009	0.0000013	3.45826E-07	0.00000091	0.00000091	0.0000013	0	0.00000093	0.00000093	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Endosulfan II	mg/L	0.0000075	0.0000028	0.0000094	0.0000013	0.00E+00	0.00000094	0.00000094	0.0000013	3.61196E-07	0.0000034	0.0000092	0.0000012	0	0.000039	0.00000097	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Endosulfan sulphate	mg/L	0.0000364	0.00000055	0.00000055	0.0000013	0.00E+00	0.00000055	0.00000055	0.0000013	2.11338E-07	0.00000055	0.00000055	0.0000013	0	0.00000056	0.00000056	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Endrin	mg/L	0.0000017	0.00000092	0.00000092	0.0000013	0.00E+00	0.00000092	0.00000092	0.0000013	3.53511E-07	0.00000093	0.00000093	0.0000013	0	0.00000095	0.00000095	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Endrin aldehyde	mg/L	0.0000009	0.00000087	0.00000087	0.0000013	0.00E+00	0.00000087	0.00000087	0.0000013	3.34298E-07	0.00000087	0.00000087	0.0000013	0	0.00000089	0.00000089	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Enterococci	MPN/100 ml	0.0146015				0				0				0				0	1	1	1	0.014601537
Ethylbenzene	mg/L	0.0002463	0.00023	0.00023	0.001	0.0000000	0.00023	0.00023	0.001	8.83777E-05	0.00023	0.00023	0.001	0	0.00023	0.00023	0.001	0	0.0005	0.0005	0.005	7.30077E-06
Fecal Coliforms	MPN/100 ml	0.0292031				0			0	0				0				0	2	2	2	0.029203074
Fluoranthene	mg/L	0.0001724	0.00016	0.00016	0.0019	0.0000000	0.00015	0.00015	0.0019	5.76376E-05	0.00016	0.00016	0.002	0	0.00016	0.00016	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Fluorene	mg/L	0.0002312	0.00021	0.00021	0.0019	0.0000000	0.00021	0.00021	0.0019	8.06927E-05	0.00021	0.00021	0.002	0	0.00021	0.00021	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Fluoride	mg/L	1.4944091	0.22	0.014	0.1	0.0000000	0.32	0.014	0.1	0.122960312	0.18	0.014	0.1	0	0.53	0.014	0.1	0	2.8	0.1	0.1	0.040884304
Gasoline Range Organics	mg/L	0.0367344	0			0	0.05	0.025	0.1	0.019212549	0.05	0.025	0.1	0	0			0	0			0
g-BHC (Lindane)	mg/L	0.0000008	0.00000077	0.00000077	0.0000013	0.00E+00	0.00000077	0.00000077	0.0000013	2.95873E-07	0.00000078	0.00000078	0.0000013	0	0.00000079	0.00000079	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Hardness	mg/L	20.0041057				0				0				0				0	1370	0.766	12.5	20.0041057
HEM	mg/L	1.2065481				0	1.7	1.7	5.8	0.653226655	1.8	1.6	5.2	0				0				0
Heptachlor	mg/L	0.0000275	0.00000095	0.00000095	0.0000013	0.00E+00	0.00000095	0.00000095	0.0000013	3.65038E-07	0.00000096	0.00000096	0.0000013	0	0.00000098	0.00000098	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Heptachlor epoxide	mg/L	0.0000015	0.00000093	0.00000093	0.0000013	0.00E+00	0.00000093	0.00000093	0.0000013	3.57353E-07	0.00000094	0.00000094	0.0000013	0	0.00000096	0.00000096	0.0000013	0	0.000005	0.000005	0.00005155	7.30077E-08
Hexachlorobenzene	mg/L	0.0002154	0.00018	0.00018	0.0019	0.0000000	0.00017	0.00017	0.0019	6.53227E-05	0.00018	0.00018	0.002	0	0.00018	0.00018	0.0019	0	0.00271	0.00278	0.002778	3.95702E-05
Hexachlorobutadiene	mg/L	0.0001796	0.00016	0.00016	0.0019	0.0000000	0.00016	0.00016	0.0019	6.14802E-05	0.00016	0.00016	0.002	0	0.00016	0.00016	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Hexachlorocyclopentadiene	mg/L	0.0005214	0.0005	0.0005	0.0096	0.0000000	0.00049	0.00049	0.0095	0.000188283	0.00051	0.00051	0.0099	0	0.0005	0.0005	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
Hexachloroethane	mg/L	0.0006295	0.0006	0.0006	0.0096	0.0000000	0.0006	0.0006	0.0095	0.000230551	0.00062	0.00062	0.0099	0	0.0006	0.0006	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002117	0.00019	0.00019	0.0019	0.0000000	0.00019	0.00019	0.0019	7.30077E-05	0.0002	0.0002	0.002	0	0.00019	0.00019	0.0019	0	0.00111	0.00111	0.005556	1.62077E-05
Iron	mg/L	1.0666870	0.37	0.0057	0.05	0.0000000	0.53	0.0095	0.1	0.203653016	120	0.0057	0.05	0	1.4	0.0057	0.05	0	0.0044	0.003	0.01	6.42468E-05
Isophorone	mg/L	0.0006423	0.00062	0.00062	0.0096	0.0000000	0.00061	0.00061	0.0095	0.000234393	0.00064	0.00064	0.0099	0	0.00062	0.00062	0.0096	0	0.00111	0.00111	0.005556	1.62077E-05
Kepone	mg/L	0.0094587	0.0093	0.0093	0.038	0.0000000	0.0092	0.0092	0.038	0.003535109	0.0096	0.0096	0.04	0	0.0093	0.0093	0.038	0	0.00222	0.00222	0.005556	3.24154E-05
Lead	mg/L	0.0031498	0.00051	0.000057	0.001	0.0000000	0.0012	0.0012	0.01	0.000461101	0.0075	0.0012	0.01	0	0.0032	0.000057	0.001	0	0.00016	0.00016	0.0005	2.33625E-06
Lithium	mg/L	0.0727598	0.02	0.00053	0.05	0.0000000	0.075	0.00053	0.05	0.028818823	0.25	0.00053	0.05	0	0.05	0.00053	0.05	0				0
Magnesium	mg/L	120.6684244	3.5	0.001	0.5	0.0000000	3.7	0.028	5	1.421728603	27	0.001	0.5	0	15	0.001	0.5	0	0.105	0.004	0.01	0.001533161
Malathion	mg/L	0.0000356	0.000021	0.000021	0.0002	0.0000000	0.000021	0.000021	0.00019	8.06927E-06	0.000021	0.000021	0.0002	0	0.000021	0.000021	0.0002	0	0.001	0.001	0.001	1.46015E-05
Manganese	mg/L	0.1773479	0.036	0.000046	0.005	0.0000000	0.024	0.00012	0.015	0.009222023	2.7	0.000046	0.005	0	1.3	0.000046	0.005	0	0.002	0.002	0.01	2.92031E-05
Mercury	mg/L	0.0000800	0.000045	0.000031	0.0002	0.0000000	0.000067	0.000031	0.0002	2.57448E-05	0.000085	0.000031	0.0002	0	0.000031	0.000031	0.0002	0	0.000023	0.000023	0.0002	3.35835E-07
Methoxychlor	mg/L	0.0000001				0				0				0				0	0.000005	0.000005	0.00005155	7.30077E-08
Methyl Bromide	mg/L	0.0003201	0.00031	0.00031	0.001	0.0000000	0.00031	0.00031	0.001	0.000119118	0.00031	0.00031	0.001	0	0.00031	0.00031	0.001	0	0.001	0.001	0.005	1.46015E-05
Methyl Chloride	mg/L	0.0002978	0.00028	0.00028	0.001	0.0000000	0.00028	0.00028	0.001	0.00010759	0.00028	0.00028	0.001	0	0.00028	0.00028	0.001	0	0.0015	0.0015	0.005	2.19023E-05
Methylene Chloride	mg/L	0.0002597	0.00016	0.00015	0.001	0.0000000	0.0002	0.00015	0.001	7.68502E-05	0.0059	0.00015	0.001	0	0.00015	0.00015	0.001	0	0.005	0.005	0.005	7.30077E-05
Mirex	mg/L	0.0000005	0.00000046	0.00000046	0.0000013	0.00E+00	0.00000046	0.00000046	0.0000013	1.76755E-07	0.00000047	0.00000047	0.0000013	0	0.00000048	0.00000048	0.0000013	0	0.000002	0.000002	0.00005155	2.92031E-08
Molybdenum	mg/L	0.0266343	0.023	0.00026	0.005	0.0000000	0.0027	0.00026	0.005	0.001037478	0.013	0.00026	0.005	0	0.014	0.00026	0.005	0	0.55	0.05	0.05	0.008030845
Naphthalene	mg/L	0.0002176	0.00013	0.00013	0.0019	0.0000000	0.00013	0.00013	0.0019	4.99526E-05	0.0016	0.00014	0.002	0	0.00013	0.00013	0.0019	0	0.00556	0.00556	0.00556	8.11845E-05
Nickel	mg/L	0.0221284	0.003	0.000093	0.001	0.0000000	0.0085	0.00051	0.04	0.003266133	0.54	0.000093	0.001	0	0.014	0.000093	0.001	0	0.00467	0.00032	0.001	6.81892E-05
Nitrate	mg/L	0.0058406				0				0				0				0	0.4			0.005840615
Nitrate (as N)	mg/L	15.8133627	0.22	0.0062	0.1	0.0000000	1	0.0062	0.1	0	0.64	0.0062	0.1	0	0.54	0.0062	0.1	0	0.4	0.07	0.15	0.005840615
Nitrite	mg/L	0.0011681				0				0				0				0	0.08			0.001168123
Nitrite (as N)	mg/L	0.2273397	0.15	0.024	0.05	0.0000000	0.44	0.024	0.05	0	0.026	0.024	0.05	0	0.024	0.024	0.05	0	0.08	0.05	0.05	0.001168123
Nitrobenzene	mg/L	0.0009028	0.00081	0.00081	0.019	0.0000000	0.0008	0.0008	0.019	0.000307401	0.00083	0.00083	0.02	0	0.00081	0.00081	0.019	0	0.00556	0.00556	0.005556	8.11845E-05
Nitrogen (Organic)	mg/L	0.0087609		0	0	0				0				0				0	0.6	0.6	0.6	0.008760922
Nitrogen (Total Oxidised)	mg/L	0.0058406				0				0				0				0	0.4	0.02	0.1	0.005840615
Nitrogen (Total)	mg/L	0.0449727				0				0				0				0	3.08	0.2	0.5	0.044972734
N-Nitrosodimethylamine	mg/L	0.0007526	0.00071	0.00071	0.0019	0.0000000	0.0007	0.0007	0.0019	0.000268976	0.00073	0.00073	0.002	0	0.00071	0.00071	0.0019	0	0.00222	0.00222	0.005556	3.24154E-05
N-nitrosodi-n-propylamine	mg/L	0.0003322	0.0003	0.0003	0.0019	0.0000000	0.00029	0.00029	0.0019	0.000111433	0.0003	0.0003	0.002	0	0.0003	0.0003	0.0019	0	0.00222	0.00222	0.005556	3.24154E-05
n-Nitrosodiphenylamine	mg/L	0.0009123	0.00082	0.00082	0.0096	0.0000000	0.00081	0.00081	0.0095	0.000311243	0.00084	0.00084	0.0099	0	0.00082	0.00082	0.0096	0	0.00556	0.00556	0.005556	8.11845E-05
Nonylphenol	mg/L	0.0000730				0				0				0				0	0.005	0.005	0.005	7.30077E-05
Nonylphenol Diethoxylate (Technica	mg/L	0.0018989	0.002	0.002	0.02	0.0000000	0.0019	0.0019	0.019	0.000730077	0.0019	0.0019	0.02	0	0.0019	0.0019	0.019	0				0
Nonylphenol Monoethoxylate (Tech	mg/L	0.0031122	0.0032	0.0032	0.01	0.0000000	0.0031	0.0031	0.0097	0.001191178	0.0031	0.0031	0.0098	0	0.0031	0.0031	0.0097	0				0
Oil and Grease	mg/L	1.0348437	1.5	1.5	4.3	0.0000000				0	1.6	1.6	4.5	0	1.5	1.5	4.3	0	5	5	5	0.073007685
para-tert-Octylphenol	mg/L	0.0003112	0.00032	0.00032	0.001	0.0000000	0.00031	0.00031	0.00097	0.000119118	0.00031	0.00031	0.00098	0	0.00031	0.00031	0.00097	0				0
Parathion	mg/L	0.0000457	0.0000032	0.0000032	0.0002	0.0000000	0.0000031	0.0000031	0.00019	1.19118E-05	0.0000032	0.0000032	0.0002	0	0.0000032	0.0000032	0.0002	0	0.001	0.001	0.001	1.46015E-05
P-Chloro-M-Cresol	mg/L	0.0008180	0.00073	0.00073	0.0096	0.0000000	0.00072	0.00072	0.0095	0.000276661	0.00075	0.00075	0.0099	0	0.00073	0.00073	0.0096	0	0.00556	0.00556	0.005556	8.11845E-05
Pentachlorophenol	mg/L	0.0007269	0.00064	0.00064	0.0096	0.0000000	0.00063	0.00063	0.0095	0.000242078	0.00066	0.00066	0.0099	0	0.00064	0.00064	0.0096	0	0.00556	0.00556	0.005556	8.11845E-05
pH (Field)	SU	9.4331332	9.24			0.0000000	10.97			4.215233182	3.38			0	9.12			0				0
Phenanthrene	mg/L	0.0004989	0.00041	0.00041	0.0019	0.0000000	0.00041	0.00041	0.0019	0.000157543	0.00042	0.00042	0.002	0	0.00041	0.00041	0.0019	0	0.00556	0.00556	0.005556	8.11845E-05
Phenol	mg/L	0.0015861	0.00056	0.00056	0.0019	0.0000000	0.00055	0.00055	0.0019	0.000211338	0.00058	0.00058	0.002	0	0.00056	0.00056	0.0019	0	0.00556	0.00556	0.005556	8.11845E-05
Phenolics Total	mg/L	0.0087993				0	0.0082	0.0082	0.01	0.003150858	0.0082	0.0082	0.01	0				0	0.05	0.05	0.05	0.000730077
Phosphorus	mg/L	0.3960571	0.081	0.05	0.1	0.0000000	0.057	0.05	0.1	0.021902306	0.45	0.05	0.1	0	0.2	0.05	0.1	0	0.03	0.01	0.02	0.000438046
p-Nonylphenol (Technical mixture)	mg/L	0.0015382	0.0016	0.0016	0.005	0.0000000	0.0015	0.0015	0.0048	0.000576376	0.0016	0.0016	0.0049	0	0.0016	0.0016	0.0049	0				0
Potassium	mg/L	31.2140604	2.7	0.017	0.5	0.0000000	6.9	0.017	0.5	2.651331719	4.9	0.017	0.5	0	6.1	0.017	0.5	0				0
Pyrene	mg/L	0.0002347	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.76376E-05	0.00016	0.00016	0.002	0	0.00015	0.00015	0.0019	0	0.00556	0.00556	0.00556	8.11845E-05
Radium-226	pCi/L	0.2363316	0.508	0.48	1	0.0000000	0.288	0.215	1	0.110664628	0.707	0.445	1	0	0.348	0.191	1	0				0
Radium-228	pCi/L	0.4067776	0.733	0.733	1	0.0000000	0.358	0.358	1	0.137561849	0.706	0.681	1	0	0.326	0.326	1	0				0
Redox	mV	135.9675050	92.3			0.0000000	92			35.35108959	520.5			0	240.5			0				0
Selenium	mg/L	0.0188901	0.0043	0.0002	0.005	0.0000000	0.012	0.0039	0.01	0.004611012	0.023	0.0002	0.005	0	0.00067	0.0002	0.005	0	0.344	0.0065	0.01	0.005022929
Silver	mg/L	0.0002824	0.000047	0.000047	0.001	0.0000000	0.000047	0.000047	0.001	1.80598E-05	0.000047	0.000047	0.001	0	0.000047	0.000047	0.001	0	0.000029	0.000029	0.0001	4.23445E-07
Sodium	mg/L	364.8100263	13	0.011	0.5	0.0000000	78	0.011	0.5	29.97157596	45	0.011	0.5	0	20	0.011	0.5	0				0
Specific Conductivity (lab)	µS/cm	0.0000000				0				0				0				0				0
Sulfate	mg/L	1085.2848089	52	0.21	1	0.0000000	300	1.1	5	115.2752921	1000	2.1	10	0	120	0.21	1	0	984	200	200	14.36791241
Sulfide	mg/L	0.6372921	0.41	0.41	1	0.0000000	0.41	0.41	1	0.157542899	0.47	0.47	3	0	1.5	0.47	3	0	0.05	0.05	0.05	0.000730077
sulfide (as H2S)	mg/L	0.6135454	0.41	0.41	1	0.0000000	0.41	0.41	1	0.157542899	0.41	0.41	1	0	0.41	0.41	1	0				0
Surfactants	mg/L	0.0014602				0				0				0				0	0.1	0.1	0.1	0.001460154
Temperature	oC	28.1106950	33.3			0.0000000	28.35			10.89351511	31.69			0	18.52			0				0
Tetrachloroethene	mg/L	0.0001624	0.00015	0.00015	0.001	0.0000000	0.00015	0.00015	0.001	5.76376E-05	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	0	0.001	0.001	0.005	1.46015E-05
Thallium	mg/L	0.0050065	0.00031	0.000013	0.001	0.0000000	0.011	0.000013	0.001	0.004226761	0.0018	0.0018	0.02	0	0.00017	0.000013	0.001	0	0.000058	0.000058	0.0001	8.46889E-07
Tin	mg/L	0.0002920				0				0				0				0	0.02	0.02	0.02	0.000292031
Titanium	mg/L	0.0000730				0				0				0				0	0.005	0.005	0.05	7.30077E-05
Toluene	mg/L	0.0001624	0.00015	0.00015	0.001	0.0000000	0.00015	0.00015	0.001	5.76376E-05	0.00016	0.00015	0.001	0	0.00015	0.00015	0.001	0	0.001	0.001	0.005	1.46015E-05
Total Dissolved Solids	mg/L	4716.0378987	150	10	10	0.0000000	1100	20	20	422.6760712	1500	20	20	0	330	10	10	0				0
Total Kjeldahl Nitrogen	mg/L	8.5788578	2.2	1.7	5	0.0000000	3.9	1.7	5	1.498578798	2.2	1.7	5	0	1.7	1.7	5	0				0
Total Organic Carbon	mg/L	5.1142204	1.6	0.19	1	0.0000000	1.7	0.19	1	0.653226655	4	0.19	1	0	7.3	0.19	1	0	1.8	1	1	0.026282767
Total Suspended Solids	mg/L	93.5278524	110	1	1	0.0000000	40	0.5	0.5	15.37003895	330	5	5	0	49	1	1	0	18.4	1	1	0.268668281
Toxaphene	mg/L	0.0000207	0.000018	0.000018	0.000048	0.0000000	0.000018	0.000018	0.000048	6.91652E-06	0.000018	0.000018	0.000049	0	0.000018	0.000018	0.00005	0	0.000206	0.000206	0.001031	3.00792E-06
trans-1,2-Dibromoethene	mg/L	0.0000146				0				0				0				0	0.001	0.001	0.005	1.46015E-05
trans-1,3-dichloropropene	mg/L	0.0001624	0.00015	0.00015	0.001	0.0000000	0.00015	0.00015	0.001	5.76376E-05	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	0	0.001	0.001	0.005	1.46015E-05
Tributyltin	mg/L	0.0000466	0.000043	0.000043	0.000043	0.0000000	0.000043	0.000043	0.000043	1.65228E-05	0.000044	0.000044	0.000044	0	0.000043	0.000043	0.000043	0	0.00003	0.00003	0.00003	4.38046E-07
Trichloroethene	mg/L	0.0001526	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.37951E-05	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0	0.001	0.001	0.005	1.46015E-05
Trichlorofluoromethane	mg/L	0.0000146				0				0				0				0	0.001	0.001	0.005	1.46015E-05
Turbidity	NTU	22.5550374	170	0.25	4.3	0.0000000	19	0.05	0.85	7.300768502	320	1.3	21	0	77	0.25	4.3	0				0
Vinyl chloride	mg/L	0.0002412	0.00023	0.00023	0.001	0.0000000	0.00023	0.00023	0.001	8.83777E-05	0.00023	0.00023	0.001	0	0.00023	0.00023	0.001	0	0.001	0.001	0.005	1.46015E-05
Zinc	mg/L	0.0782445	0.02	0.0004	0.005	0.0000000	0.0063	0.0004	0.005	0.002420781	1.8	0.0004	0.005	0	0.094	0.0004	0.005	0	0.00571	0.0016	0.005	8.33748E-05

		RESULTS	TOE DRAIN				FGD PLANT				FGD YARD SUMP				MASTER SUMP				CONTACT STORMWATER			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	CONT SW_MDL	CONT SW _RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0003004	0.00029	0.00029	0.001	1.61196E-06	0.00029	0.00029	0.001	7.80029E-06	0.00029	0.00029	0.001	7.57743E-05	0.00029	0.00029	0.001	8.91462E-05				0
1,1,2,2-tetrachloroethane	mg/L	0.0002190	0.0002	0.0002	0.001	1.1117E-06	0.0002	0.0002	0.001	5.37951E-06	0.0002	0.0002	0.001	5.22581E-05	0.0002	0.0002	0.001	6.14802E-05				0
1,1,2-trichloroethane	mg/L	0.0002117	0.0002	0.0002	0.001	1.1117E-06	0.0002	0.0002	0.001	5.37951E-06	0.0002	0.0002	0.001	5.22581E-05	0.0002	0.0002	0.001	6.14802E-05				0
1,1-dichloroethane	mg/L	0.0001328	0.00012	0.00012	0.001	6.67018E-07	0.00012	0.00012	0.001	3.22771E-06	0.00012	0.00012	0.001	3.13549E-05	0.00012	0.00012	0.001	3.68881E-05				0
1,1-dichloroethene	mg/L	0.0003102	0.0003	0.0003	0.001	1.66754E-06	0.0003	0.0003	0.001	8.06927E-06	0.0003	0.0003	0.001	7.83872E-05	0.0003	0.0003	0.001	9.22202E-05				0
1,2,4-trichlorobenzene	mg/L	0.0007271	0.00068	0.00068	0.0019	3.77977E-06	0.00067	0.00067	0.0019	1.80214E-05	0.00074	0.00074	0.0021	0.000193355	0.00071	0.00071	0.002	0.000218255				0
1,2-dichlorobenzene	mg/L	0.0001640	0.00015	0.00015	0.001	8.33772E-07	0.00015	0.00015	0.001	4.03464E-06	0.00015	0.00015	0.001	3.91936E-05	0.00015	0.00015	0.001	4.61101E-05				0
1,2-dichloroethane	mg/L	0.0002288	0.00021	0.00021	0.001	1.16728E-06	0.00021	0.00021	0.001	5.64849E-06	0.00021	0.00021	0.001	5.4871E-05	0.00021	0.00021	0.001	6.45542E-05				0
1,2-dichloropropane	mg/L	0.0001155	0.000095	0.000095	0.001	5.28056E-07	0.000095	0.000095	0.001	2.55527E-06	0.000095	0.000095	0.001	2.48226E-05	0.000095	0.000095	0.001	2.92031E-05				0
1,2-Trans-dichloroethene	mg/L	0.0001821	0.00017	0.00017	0.001	9.44942E-07	0.00017	0.00017	0.001	4.57259E-06	0.00017	0.00017	0.001	4.44194E-05	0.00017	0.00017	0.001	5.22581E-05				0
1,3-dichlorobenzene	mg/L	0.0001246	0.00011	0.00011	0.001	6.11433E-07	0.00011	0.00011	0.001	2.95873E-06	0.00011	0.00011	0.001	2.8742E-05	0.00011	0.00011	0.001	3.38141E-05				0
1,3-Dichloropropene	mg/L	0.0005073	0.0005	0.0005	0.002	2.77924E-06	0.0005	0.0005	0.002	1.34488E-05	0.0005	0.0005	0.002	0.000130645	0.0005	0.0005	0.002	0.0001537				0
1,4-dichlorobenzene	mg/L	0.0002231	0.00021	0.00021	0.001	1.16728E-06	0.00021	0.00021	0.001	5.64849E-06	0.00021	0.00021	0.001	5.4871E-05	0.00021	0.00021	0.001	6.45542E-05				0
2,3,7,8-Tetrachlorooxanthrene	mg/L	2.12E-11				0				0				0				0				0
2,4,6-trichlorophenol	mg/L	0.0017175	0.0017	0.0017	0.0096	9.44942E-06	0.0017	0.0017	0.0094	4.57259E-05	0.0018	0.0018	0.01	0.000470323	0.0017	0.0017	0.01	0.000522581				0
2,4-dichlorophenol	mg/L	0.0003424	0.00032	0.00032	0.0019	1.77871E-06	0.00032	0.00032	0.0019	8.60722E-06	0.00035	0.00035	0.0021	9.14517E-05	0.00033	0.00033	0.002	0.000101442				0
2,4-dimethylphenol	mg/L	0.0008393	0.00082	0.00082	0.0096	4.55795E-06	0.0008	0.0008	0.0094	2.15181E-05	0.00089	0.00089	0.01	0.000232549	0.00085	0.00085	0.01	0.000261291				0
2,4-dinitrophenol	mg/L	0.0059730	0.0059	0.0059	0.048	3.2795E-05	0.0058	0.0058	0.047	0.000156006	0.0064	0.0064	0.052	0.00167226	0.0061	0.0061	0.05	0.001875145				0
2,4-Dinitrotoluene	mg/L	0.0005411	0.00052	0.00052	0.0096	2.89041E-06	0.00051	0.00051	0.0094	1.37178E-05	0.00056	0.00056	0.01	0.000146323	0.00054	0.00054	0.01	0.000165996				0
2,6-dichlorophenol	mg/L	0.0000162				0				0				0				0				0
2,6-dinitrotoluene	mg/L	0.0007955	0.00077	0.00077	0.0096	4.28003E-06	0.00075	0.00075	0.0094	2.01732E-05	0.00083	0.00083	0.01	0.000216871	0.0008	0.0008	0.01	0.000245921				0
2-Chloroethylvinyl ether	mg/L	0.0003194	0.00025	0.00025	0.002	1.38962E-06	0.00025	0.00025	0.002	6.72439E-06	0.00025	0.00025	0.002	6.53227E-05	0.00025	0.00025	0.002	7.68502E-05				0
2-chloronaphthalene	mg/L	0.0001625	0.00015	0.00015	0.0019	8.33772E-07	0.00014	0.00014	0.0019	3.76566E-06	0.00016	0.00016	0.0021	4.18065E-05	0.00015	0.00015	0.002	4.61101E-05				0
2-chlorophenol	mg/L	0.0016497	0.0016	0.0016	0.0096	8.89357E-06	0.0016	0.0016	0.0094	4.30361E-05	0.0017	0.0017	0.01	0.000444194	0.0017	0.0017	0.01	0.000522581				0
2-methylphenol	mg/L	0.0000809				0				0				0				0				0
2-nitrophenol	mg/L	0.0016758	0.0016	0.0016	0.0096	8.89357E-06	0.0016	0.0016	0.0094	4.30361E-05	0.0018	0.0018	0.01	0.000470323	0.0017	0.0017	0.01	0.000522581				0
3,3-Dichlorobenzidine	mg/L	0.0011749	0.0011	0.0011	0.0096	6.11433E-06	0.0011	0.0011	0.0094	2.95873E-05	0.0012	0.0012	0.01	0.000313549	0.0011	0.0011	0.01	0.000338141				0
3,4-Benzo-fluoranthene	mg/L	0.0001697	0.00015	0.00015	0.0019	8.33772E-07	0.00015	0.00015	0.0019	4.03464E-06	0.00016	0.00016	0.0021	4.18065E-05	0.00016	0.00016	0.002	4.91841E-05				0
4,4-DDE	mg/L	0.0000011	0.00000076	0.00000076	0.0000013	4.22444E-09	0.0000034	0.00000075	0.0000012	9.14517E-08	0.0000015	0.00000078	0.0000013	3.91936E-07	0.00000077	0.00000077	0.0000013	2.36699E-07				0
4,6-Dinitro-2-methylphenol	mg/L	0.0021685	0.0021	0.0021	0.048	1.16728E-05	0.0021	0.0021	0.047	5.64849E-05	0.0023	0.0023	0.052	0.000600969	0.0022	0.0022	0.05	0.000676282				0
4-bromophenyl phenyl ether	mg/L	0.0006355	0.00061	0.00061	0.0096	3.39067E-06	0.0006	0.0006	0.0094	1.61385E-05	0.00066	0.00066	0.01	0.000172452	0.00064	0.00064	0.01	0.000196736				0
4-chlorophenyl phenyl ether	mg/L	0.0005055	0.00048	0.00048	0.0096	2.66807E-06	0.00047	0.00047	0.0094	1.26419E-05	0.00052	0.00052	0.01	0.000135871	0.0005	0.0005	0.01	0.0001537				0
4-nitrophenol	mg/L	0.0063459	0.0062	0.0062	0.048	3.44626E-05	0.0061	0.0061	0.047	0.000164075	0.0067	0.0067	0.052	0.001750647	0.0065	0.0065	0.05	0.001998105				0
a-BHC	mg/L	0.0000032	0.00000063	0.00000063	0.0000013	3.50184E-09	0.0000098	0.00000063	0.0000012	2.63596E-07	0.0000074	0.00000063	0.0000013	1.93355E-06	0.0000014	0.00000063	0.0000012	4.30361E-07				0
Accrolein	mg/L	0.0027081	0.0026	0.0026	0.02	1.4452E-05	0.0026	0.0026	0.02	6.99337E-05	0.0026	0.0026	0.02	0.000679356	0.0026	0.0026	0.02	0.000799242				0
Acenaphthene	mg/L	0.0001568	0.00014	0.00014	0.0019	7.78187E-07	0.00014	0.00014	0.0019	3.76566E-06	0.00015	0.00015	0.0021	3.91936E-05	0.00014	0.00014	0.002	4.30361E-05				0
Acenaphthylene	mg/L	0.0001625	0.00015	0.00015	0.0019	8.33772E-07	0.00014	0.00014	0.0019	3.76566E-06	0.00016	0.00016	0.0021	4.18065E-05	0.00015	0.00015	0.002	4.61101E-05				0
Acrylonitrile	mg/L	0.0009274	0.00055	0.00055	0.02	3.05716E-06	0.00055	0.00055	0.02	1.47937E-05	0.00055	0.00055	0.02	0.00014371	0.0014	0.00055	0.02	0.000430361				0
Aldrin	mg/L	0.0000020	0.0000008	0.0000008	0.0000013	4.44678E-09	0.0000078	0.00000079	0.0000012	2.09801E-07	0.0000045	0.00000082	0.0000013	1.17581E-06	0.00000081	0.00000081	0.0000013	2.48995E-07				0
Alkalinity (Bicarbonate as CaCO3)	mg/L	93.0153174	170	0.41	5	0.944941573	600	0.41	5	16.1385409	210	0.41	5	54.87103906	68	0.41	5	20.90325297				0
Alkalinity (Carbonate as CaCO3)	mg/L	50.5530691	0.41	0.41	5	0.002278977	0.41	0.41	5	0.011028003	140	0.41	5	36.5806927	0.41	0.41	5	0.126034319				0
Alkalinity (total) as CaCO3	mg/L	148.3436151	170	0.41	5	0.944941573	600	0.41	5	16.1385409	340	0.41	5	88.83882514	68	0.41	5	20.90325297				0
Aluminium	mg/L	1.2137517	0.0088	0.0024	0.03	4.89146E-05	0.24	0.24	0.3	0.006455416	0.53	0.024	0.3	0.138484051	2.9	0.0024	0.03	0.891462259				0
Ammonia as N	mg/L	1.7954554	2.3	0.086	0.1	0.012784504	4.3	0.086	0.1	0.115659543	0.74	0.1	0.1	0.19335509	1.4	0.086	0.1	0.430361091	0.05	0.1	0.1	0
Anthracene	mg/L	0.0001666	0.00015	0.00015	0.0019	8.33772E-07	0.00015	0.00015	0.0019	4.03464E-06	0.00016	0.00016	0.0021	4.18065E-05	0.00015	0.00015	0.002	4.61101E-05				0
Antimony	mg/L	0.0041831	0.00012	0.00004	0.002	6.67018E-07	0.035	0.004	0.02	0.000941415	0.011	0.0004	0.02	0.002874197	0.00063	0.00004	0.002	0.000193662				0
Arochlor 1016	mg/L	0.0000029	0.0000024	0.0000024	0.0000096	1.33404E-08	0.0000024	0.0000024	0.0000095	6.45542E-08	0.0000025	0.0000025	0.0000099	6.53227E-07	0.0000025	0.0000025	0.0000098	7.68502E-07				0
Arochlor 1221	mg/L	0.0000053	0.0000024	0.0000024	0.0000096	1.33404E-08	0.0000024	0.0000024	0.0000095	6.45542E-08	0.0000025	0.0000025	0.0000099	6.53227E-07	0.0000024	0.0000024	0.0000098	7.37762E-07				0
Arochlor 1232	mg/L	0.0000031	0.0000028	0.0000028	0.0000096	1.55637E-08	0.0000028	0.0000028	0.0000095	7.53132E-08	0.0000029	0.0000029	0.0000099	7.57743E-07	0.0000029	0.0000029	0.0000098	8.91462E-07				0
Arochlor 1242	mg/L	0.0000024	0.0000018	0.0000018	0.0000096	1.00053E-08	0.0000018	0.0000018	0.0000095	4.84156E-08	0.0000018	0.0000018	0.0000099	4.70323E-07	0.0000018	0.0000018	0.0000098	5.53321E-07				0
Arochlor 1248	mg/L	0.0000029	0.0000022	0.0000022	0.0000096	1.22287E-08	0.0000022	0.0000022	0.0000095	5.91746E-08	0.0000023	0.0000023	0.0000099	6.00969E-07	0.0000022	0.0000022	0.0000098	6.76282E-07				0
Arochlor 1254	mg/L	0.0000019	0.0000013	0.0000013	0.0000096	7.22602E-09	0.0000013	0.0000013	0.0000095	3.49668E-08	0.0000013	0.0000013	0.0000099	3.39678E-07	0.0000013	0.0000013	0.0000098	3.99621E-07				0
Arochlor 1260	mg/L	0.0000019	0.0000013	0.0000013	0.0000096	7.22602E-09	0.0000013	0.0000013	0.0000095	3.49668E-08	0.0000013	0.0000013	0.0000099	3.39678E-07	0.0000013	0.0000013	0.0000098	3.99621E-07				0
Arsenic	mg/L	0.0242846	0.0013	0.00012	0.001	7.22602E-06	0.17	0.012	0.01	0.004572587	0.06	0.0012	0.01	0.01567744	0.007	0.003	0.001	0.002151805				0
Azinophos methyl	mg/L	0.0001125	0.000022	0.000022	0.00019	1.22287E-07	0.000022	0.000022	0.00019	5.91746E-07	0.000022	0.000022	0.0002	5.74839E-06	0.000023	0.000023	0.0002	7.07022E-06				0
Barium	mg/L	0.2281199	0.065	0.000088	0.01	0.000361301	0.5	0.0088	1	0.013448784	0.28	0.00088	0.1	0.073161385	0.35	0.000088	0.01	0.107590273				0
b-BHC	mg/L	0.0000042	0.00000096	0.00000096	0.0000013	5.33614E-09	0.000012	0.00000095	0.0000012	3.22771E-07	0.000012	0.00000099	0.0000013	3.13549E-06	0.00000098	0.00000098	0.0000013	3.01253E-07				0
Benz(a)anthracene	mg/L	0.0002248	0.00014	0.00014	0.0019	7.78187E-07	0.00014	0.00014	0.0019	3.76566E-06	0.00015	0.00015	0.0021	3.91936E-05	0.00015	0.00015	0.002	4.61101E-05				0
Benzene	mg/L	0.0001262	0.00011	0.00011	0.001	6.11433E-07	0.00023	0.00011	0.001	6.18644E-06	0.00011	0.00011	0.001	2.8742E-05	0.00011	0.00011	0.001	3.38141E-05				0
Benzidine	mg/L	0.0339973	0.033	0.033	0.19	0.00018343	0.033	0.033	0.19	0.00088762	0.036	0.036	0.21	0.009406464	0.035	0.035	0.2	0.010759027				0
Benzo(a) pyrene	mg/L	0.0001469	0.00013	0.00013	0.0019	7.22602E-07	0.00013	0.00013	0.0019	3.49668E-06	0.00014	0.00014	0.0021	3.65807E-05	0.00013	0.00013	0.002	3.99621E-05				0
Benzo(g,h,i)perylene	mg/L	0.0001625	0.00015	0.00015	0.0019	8.33772E-07	0.00014	0.00014	0.0019	3.76566E-06	0.00016	0.00016	0.0021	4.18065E-05	0.00015	0.00015	0.002	4.61101E-05				0
Benzo(k)fluoranthene	mg/L	0.0005510	0.00053	0.00053	0.0019	2.94599E-06	0.00052	0.00052	0.0019	1.39867E-05	0.00057	0.00057	0.0021	0.000148936	0.00055	0.00055	0.002	0.00016907				0
Beryllium	mg/L	0.0005723	0.000036	0.000036	0.001	2.00105E-07	0.0036	0.0036	0.01	9.68312E-05	0.00036	0.00036	0.01	9.40646E-05	0.0011	0.000036	0.001	0.000338141				0
Biochemical Oxygen Demand	mg/L	6.2786851	2	2	2	2	2	2	2	0.053795136	2	2	2	0.522581324	2.9	2	2	0.891462259				0
Bis(2-chloroethoxy) methane	mg/L	0.0005831	0.00056	0.00056	0.0096	3.11275E-06	0.00055	0.00055	0.0094	1.47937E-05	0.00061	0.00061	0.01	0.000159387	0.00058	0.00058	0.01	0.000178292				0
Bis(2-chloroethyl)ether	mg/L	0.0002610	0.00024	0.00024	0.0019	1.33404E-06	0.00024	0.00024	0.0019	6.45542E-06	0.00026	0.00026	0.0021	6.79356E-05	0.00025	0.00025	0.002	7.68502E-05				0
Bis(2-chloroisopropyl) ether	mg/L	0.0002117	0.00019	0.00019	0.0019	1.05611E-06	0.00019	0.00019	0.0019	5.11054E-06	0.00021	0.00021	0.0021	5.4871E-05	0.0002	0.0002	0.002	6.14802E-05				0
Bis(2-ethylhexyl) phthalate	mg/L	0.0124097	0.012	0.012	0.019	6.67018E-05	0.012	0.012	0.019	0.000322771	0.013	0.013	0.021	0.003396779	0.013	0.013	0.02	0.00399621				0
Bisphenol A	mg/L	0.0003112	0.00032	0.00032	0.001	1.77871E-06	0.00031	0.00031	0.00098	8.33825E-06	0.00032	0.00032	0.001	8.3613E-05	0.00032	0.00032	0.00099	9.83682E-05				0
Boron	mg/L	38.6533858	0.5	0.00046	0.005	0.00277924	230	0.46	0.5	6.186440678	120	0.046	0.5	31.35487946	0.18	0.00061	0.2	0.05533214				0
Bromide	mg/L	74.2301880	0.52	0.19	0.5	0.00289041	150	4.8		4.034635225	260	4.8	13	67.93557217	0.48	0.48	1.3	0.147552374				0
Bromoform	mg/L	0.0002091	0.00019	0.00019	0.001	1.05611E-06	0.00019	0.00019	0.001	5.11054E-06	0.00019	0.00019	0.001	4.96452E-05	0.00019	0.00019	0.001	5.84061E-05				0
Butyl benzyl phthalate	mg/L	0.0014192	0.0014	0.0014	0.0096	7.78187E-06	0.0013	0.0013	0.0094	3.49668E-05	0.0015	0.0015	0.01	0.000391936	0.0014	0.0014	0.01	0.000430361				0
Cadmium	mg/L	0.0005013	0.000087	0.000074	0.001	4.83588E-07	0.011	0.0074	0.1	0.000295873	0.000281	0.0002	0.001	7.34227E-05	0.00026	0.000074	0.001	7.99242E-05	0.0002	0.0002	0.001	0
Carbon tetrachloride	mg/L	0.0001526	0.00014	0.00014	0.001	7.78187E-07	0.00014	0.00014	0.001	3.76566E-06	0.00014	0.00014	0.001	3.65807E-05	0.00014	0.00014	0.001	4.30361E-05				0
Chemical Oxygen Demand	mg/L	76.6634688	16	2	10	0.088935677	300	20	100	8.06927045	210	20	100	54.87103906	30	2	10	9.222023371				0
chlordane	mg/L	0.0000046	0.0000016	0.0000016	0.000012	8.89357E-09	0.0000016	0.0000016	0.000012	4.30361E-08	0.0000016	0.0000016	0.000012	4.18065E-07	0.0000016	0.0000016	0.000012	4.91841E-07				0
Chloride	mg/L	1286.3990862	6.8	0.2	1	0.037797663	23100	49	250	621.3338246	204	100	100	53.30329508	1600	4.9	25	491.8412464	1	1	1	0
Chlorine, Total Residual	mg/L	0.6582562	0.02			0.00011117	0.24			0.006455416	2.2			0.574839457	0.25			0.076850195				0
Chlorobenzene	mg/L	0.0001453	0.00014	0.00014	0.001	7.78187E-07	0.00014	0.00014	0.001	3.76566E-06	0.00014	0.00014	0.001	3.65807E-05	0.00014	0.00014	0.001	4.30361E-05				0
Chlorodibromomethane	mg/L	0.0004125	0.00014	0.00014	0.001	7.78187E-07	0.00014	0.00014	0.001	3.76566E-06	0.00077	0.00014	0.001	0.000201194	0.00045	0.00014	0.001	0.00013833				0
Chloroethane	mg/L	0.0002215	0.00021	0.00021	0.001	1.16728E-06	0.00021	0.00021	0.001	5.64849E-06	0.00021	0.00021	0.001	5.4871E-05	0.00021	0.00021	0.001	6.45542E-05				0
Chloroform	mg/L	0.0092130	0.00017	0.00017	0.001	9.44942E-07	0.0038	0.00017	0.001	0.000102211	0.019	0.00017	0.001	0.004964523	0.013	0.00017	0.001	0.00399621				0
Chlorpyrifos	mg/L	0.0001127	0.000019	0.000019	0.00019	1.05611E-07	0.000019	0.000019	0.00019	5.11054E-07	0.00002	0.00002	0.0002	5.22581E-06	0.00002	0.00002	0.0002	6.14802E-06				0
Chromium (Hexavalent)	mg/L	0.0089701	0.044	0.0019	0.01	0.000244573	0.023	0.0019		0.000618644	0.02	0.005	0.005	0.005225813	0.0041		0.01	0.001260343	0.003	0.003	0.005	0
Chromium (Total)	mg/L	0.0033224	0.00023	0.00023	0.002	1.27845E-06	0.023	0.023	0.2	0.000618644	0.0023	0.0023	0.02	0.000600969	0.004	0.00023	0.002	0.001229603				0
Chrysene	mg/L	0.0001526	0.00013	0.00013	0.0019	7.22602E-07	0.00013	0.00013	0.0019	3.49668E-06	0.00015	0.00015	0.0021	3.91936E-05	0.00014	0.00014	0.002	4.30361E-05				0
cis-1,3-dichloropropene	mg/L	0.0002018	0.00019	0.00019	0.001	1.05611E-06	0.00019	0.00019	0.001	5.11054E-06	0.00019	0.00019	0.001	4.96452E-05	0.00019	0.00019	0.001	5.84061E-05				0
Cobalt	mg/L	0.0036689	0.0014	0.00005	0.0005	7.78187E-06	0.021	0.005	0.05	0.000564849	0.0074	0.0005	0.005	0.001933551	0.0029	0.00005	0.0005	0.000891462				0
Color	o	0.1460154				0				0				0				0				0
Copper	mg/L	0.0196311	0.00058	0.00027	0.002	3.22392E-06	0.027	0.027	0.2	0.000726234	0.0125	0.002	0.01	0.003266133	0.032	0.00027	0.002	0.009836825	0.0025	0.002	0.01	0
Cyanide (Total)	mg/L	0.0039990	0.0025	0.0025	0.01	1.38962E-05	0.0025	0.0025	0.01	6.72439E-05	0.0057	0.0025	0.01	0.001489357	0.0043	0.0019	0.01	0.001321823				0
d-BHC	mg/L	0.0000004	0.00000037	0.00000037	0.0000013	2.05664E-09	0.00000036	0.00000036	0.0000012	9.68312E-09	0.00000038	0.00000038	0.0000013	9.92905E-08	0.00000037	0.00000037	0.0000013	1.13738E-07				0
DDD	mg/L	0.0000007	0.00000064	0.00000064	0.0000013	3.55743E-09	0.00000064	0.00000064	0.0000012	1.72144E-08	0.00000066	0.00000066	0.0000013	1.72452E-07	0.00000066	0.00000066	0.0000013	2.02885E-07				0
DDT	mg/L	0.0000009	0.00000071	0.00000071	0.0000013	3.94652E-09	0.0000041	0.0000007	0.0000012	1.1028E-07	0.00000073	0.00000073	0.0000013	1.90742E-07	0.00000073	0.00000073	0.0000013	2.24403E-07				0
Demeton (total)	mg/L	0.0000314	0.000031	0.000031	0.00038	1.72313E-07	0.000031	0.000031	0.00038	8.33825E-07	0.000032	0.000032	0.00039	8.3613E-06	0.000033	0.000033	0.0004	1.01442E-05				0
Demeton-O	mg/L	0.0000949				0				0			0	0				0				0
Demeton-S	mg/L	0.0000949				0				0				0				0				0
Diazinon	mg/L	0.0001130	0.000018	0.000018	0.00019	1.00053E-07	0.000018	0.000018	0.00019	4.84156E-07	0.000018	0.000018	0.0002	4.70323E-06	0.000019	0.000019	0.0002	5.84061E-06				0
Dibenz(a,h)anthracene	mg/L	0.0001697	0.00015	0.00015	0.0019	8.33772E-07	0.00015	0.00015	0.0019	4.03464E-06	0.00016	0.00016	0.0021	4.18065E-05	0.00016	0.00016	0.002	4.91841E-05				0
Dichlorobromomethane	mg/L	0.0015309	0.00013	0.00013	0.001	7.22602E-07	0.00049	0.00013	0.001	1.31798E-05	0.0025	0.00013	0.001	0.000653227	0.0026	0.00013	0.001	0.000799242				0
Dichlorodifluoromethane	mg/L	0.0000146				0				0				0				0				0
Dieldrin	mg/L	0.0000016	0.00000079	0.00000079	0.0000013	4.3912E-09	0.0000051	0.00000078	0.0000012	1.37178E-07	0.0000032	0.00000081	0.0000013	8.3613E-07	0.0000008	0.0000008	0.0000013	2.45921E-07				0
Diesel Range Organics	mg/L	0.2320876				0				0				0	0.48	0.24	0.5	0.147552374				0
Diethylphthalate	mg/L	0.0014526	0.0014	0.0014	0.0096	7.78187E-06	0.0014	0.0014	0.0094	3.76566E-05	0.0015	0.0015	0.01	0.000391936	0.0015	0.0015	0.01	0.000461101				0
Dimethyl phthalate	mg/L	0.0007659	0.00074	0.00074	0.0096	4.11328E-06	0.00072	0.00072	0.0094	1.93662E-05	0.0008	0.0008	0.01	0.000209033	0.00077	0.00077	0.01	0.000236699				0
Di-n-butyl phthalate	mg/L	0.0012410	0.0012	0.0012	0.0096	6.67018E-06	0.0012	0.0012	0.0094	3.22771E-05	0.0013	0.0013	0.01	0.000339678	0.0012	0.0012	0.01	0.000368881				0
Di-n-octyl phthalate	mg/L	0.0020673	0.002	0.002	0.0096	1.1117E-05	0.0019	0.0019	0.0094	5.11054E-05	0.0022	0.0022	0.01	0.000574839	0.0021	0.0021	0.01	0.000645542				0

		RESULTS	TOE DRAIN				FGD PLANT				FGD YARD SUMP				MASTER SUMP				CONTACT STORMWATER			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	CONT SW_MDL	CONT SW _RL	Flow Weighted Average of the Source (mg/l)
Diphenylhydrazine	mg/L	0.0007222	0.00063	0.00063	0.0096	3.50184E-06	0.00062	0.00062	0.0094	1.66765E-05	0.00069	0.00069	0.01	0.000180291	0.00066	0.00066	0.01	0.000202885				0
E. Coli	cfu/100 ml	0.0146015				0.000000				0.000000				0.000000				0.000000				0
EC (field)	µS/cm	6505.8168439	364			2.023286662	48670			1309.104643	11080			2895.100537	362			111.279082				0
Endosulfan I	mg/L	0.0000016	0.0000009	0.0000009	0.0000013	5.00263E-09	0.0000092	0.0000009	0.0000012	2.47458E-07	0.0000023	0.00000093	0.0000013	6.00969E-07	0.00000092	0.00000092	0.0000013	2.82809E-07				0
Endosulfan II	mg/L	0.0000075	0.0000065	0.00000094	0.0000013	3.61301E-08	0.000048	0.00000093	0.0000012	1.29108E-06	0.000019	0.00000097	0.0000013	4.96452E-06	0.0000026	0.00000093	0.0000012	7.99242E-07				0
Endosulfan sulphate	mg/L	0.0000364	0.0000076	0.00000055	0.0000013	4.22444E-08	0.000023	0.00000054	0.0000012	1.96352E-06	0.00013	0.00000055	0.0000013	3.39678E-05	0.00000056	0.00000056	0.0000013	1.72144E-07				0
Endrin	mg/L	0.0000017	0.00000092	0.00000092	0.0000013	5.1138E-09	0.0000028	0.00000091	0.0000012	7.53132E-08	0.0000033	0.00000095	0.0000013	8.62259E-07	0.00000094	0.00000094	0.0000013	2.88957E-07				0
Endrin aldehyde	mg/L	0.0000009	0.00000087	0.00000087	0.0000013	4.83588E-09	0.00000086	0.00000086	0.0000012	2.31319E-08	0.00000089	0.00000089	0.0000013	2.32549E-07	0.00000088	0.00000088	0.0000013	2.70513E-07				0
Enterococci	MPN/100 ml	0.0146015				0				0				0				0				0
Ethylbenzene	mg/L	0.0002463	0.00023	0.00023	0.001	1.27845E-06	0.00069	0.00023	0.001	1.85593E-05	0.00023	0.00023	0.001	6.00969E-05	0.00023	0.00023	0.001	7.07022E-05				0
Fecal Coliforms	MPN/100 ml	0.0292031				0				0				0				0				0
Fluoranthene	mg/L	0.0001724	0.00016	0.00016	0.0019	8.89357E-07	0.00015	0.00015	0.0019	4.03464E-06	0.00017	0.00017	0.0021	4.44194E-05	0.00016	0.00016	0.002	4.91841E-05				0
Fluorene	mg/L	0.0002312	0.00021	0.00021	0.0019	1.16728E-06	0.0002	0.0002	0.0019	5.37951E-06	0.00023	0.00023	0.0021	6.00969E-05	0.00022	0.00022	0.002	6.76282E-05				0
Fluoride	mg/L	1.4944091	0.19	0.014	0.1	0.001056111	3.2	0.35	2.5	0.086072218	4.5	0.35	2.5	1.17580798	0.22	0.035	0.25	0.067628171				0
Gasoline Range Organics	mg/L	0.0367344	0			1	0			0	0			0	0.057	0.025	0.1	0.017521844				0
g-BHC (Lindane)	mg/L	0.0000008	0.00000077	0.00000077	0.0000013	4.28003E-09	0.00000076	0.00000076	0.0000012	2.04422E-08	0.00000079	0.00000079	0.0000013	2.0642E-07	0.00000078	0.00000078	0.0000013	2.39773E-07				0
Hardness	mg/L	20.0041057				0				0				0				0				0
HEM	mg/L	1.2065481				0				0				0	1.8	1.8	6	0.553321402				0
Heptachlor	mg/L	0.0000275	0.00000095	0.00000095	0.0000013	5.28056E-09	0.0001	0.00000094	0.0000012	2.68976E-06	0.000092	0.00000098	0.0000013	2.40387E-05	0.00000097	0.00000097	0.0000013	2.98179E-07				0
Heptachlor epoxide	mg/L	0.0000015	0.00000093	0.00000093	0.0000013	5.16939E-09	0.0000045	0.00000092	0.0000012	1.21039E-07	0.0000024	0.00000093	0.0000013	6.27098E-07	0.00000095	0.00000095	0.0000013	2.92031E-07				0
Hexachlorobenzene	mg/L	0.0002154	0.00018	0.00018	0.0019	1.00053E-06	0.00017	0.00017	0.0019	4.57259E-06	0.00019	0.00019	0.0021	4.96452E-05	0.00018	0.00018	0.002	5.53321E-05				0
Hexachlorobutadiene	mg/L	0.0001796	0.00016	0.00016	0.0019	8.89357E-07	0.00016	0.00016	0.0019	4.30361E-06	0.00017	0.00017	0.0021	4.44194E-05	0.00017	0.00017	0.002	5.22581E-05				0
Hexachlorocyclopentadiene	mg/L	0.0005214	0.0005	0.0005	0.0096	2.77924E-06	0.00049	0.00049	0.0094	1.31798E-05	0.00054	0.00054	0.01	0.000141097	0.00052	0.00052	0.01	0.000159848				0
Hexachloroethane	mg/L	0.0006295	0.0006	0.0006	0.0096	3.33509E-06	0.00059	0.00059	0.0094	1.58691E-05	0.00065	0.00065	0.01	0.000169839	0.00063	0.00063	0.01	0.000193662				0
indeno(1,2,3-c,d)pyrene	mg/L	0.0002117	0.00019	0.00019	0.0019	1.05611E-06	0.00019	0.00019	0.0019	5.11054E-06	0.00021	0.00021	0.0021	5.4871E-05	0.0002	0.0002	0.002	6.14802E-05				0
Iron	mg/L	1.0666870	4.4	0.0057	0.05	0.024457311	1.3	0.57	5	0.034966839	0.84	0.057	0.5	0.219484156	1.9	0.0057	0.05	0.58406148				0
Isophorone	mg/L	0.0006423	0.00062	0.00062	0.0096	3.44626E-06	0.00061	0.00061	0.0094	1.64075E-05	0.00067	0.00067	0.01	0.000175065	0.00064	0.00064	0.01	0.000196736				0
Kepone	mg/L	0.0094587	0.0093	0.0093	0.038	5.16939E-05	0.0091	0.0091	0.038	0.000244768	0.01	0.01	0.042	0.002612907	0.0097	0.0097	0.04	0.002981788				0
Lead	mg/L	0.0031498	0.000074	0.000057	0.001	4.11328E-07	0.0058	0.0057	0.1	0.000156006	0.0018	0.00057	0.01	0.000470323	0.0067	0.0012	0.01	0.002059585				0
Lithium	mg/L	0.0727598	0.0038	0.00053	0.05	2.11222E-05	0.21	0.0026	0.25	0.005648489	0.13	0.0011	0.1	0.033967786	0.014	0.00053	0.05	0.004303611				0
Magnesium	mg/L	120.6684244	16	0.001	0.5	0.088935677	670	0.1	5	18.02137067	340	0.01	5	88.83882514	40	0.001	0.5	12.29603116				0
Malathion	mg/L	0.0000356	0.000021	0.000021	0.00019	1.16728E-07	0.000021	0.000021	0.00019	5.64849E-07	0.000021	0.000021	0.0002	5.4871E-06	0.000022	0.000022	0.0002	6.76282E-06				0
Manganese	mg/L	0.1773479	1	0.000046	0.005	0.00555848	1.3	0.0046	0.5	0.034966839	0.3	0.00046	0.05	0.078387199	0.16	0.00012	0.015	0.049184125				0
Mercury	mg/L	0.0000800	0.000056	0.000031	0.0002	3.11275E-07	0.00022	0.000031	0.0002	5.91746E-06	0.0001	0.000031	0.0002	2.61291E-05	0.00007	0.000031	0.0002	2.15181E-05				0
Methoxychlor	mg/L	0.0000001				0				0				0				0				0
Methyl Bromide	mg/L	0.0003201	0.00031	0.00031	0.001	1.72313E-06	0.00031	0.00031	0.001	8.33825E-06	0.00031	0.00031	0.001	8.10001E-05	0.00031	0.00031	0.001	9.52942E-05				0
Methyl Chloride	mg/L	0.0002978	0.00028	0.00028	0.001	1.55637E-06	0.00028	0.00028	0.001	7.53132E-06	0.00028	0.00028	0.001	7.31614E-05	0.00028	0.00028	0.001	8.60722E-05				0
Methylene Chloride	mg/L	0.0002597	0.00015	0.00015	0.001	8.33772E-07	0.00015	0.00015	0.001	4.03464E-06	0.00019	0.00015	0.001	4.96452E-05	0.00018	0.00015	0.001	5.53321E-05				0
Mirex	mg/L	0.0000005	0.00000046	0.00000046	0.0000013	2.5569E-09	0.00000046	0.00000046	0.0000012	1.23729E-08	0.00000048	0.00000048	0.0000013	1.2542E-07	0.00000047	0.00000047	0.0000013	1.44478E-07				0
Molybdenum	mg/L	0.0266343	0.0031	0.00026	0.005	1.72313E-05	0.081	0.0026	0.05	0.002178703	0.052	0.0026	0.05	0.013587114	0.0058	0.00026	0.005	0.001782925				0
Naphthalene	mg/L	0.0002176	0.00013	0.00013	0.0019	7.22602E-07	0.00013	0.00013	0.0019	3.49668E-06	0.00015	0.00015	0.0021	3.91936E-05	0.00014	0.00014	0.002	4.30361E-05				0
Nickel	mg/L	0.0221284	0.00075	0.000093	0.001	4.16886E-06	0.18	0.0093	0.01	0.004841562	0.0455	0.002	0.01	0.011888725	0.0067	0.000093	0.001	0.002059585	0.002	0.002	0.01	0
Nitrate	mg/L	0.0058406				0				0				0				0				0
Nitrate (as N)	mg/L	15.8133627	0.59	0.0062	0.1	0.003279503	35	0.16		0.941414886	55	0.16	2.5	14.37098642	1.6		0.25	0.491841246				0
Nitrite	mg/L	0.0011681				0				0				0				0				0
Nitrite (as N)	mg/L	0.2273397	0.18	0.024	0.05	0.001000526	0.6	0.6	1.3	0.016138541	0.6	0.6	1.3	0.156774397	0.17		0.05	0.052258132				0
Nitrobenzene	mg/L	0.0009028	0.00081	0.00081	0.019	4.50237E-06	0.0008	0.0008	0.019	2.15181E-05	0.00088	0.00088	0.021	0.000229936	0.00084	0.00084	0.02	0.000258217				0
Nitrogen (Organic)	mg/L	0.0087609				0				0				0				0				0
Nitrogen (Total Oxidised)	mg/L	0.0058406				0				0				0				0				0
Nitrogen (Total)	mg/L	0.0449727				0				0				0				0				0
N-Nitrosodimethylamine	mg/L	0.0007526	0.00071	0.00071	0.0019	3.94652E-06	0.00069	0.00069	0.0019	1.85593E-05	0.00077	0.00077	0.0021	0.000201194	0.00074	0.00074	0.002	0.000227477				0
N-nitrosodi-n-propylamine	mg/L	0.0003322	0.0003	0.0003	0.0019	1.66754E-06	0.00029	0.00029	0.0019	7.80029E-06	0.00032	0.00032	0.0021	8.3613E-05	0.00031	0.00031	0.002	9.52942E-05				0
n-Nitrosodiphenylamine	mg/L	0.0009123	0.00082	0.00082	0.0096	4.55795E-06	0.0008	0.0008	0.0094	2.15181E-05	0.00089	0.00089	0.01	0.000232549	0.00085	0.00085	0.01	0.000261291				0
Nonylphenol	mg/L	0.0000730				0				0				0				0				0
Nonylphenol Diethoxylate (Technica	mg/L	0.0018989	0.002	0.002	0.02	1.1117E-05	0.0019	0.0019	0.02	5.11054E-05	0.002	0.002	0.02	0.000522581	0.0019	0.0019	0.02	0.000584061				0
Nonylphenol Monoethoxylate (Tech	mg/L	0.0031122	0.0032	0.0032	0.01	1.77871E-05	0.0031	0.0031	0.0098	8.33825E-05	0.0032	0.0032	0.01	0.00083613	0.0032	0.0032	0.0099	0.000983682				0
Oil and Grease	mg/L	1.0348437	1.6	1.6	4.5	0.008893568	1.6	1.6	4.6	0.043036109	1.6	1.6	4.5	0.418065059	1.6	1.6	4.6	0.491841246				0
para-tert-Octylphenol	mg/L	0.0003112	0.00032	0.00032	0.001	1.77871E-06	0.00031	0.00031	0.00098	8.33825E-06	0.00032	0.00032	0.001	8.3613E-05	0.00032	0.00032	0.00099	9.83682E-05				0
Parathion	mg/L	0.0000457	0.000031	0.000031	0.00019	1.72313E-07	0.000031	0.000031	0.00019	8.33825E-07	0.000032	0.000032	0.0002	8.3613E-06	0.000032	0.000032	0.0002	9.83682E-06				0
P-Chloro-M-Cresol	mg/L	0.0008180	0.00073	0.00073	0.0096	4.05769E-06	0.00071	0.00071	0.0094	1.90973E-05	0.00079	0.00079	0.01	0.00020642	0.00075	0.00075	0.01	0.000230551				0
Pentachlorophenol	mg/L	0.0007269	0.00064	0.00064	0.0096	3.55743E-06	0.00063	0.00063	0.0094	1.69455E-05	0.00069	0.00069	0.01	0.000180291	0.00066	0.00066	0.01	0.000202885				0
pH (Field)	SU	9.4331332	6.54			0.036352458	8.44			0.227015475	8.75			2.286293294	8.68			2.668238762				0
Phenanthrene	mg/L	0.0004989	0.00041	0.00041	0.0019	2.27898E-06	0.0004	0.0004	0.0019	1.0759E-05	0.00044	0.00044	0.0021	0.000114968	0.00043	0.00043	0.002	0.000132182				0
Phenol	mg/L	0.0015861	0.00056	0.00056	0.0019	3.11275E-06	0.00055	0.00055	0.0019	1.47937E-05	0.0042	0.00056	0.0019	0.001097421	0.00058	0.00058	0.002	0.000178292				0
Phenolics Total	mg/L	0.0087993				0				0				0	0.016	0.0082	0.01	0.004918412				0
Phosphorus	mg/L	0.3960571	0.075	0.05	0.1	0.000416886	0.61	0.05	0.1	0.016407517	0.26	0.05	0.1	0.067935572	0.94	0.05	0.1	0.288956732				0
p-Nonylphenol (Technical mixture)	mg/L	0.0015382	0.0016	0.0016	0.005	8.89357E-06	0.0016	0.0016	0.0049	4.30361E-05	0.0016	0.0016	0.005	0.000418065	0.0016	0.0016	0.0049	0.000491841				0
Potassium	mg/L	31.2140604	3.7	0.017	0.5	0.020566375	120	1.7	5	3.22770818	71	0.17	5	18.55163701	22	0.017	0.5	6.762817139				0
Pyrene	mg/L	0.0002347	0.00015	0.00015	0.0019	8.33772E-07	0.00015	0.00015	0.0019	4.03464E-06	0.00016	0.00016	0.0021	4.18065E-05	0.00016	0.00016	0.002	4.91841E-05				0
Radium-226	pC/L	0.2363316	0.487	0.161	1	0.00270698	6.26	2.06	1	0	2.3	1.01	1	0	0.4	0.4	1	0.122960312				0
Radium-228	pC/L	0.4067776	0.375	0.375	1	0.00208443	3.12	3.12	1	0	2.3	1	1	0	0.869	0.607	1	0.267131277				0
Redox	mV	135.9675050	5.1			0.028348247	147.5			3.967391304	225.9			59.02556059	122.3			37.59511528				0
Selenium	mg/L	0.0188901	0.00033	0.0002	0.005	1.8343E-06	0.044	0.002	0.05	0.001183493	0.0263	0.001	0.001	0.006871944	0.0039	0.0039	0.01	0.001198863	0.0114	0.001	0.001	0
Silver	mg/L	0.0002824	0.000047	0.000047	0.001	2.61249E-07	0.0047	0.0047	0.1	0.000126419	0.00047	0.00047	0.01	0.000122807	0.000047	0.000047	0.001	1.44478E-05				0
Sodium	mg/L	364.8100263	7.3	0.011	0.5	0.040576903	710	1.1	5	19.0972734	420	0.11	5	109.7420781	670	0.011	0.5	205.9585219				0
Specific Conductivity (lab)	µS/cm	0.0000000				0				0				0				0				0
Sulfate	mg/L	1085.2848089	57	0.21	1	0.316833351	660	5.4		17.75239499	1000	5.4	25	261.2906622	2200		25	676.2817139				0
Sulfide	mg/L	0.6372921	0.41	0.41	1	0.002278977	0.41	0.41	1	0.011028003	1.3	0.47	3	0.339677861	0.41	0.41	1	0.126034319				0
sulfide (as H2S)	mg/L	0.6135454	0.41	0.41	1	0.002278977	8.2	8.2	20	0.220560059	0.41	0.41	1	0.107129171	0.41	0.41	1	0.126034319				0
Surfactants	mg/L	0.0014602				0				0				0				0				0
Temperature	oC	28.1106950	19.24			0.106945152	38.8	1	1	1.043625645	22.16			5.790201074	33.43			10.27640804				0
Tetrachloroethene	mg/L	0.0001624	0.00015	0.00015	0.001	8.33772E-07	0.00015	0.00015	0.001	4.03464E-06	0.00015	0.00015	0.001	3.91936E-05	0.00015	0.00015	0.001	4.61101E-05				0
Thallium	mg/L	0.0050065	0.000063	0.000013	0.001	3.50184E-07	0.0038	0.0013	0.01	0.000102211	0	0.00013	0.01	0	0.0022	0.0018	0.02	0.000676282				0
Tin	mg/L	0.0002920				0				0				0				0				0
Titanium	mg/L	0.0000730				0				0				0				0				0
Toluene	mg/L	0.0001624	0.00015	0.00015	0.001	8.33772E-07	0.00015	0.00015	0.001	4.03464E-06	0.00015	0.00015	0.001	3.91936E-05	0.00015	0.00015	0.001	4.61101E-05				0
Total Dissolved Solids	mg/L	4716.0378987	230	10	10	1.278450363	31000	200	200	833.8246131	9000	100	100	2351.61596	3600	40	40	1106.642805				0
Total Kjeldahl Nitrogen	mg/L	8.5788578	3.4	1.7	5	0.018898831	9.5	1.7	5	0.255526898	8.4	1.7	5	2.194841562	15	1.7	5	4.611011685				0
Total Organic Carbon	mg/L	5.1142204	3.4	0.19	1	0.018898831	36	3.8	20	0.968312454	9.9	0.19	1	2.586777556	2.8	0.19	1	0.860722181				0
Total Suspended Solids	mg/L	93.5278524	7.8	1	1	0.043356143	3.3	0.52		0.088761975	27	1	1	7.054847879	230		5	70.70217918				0
Toxaphene	mg/L	0.0000207	0.000018	0.000018	0.000048	1.00053E-07	0.000018	0.000018	0.000048	4.84156E-07	0.000018	0.000018	0.00005	4.70323E-06	0.000018	0.000018	0.000049	5.53321E-06				0
trans-1,2-Dibromoethene	mg/L	0.0000146				0				0				0				0				0
trans-1,3-dichloropropene	mg/L	0.0001624	0.00015	0.00015	0.001	8.33772E-07	0.00015	0.00015	0.001	4.03464E-06	0.00015	0.00015	0.001	3.91936E-05	0.00015	0.00015	0.001	4.61101E-05				0
Tributyltin	mg/L	0.0000466	0.000043	0.000043	0.000043	2.39015E-07	0.000043	0.000043	0.000043	1.1566E-06	0.000047	0.000047	0.000047	1.22807E-05	0.000052	0.000052	0.000052	1.59848E-05				0
Trichloroethene	mg/L	0.0001526	0.00014	0.00014	0.001	7.78187E-07	0.00014	0.00014	0.001	3.76566E-06	0.00014	0.00014	0.001	3.65807E-05	0.00014	0.00014	0.001	4.30361E-05				0
Trichlorofluoromethane	mg/L	0.0000146				0				0				0				0				0
Turbidity	NTU	22.5550374	23	0.05	0.85	0.127845036	1.8	0.05	0.85	0.048415623	33	0.05	0.85	8.622591852	21	0.05	0.85	6.45541636				0
Vinyl chloride	mg/L	0.0002412	0.00023	0.00023	0.001	1.27845E-06	0.00023	0.00023	0.001	6.18644E-06	0.00023	0.00023	0.001	6.00969E-05	0.00023	0.00023	0.001	7.07022E-05				0
Zinc	mg/L	0.0782445	0.025	0.0004	0.005	0.000138962	0.061	0.04	0.5	0.001640752	0.236	0.01	0.01	0.061664596	0.04	0.001	0.02	0.012296031	0.01	0.01	0.01	0

		RESULTS	BOTTOM ASH				METALS POND				COAL YARD				SIERRA DITCH				LEACHATE			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002773	0.00029	0.00029	0.001	0.0000169	0.00029	0.00029	0.001	0	0.00029	0.00029	0.001	5.05814E-05	0.00029	0.00029	0.001	1.68605E-05	0.001	0.001	0.005	5.81395E-06
1,1,2,2-tetrachloroethane	mg/L	0.0001959	0.0002	0.0002	0.001	0.0000116	0.0002	0.0002	0.001	0	0.0002	0.0002	0.001	3.48837E-05	0.0002	0.0002	0.001	1.16279E-05	0.0015	0.0015	0.005	8.72093E-06
1,1,2-trichloroethane	mg/L	0.0001930	0.0002	0.0002	0.001	0.0000116	0.0002	0.0002	0.001	0	0.0002	0.0002	0.001	3.48837E-05	0.0002	0.0002	0.001	1.16279E-05	0.001	0.001	0.005	5.81395E-06
1,1-dichloroethane	mg/L	0.0001181	0.00012	0.00012	0.001	0.0000070	0.00012	0.00012	0.001	0	0.00012	0.00012	0.001	2.09302E-05	0.00012	0.00012	0.001	6.97674E-06	0.001	0.001	0.005	5.81395E-06
1,1-dichloroethene	mg/L	0.0002866	0.0003	0.0003	0.001	0.0000174	0.0003	0.0003	0.001	0	0.0003	0.0003	0.001	5.23256E-05	0.0003	0.0003	0.001	1.74419E-05	0.001	0.001	0.005	5.81395E-06
1,2,4-trichlorobenzene	mg/L	0.0006753	0.00068	0.00068	0.0019	0.0000395	0.00068	0.00068	0.0019	0	0.0007	0.0007	0.002	0.000122093	0.00068	0.00068	0.0019	3.95349E-05	0.00222	0.00222	0.005556	1.2907E-05
1,2-dichlorobenzene	mg/L	0.0001469	0.00015	0.00015	0.001	0.0000087	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	2.61628E-05	0.00015	0.00015	0.001	8.72093E-06	0.00111	0.00111	0.005556	6.45349E-06
1,2-dichloroethane	mg/L	0.0002053	0.00021	0.00021	0.001	0.0000122	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	3.66279E-05	0.00021	0.00021	0.001	1.22093E-05	0.0015	0.0015	0.005	8.72093E-06
1,2-dichloropropane	mg/L	0.0000976	0.000095	0.000095	0.001	0.0000055	0.000095	0.000095	0.001	0	0.000095	0.000095	0.001	1.65698E-05	0.000095	0.000095	0.001	5.52326E-06	0.0015	0.0015	0.005	8.72093E-06
1,2-Trans-dichloroethene	mg/L	0.0001649	0.00017	0.00017	0.001	0.0000099	0.00017	0.00017	0.001	0	0.00017	0.00017	0.001	2.96512E-05	0.00017	0.00017	0.001	9.88372E-06	0.001	0.001	0.005	5.81395E-06
1,3-dichlorobenzene	mg/L	0.0001094	0.00011	0.00011	0.001	0.0000064	0.00011	0.00011	0.001	0	0.00011	0.00011	0.001	1.9186E-05	0.00011	0.00011	0.001	6.39535E-06	0.00111	0.00111	0.005556	6.45349E-06
1,3-Dichloropropene	mg/L	0.0004738	0.0005	0.0005	0.002	0.0000291	0.0005	0.0005	0.002	0	0.0005	0.0005	0.002	8.72093E-05	0.0005	0.0005	0.002	2.90698E-05	0.001	0.001	0.01	5.81395E-06
1,4-dichlorobenzene	mg/L	0.0002030	0.00021	0.00021	0.001	0.0000122	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	3.66279E-05	0.00021	0.00021	0.001	1.22093E-05	0.00111	0.00111	0.005556	6.45349E-06
2,3,7,8-Tetrachlorooxanthrene	mg/L	8.43E-12				0				0				0				0	1.45E-09	1.45E-09	0.000000011	8.43023E-12
2,4,6-trichlorophenol	mg/L	0.0016123	0.0017	0.0017	0.0096	0.0000988	0.0017	0.0017	0.0095	0	0.0017	0.0017	0.0099	0.000296512	0.0017	0.0017	0.0096	9.88372E-05	0.00111	0.00111	0.005556	6.45349E-06
2,4-dichlorophenol	mg/L	0.0003167	0.00032	0.00032	0.0019	0.0000186	0.00032	0.00032	0.0019	0	0.00033	0.00033	0.002	5.75581E-05	0.00032	0.00032	0.0019	1.86047E-05	0.00111	0.00111	0.005556	6.45349E-06
2,4-dimethylphenol	mg/L	0.0007981	0.00082	0.00082	0.0096	0.0000477	0.00081	0.00081	0.0095	0	0.00084	0.00084	0.0099	0.000146512	0.00082	0.00082	0.0096	4.76744E-05	0.00056	0.00056	0.005556	3.25581E-06
2,4-dinitrophenol	mg/L	0.0057243	0.0059	0.0059	0.048	0.0003430	0.0058	0.0058	0.048	0	0.0061	0.0061	0.05	0.001063953	0.0059	0.0059	0.048	0.000343023	0.00056	0.00056	0.005556	3.25581E-06
2,4-Dinitrotoluene	mg/L	0.0005098	0.00052	0.00052	0.0096	0.0000302	0.00051	0.00051	0.0095	0	0.00053	0.00053	0.0099	9.24419E-05	0.00052	0.00052	0.0096	3.02326E-05	0.00111	0.00111	0.005556	6.45349E-06
2,6-dichlorophenol	mg/L	0.0000065				0				0				0				0	0.00111	0.00111	0.005556	6.45349E-06
2,6-dinitrotoluene	mg/L	0.0007530	0.00077	0.00077	0.0096	0.0000448	0.00076	0.00076	0.0095	0	0.00079	0.00079	0.0099	0.000137791	0.00077	0.00077	0.0096	4.47674E-05	0.00111	0.00111	0.005556	6.45349E-06
2-Chloroethylvinyl ether	mg/L	0.0002631	0.00025	0.00025	0.002	0.0000145	0.00025	0.00025	0.002	0	0.00025	0.00025	0.002	4.36047E-05	0.00025	0.00025	0.002	1.45349E-05	0.005	0.005	0.005	2.90698E-05
2-chloronaphthalene	mg/L	0.0001482	0.00015	0.00015	0.0019	0.0000087	0.00014	0.00014	0.0019	0	0.00015	0.00015	0.002	2.61628E-05	0.00015	0.00015	0.0019	8.72093E-06	0.00111	0.00111	0.005556	6.45349E-06
2-chlorophenol	mg/L	0.0015644	0.0016	0.0016	0.0096	0.0000930	0.0016	0.0016	0.0095	0	0.0016	0.0016	0.0099	0.00027907	0.0016	0.0016	0.0096	9.30233E-05	0.00111	0.00111	0.005556	6.45349E-06
2-methylphenol	mg/L	0.0000322				0				0				0				0	0.00554	0.00556	0.005556	3.22093E-05
2-nitrophenol	mg/L	0.0015964	0.0016	0.0016	0.0096	0.0000930	0.0016	0.0016	0.0095	0	0.0017	0.0017	0.0099	0.000296512	0.0016	0.0016	0.0096	9.30233E-05	0.00111	0.00111	0.005556	6.45349E-06
3,3-Dichlorobenzidine	mg/L	0.0010700	0.0011	0.0011	0.0096	0.0000640	0.0011	0.0011	0.0095	0	0.0011	0.0011	0.0099	0.00019186	0.0011	0.0011	0.0096	6.39535E-05	0.00444	0.00444	0.005556	2.5814E-05
3,4-Benzo-fluoranthene	mg/L	0.0001546	0.00015	0.00015	0.0019	0.0000087	0.00015	0.00015	0.0019	0	0.00016	0.00016	0.002	2.7907E-05	0.00015	0.00015	0.0019	8.72093E-06	0.00111	0.00111	0.005556	6.45349E-06
4,4-DDE	mg/L	0.0000009	0.00000076	0.00000076	0.0000013	4.42E-08	0.00000076	0.00000076	0.0000013	0	0.00000077	0.00000077	0.0000013	1.34302E-07	0.00000078	0.00000078	0.00000130	4.53488E-08	0.000005	0.000005	0.00005155	2.90698E-08
4,6-Dinitro-2-methylphenol	mg/L	0.0020644	0.0021	0.0021	0.048	0.0001221	0.0021	0.0021	0.048	0	0.0022	0.0022	0.05	0.000383721	0.0021	0.0021	0.048	0.000122093	0.00111	0.00111	0.005556	6.45349E-06
4-bromophenyl phenyl ether	mg/L	0.0006019	0.00061	0.00061	0.0096	0.0000355	0.0006	0.0006	0.0095	0	0.00063	0.00063	0.0099	0.000109884	0.00061	0.00061	0.0096	3.54651E-05	0.00111	0.00111	0.005556	6.45349E-06
4-chlorophenyl phenyl ether	mg/L	0.0004741	0.00048	0.00048	0.0096	0.0000279	0.00048	0.00048	0.0095	0	0.0005	0.0005	0.0099	8.72093E-05	0.00048	0.00048	0.0096	2.7907E-05	0.00111	0.00111	0.005556	6.45349E-06
4-nitrophenol	mg/L	0.0060541	0.0062	0.0062	0.048	0.0003605	0.0062	0.0062	0.048	0	0.0064	0.0064	0.05	0.001116279	0.0062	0.0062	0.048	0.000360465	0.00111	0.00111	0.005556	6.45349E-06
a-BHC	mg/L	0.0000023	0.00000063	0.00000063	0.0000013	3.66E-08	0.00000063	0.00000063	0.0000013	0	0.000001	0.00000063	0.0000012	1.74419E-07	0.0000021	0.00000065	0.0000013	1.22093E-07	0.00002	0.00005155	0.005	1.16279E-07
Accrolein	mg/L	0.0024919	0.0026	0.0026	0.02	0.0001512	0.0026	0.0026	0.02	0	0.0026	0.0026	0.02	0.000453488	0.0026	0.0026	0.02	0.000151163	0.01	0.01	0.01	5.81395E-05
Acenaphthene	mg/L	0.0001390	0.00014	0.00014	0.0019	0.0000081	0.00014	0.00014	0.0019	0	0.00014	0.00014	0.002	2.44186E-05	0.00014	0.00014	0.0019	8.13953E-06	0.00111	0.00111	0.005556	6.45349E-06
Acenaphthylene	mg/L	0.0001482	0.00015	0.00015	0.0019	0.0000087	0.00014	0.00014	0.0019	0	0.00015	0.00015	0.002	2.61628E-05	0.00015	0.00015	0.0019	8.72093E-06	0.00111	0.00111	0.005556	6.45349E-06
Acrylonitrile	mg/L	0.0009534	0.00055	0.00055	0.02	0.0000320	0.00055	0.00055	0.02	0	0.00055	0.00055	0.02	9.59302E-05	0.00055	0.00055	0.02	3.19767E-05	0.0085	0.0085	0.01	4.94186E-05
Aldrin	mg/L	0.0000014	0.0000008	0.0000008	0.0000013	4.65E-08	0.0000008	0.0000008	0.0000013	0	0.00000081	0.00000081	0.0000013	1.41279E-07	0.00000082	0.00000082	0.0000013	4.76744E-08	0.000005	0.000005	0.00005155	2.90698E-08
Alkalinity (Bicarbonate as CaCO3)	mg/L	82.2154070	60	0.41	5	3.4883721	0.41	0.41	5	0	0.41	0.41	5	0.071511628	110	0.41	5	6.395348837				0
Alkalinity (Carbonate as CaCO3)	mg/L	21.5794186	16	0.41	5	0.9302326	36	0.41	5	0	0.41	0.41	5	0.071511628	0.41	0.41	5	0.023837209				0
Alkalinity (total) as CaCO3	mg/L	101.3433140	64	0.41	5	3.7209302	56	0.41	5	0	0.41	0.41	5	0.071511628	110	0.41	5	6.395348837				0
Aluminium	mg/L	9.1982366	0.92	0.0024	0.03	0.0534884	0.42	0.0024	0.03	0	44	0.0024	0.03	7.674418605	0.98	0.0024	0.03	0.056976744	1.09	0.02	0.05	0.006337209
Ammonia as N	mg/L	1.1157267	0.65	0.086	0.1	0.0377907	2.6	0.086	0.1	0	0.99	0.086	0.1	0.172674419	0.4	0.086	0.1	0.023255814	3.03	0.05	0.1	0.017616279
Anthracene	mg/L	0.0001483	0.00015	0.00015	0.0019	0.0000087	0.00015	0.00015	0.0019	0	0.00015	0.00015	0.002	2.61628E-05	0.00015	0.00015	0.0019	8.72093E-06	0.00111	0.00111	0.005556	6.45349E-06
Antimony	mg/L	0.0023848	0.0011	0.00004	0.002	0.0000640	0.00032	0.00004	0.002	0	0.00058	0.00004	0.002	0.000101163	0.00049	0.00004	0.002	2.84884E-05	0.00344	0.00011	0.002	0.00002
Arochlor 1016	mg/L	0.0000025	0.0000024	0.0000024	0.0000096	0.0000001	0.0000024	0.0000024	0.0000096	0	0.0000024	0.0000024	0.0000097	4.18605E-07	0.0000025	0.0000025	0.0000099	1.45349E-07	0.00003	0.00003	0.0005155	1.74419E-07
Arochlor 1221	mg/L	0.0000034	0.0000024	0.0000024	0.0000096	0.0000001	0.0000024	0.0000024	0.0000096	0	0.0000024	0.0000024	0.0000097	4.18605E-07	0.0000025	0.0000025	0.0000099	1.45349E-07	0.0002	0.0002	0.0005155	1.16279E-06
Arochlor 1232	mg/L	0.0000028	0.0000028	0.0000028	0.0000096	0.0000002	0.0000028	0.0000028	0.0000096	0	0.0000028	0.0000028	0.0000097	4.88372E-07	0.0000029	0.0000029	0.0000099	1.68605E-07	0.00002	0.00002	0.0005155	1.16279E-07
Arochlor 1242	mg/L	0.0000019	0.0000018	0.0000018	0.0000096	0.0000001	0.0000018	0.0000018	0.0000096	0	0.0000018	0.0000018	0.0000097	3.13953E-07	0.0000018	0.0000018	0.0000099	1.04651E-07	0.00004	0.00004	0.0005155	2.32558E-07
Arochlor 1248	mg/L	0.0000024	0.0000022	0.0000022	0.0000096	0.0000001	0.0000022	0.0000022	0.0000096	0	0.0000022	0.0000022	0.0000097	3.83721E-07	0.0000023	0.0000023	0.0000099	1.33721E-07	0.00005	0.00005	0.0005155	2.90698E-07
Arochlor 1254	mg/L	0.0000014	0.0000013	0.0000013	0.0000096	0.0000001	0.0000013	0.0000013	0.0000096	0	0.0000013	0.0000013	0.0000097	2.26744E-07	0.0000013	0.0000013	0.0000099	7.55814E-08	0.00004	0.00004	0.0005155	2.32558E-07
Arochlor 1260	mg/L	0.0000014	0.0000013	0.0000013	0.0000096	0.0000001	0.0000013	0.0000013	0.0000096	0	0.0000013	0.0000013	0.0000097	2.26744E-07	0.0000013	0.0000013	0.0000099	7.55814E-08	0.00004	0.00004	0.0002062	2.32558E-07
Arsenic	mg/L	0.0245589	0.0072	0.00012	0.001	0.0004186	0.003	0.003	0.01	0	0.049	0.00012	0.001	0.008546512	0.034	0.00012	0.001	0.001976744	0.0495	0.00061	0.001	0.000287791
Azinophos methyl	mg/L	0.0000571	0.000022	0.000022	0.0002	0.0000013	0.000022	0.000022	0.00019	0	0.000022	0.000022	0.0002	3.83721E-06	0.000022	0.000022	0.0002	1.27907E-06	0.0062	0.0065	0.0065	3.60465E-05
Barium	mg/L	0.2351446	0.11	0.000088	0.01	0.0063953	0.08	0.000088	0.01	0	0.084	0.000088	0.01	0.014651163	0.1	0.000088	0.01	0.005813953	0.193	0.002	0.01	0.001122093
b-BHC	mg/L	0.0000026	0.00000096	0.00000096	0.0000013	0.0000001	0.00000096	0.00000096	0.0000013	0	0.00000097	0.00000097	0.0000013	1.69186E-07	0.00000099	0.00000099	0.0000013	5.75581E-08	0.000005	0.000005	0.00005155	2.90698E-08
Benz(a)anthracene	mg/L	0.0001711	0.00014	0.00014	0.0019	0.0000081	0.00014	0.00014	0.0019	0	0.00015	0.00015	0.002	2.61628E-05	0.00014	0.00014	0.0019	8.13953E-06	0.00556	0.00556	0.00556	3.23256E-05
Benzene	mg/L	0.0001097	0.00011	0.00011	0.001	0.0000064	0.00011	0.00011	0.001	0	0.00011	0.00011	0.001	1.9186E-05	0.00011	0.00011	0.001	6.39535E-06	0.001	0.001	0.005	5.81395E-06
Benzidine	mg/L	0.0324477	0.033	0.033	0.19	0.0019186	0.033	0.033	0.19	0	0.034	0.034	0.2	0.005930233	0.033	0.033	0.19	0.001918605	0.00551	0.00556	0.005556	3.20349E-05
Benzo(a) pyrene	mg/L	0.0001296	0.00013	0.00013	0.0019	0.0000076	0.00013	0.00013	0.0019	0	0.00013	0.00013	0.002	2.26744E-05	0.00013	0.00013	0.0019	7.55814E-06	0.00111	0.00111	0.005556	6.45349E-06
Benzo(g,h,i)perylene	mg/L	0.0001482	0.00015	0.00015	0.0019	0.0000087	0.00014	0.00014	0.0019	0	0.00015	0.00015	0.002	2.61628E-05	0.00015	0.00015	0.0019	8.72093E-06	0.00111	0.00111	0.005556	6.45349E-06
Benzo(k)fluoranthene	mg/L	0.0005192	0.00053	0.00053	0.0019	0.0000308	0.00052	0.00052	0.0019	0	0.00054	0.00054	0.002	9.4186E-05	0.00053	0.00053	0.0019	3.0814E-05	0.00111	0.00111	0.005556	6.45349E-06
Beryllium	mg/L	0.0044892	0.00084	0.000036	0.001	0.0000488	0.000036	0.000036	0.001	0	0.022	0.000036	0.001	0.003837209	0.000095	0.000036	0.001	5.52326E-06	0.002	0.002	0.004	1.16279E-05
Biochemical Oxygen Demand	mg/L	6.3954942	2	2	2	2	2	2	2	0	2.2	2	2	0.38372093	6.2	2	2	0.360465116	2.9	0.2	2	0.016860465
Bis(2-chloroethoxy) methane	mg/L	0.0005505	0.00056	0.00056	0.0096	0.0000326	0.00055	0.00055	0.0095	0	0.00058	0.00058	0.0099	0.000101163	0.00056	0.00056	0.0096	3.25581E-05	0.00111	0.00111	0.005556	6.45349E-06
Bis(2-chloroethyl)ether	mg/L	0.0002403	0.00024	0.00024	0.0019	0.0000140	0.00024	0.00024	0.0019	0	0.00025	0.00025	0.002	4.36047E-05	0.00024	0.00024	0.0019	1.39535E-05	0.00111	0.00111	0.005556	6.45349E-06
Bis(2-chloroisopropyl) ether	mg/L	0.0001935	0.00019	0.00019	0.0019	0.0000110	0.00019	0.00019	0.0019	0	0.0002	0.0002	0.002	3.48837E-05	0.00019	0.00019	0.0019	1.10465E-05	0.00111	0.00111	0.005556	6.45349E-06

		RESULTS	BOTTOM ASH				METALS POND				COAL YARD				SIERRA DITCH				LEACHATE			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)
Bis(2-ethylhexyl) phthalate	mg/L	0.0118422	0.012	0.012	0.019	0.0006977	0.012	0.012	0.019	0	0.012	0.012	0.02	0.002093023	0.012	0.012	0.019	0.000697674	0.00111	0.00111	0.005556	6.45349E-06
Bisphenol A	mg/L	0.0005227	0.0042	0.00032	0.001	0.0002442	0.00031	0.00031	0.00097	0	0.00031	0.00031	0.00098	5.40698E-05	0.00031	0.00031	0.00097	1.80233E-05				0
Boron	mg/L	19.6088517	0.16	0.00046	0.005	0.0093023	2.6	0.00061	0.2	0	0.97	0.00046	0.005	0.169186047	0.49	0.00046	0.005	0.028488372	3.76	0.05	0.05	0.021860465
Bromide	mg/L	39.5070058	0.19	0.19	0.5	0.0110465	5.3	0.19	0.5	0	1.2	0.19	0.5	0.209302326	0.52	0.19	0.5	0.030232558	5	5	5	0.029069767
Bromoform	mg/L	0.0001866	0.00019	0.00019	0.001	0.0000110	0.00019	0.00019	0.001	0	0.00019	0.00019	0.001	3.31395E-05	0.00019	0.00019	0.001	1.10465E-05	0.0015	0.0015	0.005	8.72093E-06
Butyl benzyl phthalate	mg/L	0.0013307	0.0014	0.0014	0.0096	0.0000814	0.0014	0.0014	0.0095	0	0.0014	0.0014	0.0099	0.000244186	0.0014	0.0014	0.0096	8.13953E-05	0.00111	0.00111	0.005556	6.45349E-06
Cadmium	mg/L	0.0013822	0.00024	0.000074	0.001	0.0000140	0.00013	0.00013	0.005	0	0.0063	0.000074	0.001	0.001098837	0.00011	0.000074	0.001	6.39535E-06	0.00011	0.00011	0.0003	6.39535E-07
Carbon tetrachloride	mg/L	0.0001369	0.00014	0.00014	0.001	0.0000081	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	2.44186E-05	0.00014	0.00014	0.001	8.13953E-06	0.001	0.001	0.005	5.81395E-06
Chemical Oxygen Demand	mg/L	76.1203488	6.1	2	10	0.3546512	11	2	10	0	120	4	20	20.93023256	130	4	20	7.558139535	12.7	10	10	0.073837209
chlordane	mg/L	0.0000035	0.0000016	0.0000016	0.000012	0.0000001	0.0000016	0.0000016	0.000012	0	0.0000061	0.0000016	0.000012	1.06395E-06	0.0000016	0.0000016	0.000012	9.30233E-08	0.000206	0.000206	0.0002062	1.19767E-06
Chloride	mg/L	965.5514535	22	0.2	1	1.2790698	310	2	10	0	84	0.2	1	14.65116279	37	0.2	1	2.151162791	52.4	10	10	0.304651163
Chlorine, Total Residual	mg/L	0.5182267	0.04			0.0023256	0			0	0.44			0.076744186	0.04			0.002325581				0
Chlorobenzene	mg/L	0.0001340	0.00014	0.00014	0.001	0.0000081	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	2.44186E-05	0.00014	0.00014	0.001	8.13953E-06	0.0005	0.0005	0.005	2.90698E-06
Chlorodibromomethane	mg/L	0.0003704	0.00014	0.00014	0.001	0.0000081	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	2.44186E-05	0.00014	0.00014	0.001	8.13953E-06	0.001	0.001	0.005	5.81395E-06
Chloroethane	mg/L	0.0002024	0.00021	0.00021	0.001	0.0000122	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	3.66279E-05	0.00021	0.00021	0.001	1.22093E-05	0.001	0.001	0.005	5.81395E-06
Chloroform	mg/L	0.0088057	0.00017	0.00017	0.001	0.0000099	0.00035	0.00017	0.001	0	0.00017	0.00017	0.001	2.96512E-05	0.00018	0.00017	0.001	1.04651E-05	0.001	0.001	0.005	5.81395E-06
Chlorpyrifos	mg/L	0.0000559	0.00002	0.00002	0.0002	0.0000012	0.000019	0.000019	0.00019	0	0.00002	0.00002	0.0002	3.48837E-06	0.00002	0.00002	0.0002	1.16279E-06	0.0064	0.0065	0.0065	3.72093E-05
Chromium (Hexavalent)	mg/L	0.0421279	0.0023	0.0019	0.01	0.0001337	0.0019	0.0019	0.01	0	0.2	0.048	0.25	0.034883721	0.0019	0.0019	0.01	0.000110465	0.061	0.1	0.003	0.000354651
Chromium (Total)	mg/L	0.0095347	0.0013	0.00023	0.002	0.0000756	0.00092	0.00077	0.005	0	0.039	0.00023	0.002	0.006802326	0.0016	0.00023	0.002	9.30233E-05	0.0355	0.001	0.01	0.000206395
Chrysene	mg/L	0.0001374	0.00013	0.00013	0.0019	0.0000076	0.00013	0.00013	0.0019	0	0.00014	0.00014	0.002	2.44186E-05	0.00013	0.00013	0.0019	7.55814E-06	0.00111	0.00111	0.005556	6.45349E-06
cis-1,3-dichloropropene	mg/L	0.0001837	0.00019	0.00019	0.001	0.0000110	0.00019	0.00019	0.001	0	0.00019	0.00019	0.001	3.31395E-05	0.00019	0.00019	0.001	1.10465E-05	0.001	0.001	0.005	5.81395E-06
Cobalt	mg/L	0.0550824	0.00097	0.00005	0.0005	0.0000564	0.00063	0.00005	0.0005	0	0.3	0.00005	0.0005	0.052325581	0.0012	0.00005	0.0005	6.97674E-05	0.002	0.002	0.004	1.16279E-05
Color	o	0.0581395				0				0				0				0	10	10	10	0.058139535
Copper	mg/L	0.0852873	0.0029	0.00027	0.002	0.0001686	0.015	0.0015	0.025	0	0.38	0.00027	0.002	0.06627907	0.034	0.00027	0.002	0.001976744	0.00239	0.00022	0.001	1.38953E-05
Cyanide (Total)	mg/L	0.0036875	0.0025	0.0025	0.01	0.0001453	0.0025	0.0025	0.01	0	0.0025	0.0025	0.01	0.000436047	0.0025	0.0025	0.01	0.000145349	0.01	0.01	0.01	5.81395E-05
d-BHC	mg/L	0.0000005	0.00000037	0.00000037	0.0000013	2.15E-08	0.00000037	0.00000037	0.0000013	0	0.00000052	0.00000036	0.0000012	9.06977E-08	0.0000025	0.00000038	0.0000013	1.45349E-07	0.000005	0.000005	0.00005155	2.90698E-08
DDD	mg/L	0.0000010	0.00000064	0.00000064	0.0000013	3.72E-08	0.00000064	0.00000064	0.0000013	0	0.00000065	0.00000065	0.0000013	1.13372E-07	0.0000069	0.00000066	0.0000013	4.01163E-07	0.000005	0.000005	0.00005155	2.90698E-08
DDT	mg/L	0.0000008	0.00000071	0.00000071	0.0000013	4.13E-08	0.00000071	0.00000071	0.0000013	0	0.00000072	0.00000072	0.0000013	1.25581E-07	0.0000018	0.00000073	0.0000013	1.04651E-07	0.000005	0.000005	0.00005155	2.90698E-08
Demeton (total)	mg/L	0.0000304	0.000032	0.000032	0.00039	0.0000019	0.000031	0.000031	0.00038	0	0.000032	0.000032	0.00039	5.5814E-06	0.000032	0.000032	0.00039	1.86047E-06				0
Demeton-O	mg/L	0.0000378				0				0				0				0	0.0065	0.0065	0.0065	3.77907E-05
Demeton-S	mg/L	0.0000378				0				0				0				0	0.0065	0.0065	0.0065	3.77907E-05
Diazinon	mg/L	0.0000551	0.000018	0.000018	0.0002	0.0000010	0.000018	0.000018	0.00019	0	0.000018	0.000018	0.0002	3.13953E-06	0.000018	0.000018	0.0002	1.04651E-06	0.0065	0.0065	0.0065	3.77907E-05
Dibenz(a,h)anthracene	mg/L	0.0001529	0.00015	0.00015	0.0019	0.0000087	0.00015	0.00015	0.0019	0	0.00015	0.00015	0.002	2.61628E-05	0.00015	0.00015	0.0019	8.72093E-06	0.00111	0.00111	0.005556	6.45349E-06
Dichlorobromomethane	mg/L	0.0016057	0.00013	0.00013	0.001	0.0000076	0.00013	0.00013	0.001	0	0.00013	0.00013	0.001	2.26744E-05	0.00013	0.00013	0.001	7.55814E-06	0.001	0.001	0.005	5.81395E-06
Dichlorodifluoromethane	mg/L	0.0000058				0				0				0				0	0.001	0.001	0.005	5.81395E-06
Dieldrin	mg/L	0.0000038	0.00000079	0.00000079	0.0000013	4.59E-08	0.00000079	0.00000079	0.0000013	0	0.0000008	0.0000008	0.0000013	1.39535E-07	0.000047	0.00000081	0.0000013	2.73256E-06	0.000005	0.000005	0.00005155	2.90698E-08
Diesel Range Organics	mg/L	0.2738372				0	0.22	0.22	0.46	0	0.31	0.24	0.5	0.054069767				0				0
Diethylphthalate	mg/L	0.0013772	0.0014	0.0014	0.0096	0.0000814	0.0014	0.0014	0.0095	0	0.0014	0.0014	0.0099	0.000244186	0.0014	0.0014	0.0096	8.13953E-05	0.00111	0.00111	0.005556	6.45349E-06
Dimethyl phthalate	mg/L	0.0007249	0.00074	0.00074	0.0096	0.0000430	0.00073	0.00073	0.0095	0	0.00076	0.00076	0.0099	0.000132558	0.00074	0.00074	0.0096	4.30233E-05	0.00111	0.00111	0.005556	6.45349E-06
Di-n-butyl phthalate	mg/L	0.0011507	0.0012	0.0012	0.0096	0.0000698	0.0012	0.0012	0.0095	0	0.0012	0.0012	0.0099	0.000209302	0.0012	0.0012	0.0096	6.97674E-05	0.00222	0.00222	0.005556	1.2907E-05
Di-n-octyl phthalate	mg/L	0.0019526	0.002	0.002	0.0096	0.0001163	0.002	0.002	0.0095	0	0.002	0.002	0.0099	0.000348837	0.002	0.002	0.0096	0.000116279	0.00111	0.00111	0.005556	6.45349E-06
Diphenylhydrazine	mg/L	0.0006462	0.00063	0.00063	0.0096	0.0000366	0.00063	0.00063	0.0095	0	0.00065	0.00065	0.0099	0.000113372	0.00063	0.00063	0.0096	3.66279E-05	0.00526	0.00526	0.005556	3.05814E-05
E. Coli	cfu/100 ml	0.0058140				0				0				0				0	1.000000	1.000000	1.000000	0.005813953
EC (field)	µS/cm	2491.1468023	303			17.6162791	5695			0	1638			285.6976744	174			10.11627907				0
Endosulfan I	mg/L	0.0000012	0.0000009	0.0000009	0.0000013	0.0000001	0.0000009	0.0000009	0.0000013	0	0.00000091	0.00000091	0.0000013	1.58721E-07	0.00000093	0.00000093	0.0000013	5.40698E-08	0.000005	0.000005	0.00005155	2.90698E-08
Endosulfan II	mg/L	0.0000076	0.0000028	0.00000094	0.0000013	0.0000002	0.00000094	0.00000094	0.0000013	0	0.0000034	0.00000092	0.0000012	5.93023E-07	0.000039	0.00000097	0.0000013	2.26744E-06	0.000005	0.000005	0.00005155	2.90698E-08
Endosulfan sulphate	mg/L	0.0000202	0.00000055	0.00000055	0.0000013	3.20E-08	0.00000055	0.00000055	0.0000013	0	0.00000055	0.00000055	0.0000013	9.59302E-08	0.00000056	0.00000056	0.0000013	3.25581E-08	0.000005	0.000005	0.00005155	2.90698E-08
Endrin	mg/L	0.0000013	0.00000092	0.00000092	0.0000013	0.0000001	0.00000092	0.00000092	0.0000013	0	0.00000093	0.00000093	0.0000013	1.62209E-07	0.00000095	0.00000095	0.0000013	5.52326E-08	0.000005	0.000005	0.00005155	2.90698E-08
Endrin aldehyde	mg/L	0.0000009	0.00000087	0.00000087	0.0000013	0.0000001	0.00000087	0.00000087	0.0000013	0	0.00000087	0.00000087	0.0000013	1.51744E-07	0.00000089	0.00000089	0.0000013	5.17442E-08	0.000005	0.000005	0.00005155	2.90698E-08
Enterococci	MPN/100 m	0.0058140				0				0				0				0	1	1	1	0.005813953
Ethylbenzene	mg/L	0.0002219	0.00023	0.00023	0.001	0.0000134	0.00023	0.00023	0.001	0	0.00023	0.00023	0.001	4.01163E-05	0.00023	0.00023	0.001	1.33721E-05	0.0005	0.0005	0.005	2.90698E-06
Fecal Coliforms	MPN/100 m	0.0116279				0			0	0				0				0	2	2	2	0.011627907
Fluoranthene	mg/L	0.0001576	0.00016	0.00016	0.0019	0.0000093	0.00015	0.00015	0.0019	0	0.00016	0.00016	0.002	2.7907E-05	0.00016	0.00016	0.0019	9.30233E-06	0.00111	0.00111	0.005556	6.45349E-06
Fluorene	mg/L	0.0002104	0.00021	0.00021	0.0019	0.0000122	0.00021	0.00021	0.0019	0	0.00021	0.00021	0.002	3.66279E-05	0.00021	0.00021	0.0019	1.22093E-05	0.00111	0.00111	0.005556	6.45349E-06
Fluoride	mg/L	0.8781468	0.22	0.014	0.1	0.0127907	0.32	0.014	0.1	0	0.18	0.014	0.1	0.031395349	0.53	0.014	0.1	0.030813953	2.8	0.1	0.1	0.01627907
Gasoline Range Organics	mg/L	0.0348183				0	0.05	0.025	0.1	0	0.05	0.025	0.1	0.00872093				0				0
g-BHC (Lindane)	mg/L	0.0000008	0.00000077	0.00000077	0.0000013	4.48E-08	0.00000077	0.00000077	0.0000013	0	0.00000078	0.00000078	0.0000013	1.36047E-07	0.00000079	0.00000079	0.0000013	4.59302E-08	0.000005	0.000005	0.00005155	2.90698E-08
Hardness	mg/L	7.9651163				0				0				0				0	1370	0.766	12.5	7.965116279
HEM	mg/L	1.1380814				0	1.7	1.7	5.8	0	1.8	1.6	5.2	0.313953488				0				0
Heptachlor	mg/L	0.0000150	0.00000095	0.00000095	0.0000013	0.0000001	0.00000095	0.00000095	0.0000013	0	0.00000096	0.00000096	0.0000013	1.67442E-07	0.00000098	0.00000098	0.0000013	5.69767E-08	0.000005	0.000005	0.00005155	2.90698E-08
Heptachlor epoxide	mg/L	0.0000012	0.00000093	0.00000093	0.0000013	0.0000001	0.00000093	0.00000093	0.0000013	0	0.00000094	0.00000094	0.0000013	1.63953E-07	0.00000096	0.00000096	0.0000013	5.5814E-08	0.000005	0.000005	0.00005155	2.90698E-08
Hexachlorobenzene	mg/L	0.0001856	0.00018	0.00018	0.0019	0.0000105	0.00017	0.00017	0.0019	0	0.00018	0.00018	0.002	3.13953E-05	0.00018	0.00018	0.0019	1.04651E-05	0.00271	0.00278	0.002778	1.57558E-05
Hexachlorobutadiene	mg/L	0.0001623	0.00016	0.00016	0.0019	0.0000093	0.00016	0.00016	0.0019	0	0.00016	0.00016	0.002	2.7907E-05	0.00016	0.00016	0.0019	9.30233E-06	0.00111	0.00111	0.005556	6.45349E-06
Hexachlorocyclopentadiene	mg/L	0.0004911	0.0005	0.0005	0.0096	0.0000291	0.00049	0.00049	0.0095	0	0.00051	0.00051	0.0099	8.89535E-05	0.0005	0.0005	0.0096	2.90698E-05	0.00111	0.00111	0.005556	6.45349E-06
Hexachloroethane	mg/L	0.0005925	0.0006	0.0006	0.0096	0.0000349	0.0006	0.0006	0.0095	0	0.00062	0.00062	0.0099	0.00010814	0.0006	0.0006	0.0096	3.48837E-05	0.00111	0.00111	0.005556	6.45349E-06
Indeno(1,2,3-c,d)pyrene	mg/L	0.0001935	0.00019	0.00019	0.0019	0.0000110	0.00019	0.00019	0.0019	0	0.0002	0.0002	0.002	3.48837E-05	0.00019	0.00019	0.0019	1.10465E-05	0.00111	0.00111	0.005556	6.45349E-06
Iron	mg/L	22.1858541	0.37	0.0057	0.05	0.0215116	0.53	0.0095	0.1	0	120	0.0057	0.05	20.93023256	1.4	0.0057	0.05	0.081395349	0.0044	0.003	0.01	2.55814E-05
Isophorone	mg/L	0.0006066	0.00062	0.00062	0.0096	0.0000360	0.00061	0.00061	0.0095	0	0.00064	0.00064	0.0099	0.000111628	0.00062	0.00062	0.0096	3.60465E-05	0.00111	0.00111	0.005556	6.45349E-06
Kepone	mg/L	0.0090538	0.0093	0.0093	0.038	0.0005407	0.0092	0.0092	0.038	0	0.0096	0.0096	0.04	0.001674419	0.0093	0.0093	0.038	0.000540698	0.00222	0.00222	0.005556	1.2907E-05
Lead	mg/L	0.0049029	0.00051	0.000057	0.001	0.0000297	0.0012	0.0012	0.01	0	0.0075	0.0012	0.01	0.00130814	0.0032	0.000057	0.001	0.000186047	0.00016	0.00016	0.0005	9.30233E-07

		RESULTS	BOTTOM ASH				METALS POND				COAL YARD				SIERRA DITCH				LEACHATE			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)
Lithium	mg/L	0.0747882	0.02	0.00053	0.05	0.0011628	0.075	0.00053	0.05	0	0.25	0.00053	0.05	0.043604651	0.05	0.00053	0.05	0.002906977				0
Magnesium	mg/L	79.4206686	3.5	0.001	0.5	0.2034884	3.7	0.028	5	0	27	0.001	0.5	4.709302326	15	0.001	0.5	0.872093023	0.105	0.004	0.01	0.000610465
Malathion	mg/L	0.0000259	0.000021	0.000021	0.0002	0.0000012	0.000021	0.000021	0.00019	0	0.000021	0.000021	0.0002	3.66279E-06	0.000021	0.000021	0.0002	1.22093E-06	0.001	0.001	0.001	5.81395E-06
Manganese	mg/L	0.7100262	0.036	0.000046	0.005	0.0020930	0.024	0.00012	0.015	0	2.7	0.000046	0.005	0.470930233	1.3	0.000046	0.005	0.075581395	0.002	0.002	0.01	1.16279E-05
Mercury	mg/L	0.0000696	0.000045	0.000031	0.0002	0.0000026	0.000067	0.000031	0.0002	0	0.000085	0.000031	0.0002	1.48256E-05	0.000031	0.000031	0.0002	1.80233E-06	0.000023	0.000023	0.0002	1.33721E-07
Methoxychlor	mg/L	0.0000000				0				0				0				0	0.000005	0.000005	0.00005155	2.90698E-08
Methyl Bromide	mg/L	0.0002960	0.00031	0.00031	0.001	0.0000180	0.00031	0.00031	0.001	0	0.00031	0.00031	0.001	5.40698E-05	0.00031	0.00031	0.001	1.80233E-05	0.001	0.001	0.005	5.81395E-06
Methyl Chloride	mg/L	0.0002708	0.00028	0.00028	0.001	0.0000163	0.00028	0.00028	0.001	0	0.00028	0.00028	0.001	4.88372E-05	0.00028	0.00028	0.001	1.62791E-05	0.0015	0.0015	0.005	8.72093E-06
Methylene Chloride	mg/L	0.0011925	0.00016	0.00015	0.001	0.0000093	0.0002	0.00015	0.001	0	0.0059	0.00015	0.001	0.00102907	0.00015	0.00015	0.001	8.72093E-06	0.005	0.005	0.005	2.90698E-05
Mirex	mg/L	0.0000005	0.00000046	0.00000046	0.0000013	2.67E-08	0.00000046	0.00000046	0.0000013	0	0.00000047	0.00000047	0.0000013	8.19767E-08	0.00000048	0.00000048	0.0000013	2.7907E-08	0.000002	0.000002	0.00005155	1.16279E-08
Molybdenum	mg/L	0.0185834	0.023	0.00026	0.005	0.0013372	0.0027	0.00026	0.005	0	0.013	0.00026	0.005	0.002267442	0.014	0.00026	0.005	0.000813953	0.55	0.05	0.05	0.003197674
Naphthalene	mg/L	0.0004179	0.00013	0.00013	0.0019	0.0000076	0.00013	0.00013	0.0019	0	0.0016	0.00014	0.002	0.00027907	0.00013	0.00013	0.0019	7.55814E-06	0.00556	0.00556	0.00556	3.23256E-05
Nickel	mg/L	0.1064634	0.003	0.000093	0.001	0.0001744	0.0085	0.00051	0.04	0	0.54	0.000093	0.001	0.094186047	0.014	0.000093	0.001	0.000813953	0.00467	0.00032	0.001	2.71512E-05
Nitrate	mg/L	0.0023256				0				0				0				0	0.4			0.002325581
Nitrate (as N)	mg/L	9.1848328	0.22	0.0062	0.1	0.0127907	1	0.0062	0.1	0	0.64	0.0062	0.1	0.111627907	0.54	0.0062	0.1	0.031395349	0.4	0.07	0.15	0.002325581
Nitrite	mg/L	0.0004651				0				0				0				0	0.08			0.000465116
Nitrite (as N)	mg/L	0.1911047	0.15	0.024	0.05	0.0087209	0.44	0.024	0.05	0	0.026	0.024	0.05	0.004534884	0.024	0.024	0.05	0.001395349	0.08	0.05	0.05	0.000465116
Nitrobenzene	mg/L	0.0008178	0.00081	0.00081	0.019	0.0000471	0.0008	0.0008	0.019	0	0.00083	0.00083	0.02	0.000144767	0.00081	0.00081	0.019	4.7093E-05	0.00556	0.00556	0.005556	3.23256E-05
Nitrogen (Organic)	mg/L	0.0034884		0	0	0				0				0				0	0.6	0.6	0.6	0.003488372
Nitrogen (Total Oxidised)	mg/L	0.0023256				0				0				0				0	0.4	0.02	0.1	0.002325581
Nitrogen (Total)	mg/L	0.0179070				0				0				0				0	3.08	0.2	0.5	0.017906977
N-Nitrosodimethylamine	mg/L	0.0007033	0.00071	0.00071	0.0019	0.0000413	0.0007	0.0007	0.0019	0	0.00073	0.00073	0.002	0.000127326	0.00071	0.00071	0.0019	4.12791E-05	0.00222	0.00222	0.005556	1.2907E-05
N-nitrosodi-n-propylamine	mg/L	0.0003011	0.0003	0.0003	0.0019	0.0000174	0.00029	0.00029	0.0019	0	0.0003	0.0003	0.002	5.23256E-05	0.0003	0.0003	0.0019	1.74419E-05	0.00222	0.00222	0.005556	1.2907E-05
n-Nitrosodiphenylamine	mg/L	0.0008271	0.00082	0.00082	0.0096	0.0000477	0.00081	0.00081	0.0095	0	0.00084	0.00084	0.0099	0.000146512	0.00082	0.00082	0.0096	4.76744E-05	0.00556	0.00556	0.005556	3.23256E-05
Nonylphenol	mg/L	0.0000291				0				0				0				0	0.005	0.005	0.005	2.90698E-05
Nonylphenol Diethoxylate (Technic	mg/L	0.0018023	0.002	0.002	0.02	0.0001163	0.0019	0.0019	0.019	0	0.0019	0.0019	0.02	0.000331395	0.0019	0.0019	0.019	0.000110465				0
Nonylphenol Monoethoxylate (Tech	mg/L	0.0029713	0.0032	0.0032	0.01	0.0001860	0.0031	0.0031	0.0097	0	0.0031	0.0031	0.0098	0.000540698	0.0031	0.0031	0.0097	0.000180233				0
Oil and Grease	mg/L	1.5151163	1.5	1.5	4.3	0.0872093				0	1.6	1.6	4.5	0.279069767	1.5	1.5	4.3	0.087209302	5	5	5	0.029069767
para-tert-Octylphenol	mg/L	0.0002971	0.00032	0.00032	0.001	0.0000186	0.00031	0.00031	0.00097	0	0.00031	0.00031	0.00098	5.40698E-05	0.00031	0.00031	0.00097	1.80233E-05				0
Parathion	mg/L	0.0000357	0.000032	0.000032	0.0002	0.0000019	0.000031	0.000031	0.00019	0	0.000032	0.000032	0.0002	5.5814E-06	0.000032	0.000032	0.0002	1.86047E-06	0.001	0.001	0.001	5.81395E-06
P-Chloro-M-Cresol	mg/L	0.0007368	0.00073	0.00073	0.0096	0.0000424	0.00072	0.00072	0.0095	0	0.00075	0.00075	0.0099	0.000130814	0.00073	0.00073	0.0096	4.24419E-05	0.00556	0.00556	0.005556	3.23256E-05
Pentachlorophenol	mg/L	0.0006512	0.00064	0.00064	0.0096	0.0000372	0.00063	0.00063	0.0095	0	0.00066	0.00066	0.0099	0.000115116	0.00064	0.00064	0.0096	3.72093E-05	0.00556	0.00556	0.005556	3.23256E-05
pH (Field)	SU	7.1937645	9.24			0.5372093	10.97			0	3.38			0.589534884	9.12			0.530232558				0
Phenanthrene	mg/L	0.0004313	0.00041	0.00041	0.0019	0.0000238	0.00041	0.00041	0.0019	0	0.00042	0.00042	0.002	7.32558E-05	0.00041	0.00041	0.0019	2.38372E-05	0.00556	0.00556	0.005556	3.23256E-05
Phenol	mg/L	0.0010981	0.00056	0.00056	0.0019	0.0000326	0.00055	0.00055	0.0019	0	0.00058	0.00058	0.002	0.000101163	0.00056	0.00056	0.0019	3.25581E-05	0.00556	0.00556	0.005556	3.23256E-05
Phenolics Total	mg/L	0.0090465				0	0.0082	0.0082	0.01	0	0.0082	0.0082	0.01	0.001430233				0	0.05	0.05	0.05	0.000290698
Phosphorus	mg/L	0.5706068	0.081	0.05	0.1	0.0047093	0.057	0.05	0.1	0	0.45	0.05	0.1	0.078488372	0.2	0.05	0.1	0.011627907	0.03	0.01	0.02	0.000174419
p-Nonylphenol (Technical mixture)	mg/L	0.0014977	0.0016	0.0016	0.005	0.0000930	0.0015	0.0015	0.0048	0	0.0016	0.0016	0.0049	0.00027907	0.0016	0.0016	0.0049	9.30233E-05				0
Potassium	mg/L	22.8444041	2.7	0.017	0.5	0.1569767	6.9	0.017	0.5	0	4.9	0.017	0.5	0.854651163	6.1	0.017	0.5	0.354651163				0
Pyrene	mg/L	0.0001805	0.00015	0.00015	0.0019	0.0000087	0.00015	0.00015	0.0019	0	0.00016	0.00016	0.002	2.7907E-05	0.00015	0.00015	0.0019	8.72093E-06	0.00556	0.00556	0.00556	3.23256E-05
Radium-226	pCi/L	0.3728554	0.508	0.48	1	0.0295349	0.288	0.215	1	0	0.707	0.445	1	0.123313953	0.348	0.191	1	0.020232558				0
Radium-228	pCi/L	0.5953888	0.733	0.733	1	0.0426163	0.358	0.358	1	0	0.706	0.681	1	0.123139535	0.326	0.326	1	0.018953488				0
Redox	mV	200.3162791	92.3			5.3662791	92			0	520.5			90.78488372	240.5			13.98255814				0
Selenium	mg/L	0.0129347	0.0043	0.0002	0.005	0.0002500	0.012	0.0039	0.01	0	0.023	0.0002	0.005	0.004011628	0.00067	0.0002	0.005	3.89535E-05	0.344	0.0065	0.01	0.002
Silver	mg/L	0.0001428	0.000047	0.000047	0.001	0.0000027	0.000047	0.000047	0.001	0	0.000047	0.000047	0.001	8.19767E-06	0.000047	0.000047	0.001	2.73256E-06	0.000029	0.000029	0.0001	1.68605E-07
Sodium	mg/L	383.4978924	13	0.011	0.5	0.7558140	78	0.011	0.5	0	45	0.011	0.5	7.848837209	20	0.011	0.5	1.162790698				0
Specific Conductivity (lab)	µS/cm	0.0000000				0				0				0				0				0
Sulfate	mg/L	1349.9789244	52	0.21	1	3.0232558	300	1.1	5	0	1000	2.1	10	174.4186047	120	0.21	1	6.976744186	984	200	200	5.720930233
Sulfide	mg/L	0.5872674	0.41	0.41	1	0.0238372	0.41	0.41	1	0	0.47	0.47	3	0.081976744	1.5	0.47	3	0.087209302	0.05	0.05	0.05	0.000290698
sulfide (as H2S)	mg/L	0.4460538	0.41	0.41	1	0.0238372	0.41	0.41	1	0	0.41	0.41	1	0.071511628	0.41	0.41	1	0.023837209				0
Surfactants	mg/L	0.0005814				0.0000000				0				0				0	0.1	0.1	0.1	0.000581395
Temperature	oC	28.0342878	33.3			1.9360465	28.35			0	31.69			5.527325581	18.52			1.076744186				0
Tetrachloroethene	mg/L	0.0001462	0.00015	0.00015	0.001	0.0000087	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	2.61628E-05	0.00015	0.00015	0.001	8.72093E-06	0.001	0.001	0.005	5.81395E-06
Thallium	mg/L	0.0013820	0.00031	0.000013	0.001	0.0000180	0.011	0.000013	0.001	0	0.0018	0.0018	0.02	0.000313953	0.00017	0.000013	0.001	9.88372E-06	0.000058	0.000058	0.0001	3.37209E-07
Tin	mg/L	0.0001163				0				0				0				0	0.02	0.02	0.02	0.000116279
Titanium	mg/L	0.0000291				0				0				0				0	0.005	0.005	0.05	2.90698E-05
Toluene	mg/L	0.0001480	0.00015	0.00015	0.001	0.0000087	0.00015	0.00015	0.001	0	0.00016	0.00015	0.001	2.7907E-05	0.00015	0.00015	0.001	8.72093E-06	0.001	0.001	0.005	5.81395E-06
Total Dissolved Solids	mg/L	3501.6061047	150	10	10	8.7209302	1100	20	20	0	1500	20	20	261.627907	330	10	10	19.18604651				0
Total Kjeldahl Nitrogen	mg/L	8.8912064	2.2	1.7	5	0.1279070	3.9	1.7	5	0	2.2	1.7	5	0.38372093	1.7	1.7	5	0.098837209				0
Total Organic Carbon	mg/L	4.3504360	1.6	0.19	1	0.0930233	1.7	0.19	1	0	4	0.19	1	0.697674419	7.3	0.19	1	0.424418605	1.8	1	1	0.010465116
Total Suspended Solids	mg/L	176.4317587	110	1	1	6.3953488	40	0.5	0.5	0	330	5	5	57.55813953	49	1	1	2.848837209	18.4	1	1	0.106976744
Toxaphene	mg/L	0.0000180	0.000018	0.000018	0.000048	0.0000010	0.000018	0.000018	0.000048	0	0.000018	0.000018	0.000049	3.13953E-06	0.000018	0.000018	0.00005	1.04651E-06	0.000206	0.000206	0.001031	1.19767E-06
trans-1,2-Dibromoethene	mg/L	0.0000058				0.0000000				0				0				0	0.001	0.001	0.005	5.81395E-06
trans-1,3-dichloropropene	mg/L	0.0001462	0.00015	0.00015	0.001	0.0000087	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	2.61628E-05	0.00015	0.00015	0.001	8.72093E-06	0.001	0.001	0.005	5.81395E-06
Tributyltin	mg/L	0.0000453	0.000043	0.000043	0.000043	0.0000025	0.000043	0.000043	0.000043	0	0.000044	0.000044	0.000044	7.67442E-06	0.000043	0.000043	0.000043	0.0000025	0.00003	0.00003	0.00003	1.74419E-07
Trichloroethene	mg/L	0.0001369	0.00014	0.00014	0.001	0.0000081	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	2.44186E-05	0.00014	0.00014	0.001	8.13953E-06	0.001	0.001	0.005	5.81395E-06
Trichlorofluoromethane	mg/L	0.0000058				0				0				0				0	0.001	0.001	0.005	5.81395E-06
Turbidity	NTU	85.3857558	170	0.25	4.3	9.8837209	19	0.05	0.85	0	320	1.3	21	55.81395349	77	0.25	4.3	4.476744186				0
Vinyl chloride	mg/L	0.0002211	0.00023	0.00023	0.001	0.0000134	0.00023	0.00023	0.001	0	0.00023	0.00023	0.001	4.01163E-05	0.00023	0.00023	0.001	1.33721E-05	0.001	0.001	0.005	5.81395E-06
Zinc	mg/L	0.3751538	0.02	0.0004	0.005	0.0011628	0.0063	0.0004	0.005	0	1.8	0.0004	0.005	0.313953488	0.094	0.0004	0.005	0.005465116	0.00571	0.0016	0.005	3.31977E-05

		RESULTS	TOE DRAIN				FGD PLANT				FGD YARD SUMP				MASTER SUMP				CONTACT STORMWATER			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	CONT SW_MDL	CONT SW _RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002773	0.00029	0.00029	0.001	9.90552E-06	0.00029	0.00029	0.001	2.31831E-06	0.00029	0.00029	0.001	4.21512E-05	0.00029	0.00029	0.001	0.000132776				0
1,1,2,2-tetrachloroethane	mg/L	0.0001959	0.0002	0.0002	0.001	6.8314E-06	0.0002	0.0002	0.001	1.59884E-06	0.0002	0.0002	0.001	2.90698E-05	0.0002	0.0002	0.001	9.15698E-05				0
1,1,2-trichloroethane	mg/L	0.0001930	0.0002	0.0002	0.001	6.8314E-06	0.0002	0.0002	0.001	1.59884E-06	0.0002	0.0002	0.001	2.90698E-05	0.0002	0.0002	0.001	9.15698E-05				0
1,1-dichloroethane	mg/L	0.0001181	0.00012	0.00012	0.001	4.09884E-06	0.00012	0.00012	0.001	9.59302E-07	0.00012	0.00012	0.001	1.74419E-05	0.00012	0.00012	0.001	5.49419E-05				0
1,1-dichloroethene	mg/L	0.0002866	0.0003	0.0003	0.001	1.02471E-05	0.0003	0.0003	0.001	2.39826E-06	0.0003	0.0003	0.001	4.36047E-05	0.0003	0.0003	0.001	0.000137355				0
1,2,4-trichlorobenzene	mg/L	0.0006753	0.00068	0.00068	0.0019	2.32267E-05	0.00067	0.00067	0.0019	5.3561E-06	0.00074	0.00074	0.0021	0.000107558	0.00071	0.00071	0.002	0.000325073				0
1,2-dichlorobenzene	mg/L	0.0001469	0.00015	0.00015	0.001	5.12355E-06	0.00015	0.00015	0.001	1.19913E-06	0.00015	0.00015	0.001	2.18023E-05	0.00015	0.00015	0.001	6.86773E-05				0
1,2-dichloroethane	mg/L	0.0002053	0.00021	0.00021	0.001	7.17297E-06	0.00021	0.00021	0.001	1.67878E-06	0.00021	0.00021	0.001	3.05233E-05	0.00021	0.00021	0.001	9.61483E-05				0
1,2-dichloropropane	mg/L	0.0000976	0.000095	0.000095	0.001	3.24491E-06	0.000095	0.000095	0.001	7.59448E-07	0.000095	0.000095	0.001	1.38081E-05	0.000095	0.000095	0.001	4.34956E-05				0
1,2-Trans-dichloroethene	mg/L	0.0001649	0.00017	0.00017	0.001	5.80669E-06	0.00017	0.00017	0.001	1.35901E-06	0.00017	0.00017	0.001	2.47093E-05	0.00017	0.00017	0.001	7.78343E-05				0
1,3-dichlorobenzene	mg/L	0.0001094	0.00011	0.00011	0.001	3.75727E-06	0.00011	0.00011	0.001	8.7936E-07	0.00011	0.00011	0.001	1.59884E-05	0.00011	0.00011	0.001	5.03634E-05				0
1,3-Dichloropropene	mg/L	0.0004738	0.0005	0.0005	0.002	1.70785E-05	0.0005	0.0005	0.002	3.99709E-06	0.0005	0.0005	0.002	7.26744E-05	0.0005	0.0005	0.002	0.000228924				0
1,4-dichlorobenzene	mg/L	0.0002030	0.00021	0.00021	0.001	7.17297E-06	0.00021	0.00021	0.001	1.67878E-06	0.00021	0.00021	0.001	3.05233E-05	0.00021	0.00021	0.001	9.61483E-05				0
2,3,7,8-Tetrachlorooxanthrene	mg/L	8.43E-12				0				0				0				0				0
2,4,6-trichlorophenol	mg/L	0.0016123	0.0017	0.0017	0.0096	5.80669E-05	0.0017	0.0017	0.0094	1.35901E-05	0.0018	0.0018	0.01	0.000261628	0.0017	0.0017	0.01	0.000778343				0
2,4-dichlorophenol	mg/L	0.0003167	0.00032	0.00032	0.0019	1.09302E-05	0.00032	0.00032	0.0019	2.55814E-06	0.00035	0.00035	0.0021	5.08721E-05	0.00033	0.00033	0.002	0.00015109				0
2,4-dimethylphenol	mg/L	0.0007981	0.00082	0.00082	0.0096	2.80087E-05	0.0008	0.0008	0.0094	6.39535E-06	0.00089	0.00089	0.01	0.00012936	0.00085	0.00085	0.01	0.000389172				0
2,4-dinitrophenol	mg/L	0.0057243	0.0059	0.0059	0.048	0.000201526	0.0058	0.0058	0.047	4.63663E-05	0.0064	0.0064	0.052	0.000930233	0.0061	0.0061	0.05	0.002792878				0
2,4-Dinitrotoluene	mg/L	0.0005098	0.00052	0.00052	0.0096	1.77616E-05	0.00051	0.00051	0.0094	4.07703E-06	0.00056	0.00056	0.01	8.13953E-05	0.00054	0.00054	0.01	0.000247238				0
2,6-dichlorophenol	mg/L	0.0000065				0				0				0				0				0
2,6-dinitrotoluene	mg/L	0.0007530	0.00077	0.00077	0.0096	2.63009E-05	0.00075	0.00075	0.0094	5.99564E-06	0.00083	0.00083	0.01	0.00012064	0.0008	0.0008	0.01	0.000366279				0
2-Chloroethylvinyl ether	mg/L	0.0002631	0.00025	0.00025	0.002	8.53924E-06	0.00025	0.00025	0.002	1.99855E-06	0.00025	0.00025	0.002	3.63372E-05	0.00025	0.00025	0.002	0.000114462				0
2-chloronaphthalene	mg/L	0.0001482	0.00015	0.00015	0.0019	5.12355E-06	0.00014	0.00014	0.0019	1.11919E-06	0.00016	0.00016	0.0021	2.32558E-05	0.00015	0.00015	0.002	6.86773E-05				0
2-chlorophenol	mg/L	0.0015644	0.0016	0.0016	0.0096	5.46512E-05	0.0016	0.0016	0.0094	1.27907E-05	0.0017	0.0017	0.01	0.000247093	0.0017	0.0017	0.01	0.000778343				0
2-methylphenol	mg/L	0.0000322				0				0				0				0				0
2-nitrophenol	mg/L	0.0015964	0.0016	0.0016	0.0096	5.46512E-05	0.0016	0.0016	0.0094	1.27907E-05	0.0018	0.0018	0.01	0.000261628	0.0017	0.0017	0.01	0.000778343				0
3,3-Dichlorobenzidine	mg/L	0.0010700	0.0011	0.0011	0.0096	3.75727E-05	0.0011	0.0011	0.0094	8.7936E-06	0.0012	0.0012	0.01	0.000174419	0.0011	0.0011	0.01	0.000503634				0
3,4-Benzo-fluoranthene	mg/L	0.0001546	0.00015	0.00015	0.0019	5.12355E-06	0.00015	0.00015	0.0019	1.19913E-06	0.00016	0.00016	0.0021	2.32558E-05	0.00016	0.00016	0.002	7.32558E-05				0
4,4-DDE	mg/L	0.0000009	0.00000076	0.00000076	0.0000013	2.59593E-08	0.0000034	0.00000075	0.0000012	2.71802E-08	0.0000015	0.00000078	0.0000013	2.18023E-07	0.00000077	0.00000077	0.0000013	3.52544E-07				0
4,6-Dinitro-2-methylphenol	mg/L	0.0020644	0.0021	0.0021	0.048	7.17297E-05	0.0021	0.0021	0.047	1.67878E-05	0.0023	0.0023	0.052	0.000334302	0.0022	0.0022	0.05	0.001007267				0
4-bromophenyl phenyl ether	mg/L	0.0006019	0.00061	0.00061	0.0096	2.08358E-05	0.0006	0.0006	0.0094	4.79651E-06	0.00066	0.00066	0.01	9.59302E-05	0.00064	0.00064	0.01	0.000293023				0
4-chlorophenyl phenyl ether	mg/L	0.0004741	0.00048	0.00048	0.0096	1.63953E-05	0.00047	0.00047	0.0094	3.75727E-06	0.00052	0.00052	0.01	7.55814E-05	0.0005	0.0005	0.01	0.000228924				0
4-nitrophenol	mg/L	0.0060541	0.0062	0.0062	0.048	0.000211773	0.0061	0.0061	0.047	4.87645E-05	0.0067	0.0067	0.052	0.000973837	0.0065	0.0065	0.05	0.002976017				0
a-BHC	mg/L	0.0000023	0.00000063	0.00000063	0.0000013	2.15189E-08	0.0000098	0.00000063	0.0000012	7.8343E-08	0.0000074	0.00000063	0.0000013	1.07558E-06	0.0000014	0.00000063	0.0000012	6.40988E-07				0
Accrolein	mg/L	0.0024919	0.0026	0.0026	0.02	8.88081E-05	0.0026	0.0026	0.02	2.07849E-05	0.0026	0.0026	0.02	0.000377907	0.0026	0.0026	0.02	0.001190407				0
Acenaphthene	mg/L	0.0001390	0.00014	0.00014	0.0019	4.78198E-06	0.00014	0.00014	0.0019	1.11919E-06	0.00015	0.00015	0.0021	2.18023E-05	0.00014	0.00014	0.002	6.40988E-05				0
Acenaphthylene	mg/L	0.0001482	0.00015	0.00015	0.0019	5.12355E-06	0.00014	0.00014	0.0019	1.11919E-06	0.00016	0.00016	0.0021	2.32558E-05	0.00015	0.00015	0.002	6.86773E-05				0
Acrylonitrile	mg/L	0.0009534	0.00055	0.00055	0.02	1.87863E-05	0.00055	0.00055	0.02	4.3968E-06	0.00055	0.00055	0.02	7.99419E-05	0.0014	0.00055	0.02	0.000640988				0
Aldrin	mg/L	0.0000014	0.0000008	0.0000008	0.0000013	2.73256E-08	0.0000078	0.00000079	0.0000012	6.23547E-08	0.0000045	0.00000082	0.0000013	6.5407E-07	0.00000081	0.00000081	0.0000013	3.70858E-07				0
Alkalinity (Bicarbonate as CaCO3)	mg/L	82.2154070	170	0.41	5	5.806686047	600	0.41	5	4.796511628	210	0.41	5	30.52325581	68	0.41	5	31.13372093				0
Alkalinity (Carbonate as CaCO3)	mg/L	21.5794186	0.41	0.41	5	0.01400436	0.41	0.41	5	0.003277616	140	0.41	5	20.34883721	0.41	0.41	5	0.187718023				0
Alkalinity (total) as CaCO3	mg/L	101.3433140	170	0.41	5	5.806686047	600	0.41	5	4.796511628	340	0.41	5	49.41860465	68	0.41	5	31.13372093				0
Aluminium	mg/L	9.1982366	0.0088	0.0024	0.03	0.000300581	0.24	0.24	0.3	0.001918605	0.53	0.024	0.3	0.077034884	2.9	0.0024	0.03	1.327761628				0
Ammonia as N	mg/L	1.1157267	2.3	0.086	0.1	0.078561047	4.3	0.086	0.1	0.034375	0.74	0.1	0.1	0.10755814	1.4	0.086	0.1	0.640988372	0.05	0.1	0.1	0.002906977
Anthracene	mg/L	0.0001483	0.00015	0.00015	0.0019	5.12355E-06	0.00015	0.00015	0.0019	1.19913E-06	0.00016	0.00016	0.0021	2.32558E-05	0.00015	0.00015	0.002	6.86773E-05				0
Antimony	mg/L	0.0023848	0.00012	0.00004	0.002	4.09884E-06	0.035	0.004	0.02	0.000279797	0.011	0.0004	0.02	0.001598837	0.00063	0.00004	0.002	0.000288445				0
Arochlor 1016	mg/L	0.0000025	0.0000024	0.0000024	0.0000096	8.19767E-08	0.0000024	0.0000024	0.0000095	1.9186E-08	0.0000025	0.0000025	0.0000099	3.63372E-07	0.0000025	0.0000025	0.0000098	1.14462E-06				0
Arochlor 1221	mg/L	0.0000034	0.0000024	0.0000024	0.0000096	8.19767E-08	0.0000024	0.0000024	0.0000095	1.9186E-08	0.0000025	0.0000025	0.0000099	3.63372E-07	0.0000024	0.0000024	0.0000098	1.09884E-06				0
Arochlor 1232	mg/L	0.0000028	0.0000028	0.0000028	0.0000096	9.56395E-08	0.0000028	0.0000028	0.0000095	2.23837E-08	0.0000029	0.0000029	0.0000099	4.21512E-07	0.0000029	0.0000029	0.0000098	1.32776E-06				0
Arochlor 1242	mg/L	0.0000019	0.0000018	0.0000018	0.0000096	6.14826E-08	0.0000018	0.0000018	0.0000095	1.43895E-08	0.0000018	0.0000018	0.0000099	2.61628E-07	0.0000018	0.0000018	0.0000098	8.24128E-07				0
Arochlor 1248	mg/L	0.0000024	0.0000022	0.0000022	0.0000096	7.51453E-08	0.0000022	0.0000022	0.0000095	1.75872E-08	0.0000023	0.0000023	0.0000099	3.34302E-07	0.0000022	0.0000022	0.0000098	1.00727E-06				0
Arochlor 1254	mg/L	0.0000014	0.0000013	0.0000013	0.0000096	4.44041E-08	0.0000013	0.0000013	0.0000095	1.03924E-08	0.0000013	0.0000013	0.0000099	1.88953E-07	0.0000013	0.0000013	0.0000098	5.95203E-07				0
Arochlor 1260	mg/L	0.0000014	0.0000013	0.0000013	0.0000096	4.44041E-08	0.0000013	0.0000013	0.0000095	1.03924E-08	0.0000013	0.0000013	0.0000099	1.88953E-07	0.0000013	0.0000013	0.0000098	5.95203E-07				0
Arsenic	mg/L	0.0245589	0.0013	0.00012	0.001	4.44041E-05	0.17	0.012	0.01	0.001359012	0.06	0.0012	0.01	0.00872093	0.007	0.003	0.001	0.003204942				0
Azinophos methyl	mg/L	0.0000571	0.000022	0.000022	0.00019	7.51453E-07	0.000022	0.000022	0.00019	1.75872E-07	0.000022	0.000022	0.0002	3.19767E-06	0.000023	0.000023	0.0002	1.05305E-05				0
Barium	mg/L	0.2351446	0.065	0.000088	0.01	0.002220203	0.5	0.0088	1	0.003997093	0.28	0.00088	0.1	0.040697674	0.35	0.000088	0.01	0.160247093				0
b-BHC	mg/L	0.0000026	0.00000096	0.00000096	0.0000013	3.27907E-08	0.000012	0.00000095	0.0000012	9.59302E-08	0.000012	0.00000099	0.0000013	1.74419E-06	0.00000098	0.00000098	0.0000013	4.48692E-07				0
Benz(a)anthracene	mg/L	0.0001711	0.00014	0.00014	0.0019	4.78198E-06	0.00014	0.00014	0.0019	1.11919E-06	0.00015	0.00015	0.0021	2.18023E-05	0.00015	0.00015	0.002	6.86773E-05				0
Benzene	mg/L	0.0001097	0.00011	0.00011	0.001	3.75727E-06	0.00023	0.00011	0.001	1.83866E-06	0.00011	0.00011	0.001	1.59884E-05	0.00011	0.00011	0.001	5.03634E-05				0
Benzidine	mg/L	0.0324477	0.033	0.033	0.19	0.00112718	0.033	0.033	0.19	0.000263808	0.036	0.036	0.21	0.005232558	0.035	0.035	0.2	0.016024709				0
Benzo(a) pyrene	mg/L	0.0001296	0.00013	0.00013	0.0019	4.44041E-06	0.00013	0.00013	0.0019	1.03924E-06	0.00014	0.00014	0.0021	2.03488E-05	0.00013	0.00013	0.002	5.95203E-05				0
Benzo(g,h,i)perylene	mg/L	0.0001482	0.00015	0.00015	0.0019	5.12355E-06	0.00014	0.00014	0.0019	1.11919E-06	0.00016	0.00016	0.0021	2.32558E-05	0.00015	0.00015	0.002	6.86773E-05				0
Benzo(k)fluoranthene	mg/L	0.0005192	0.00053	0.00053	0.0019	1.81032E-05	0.00052	0.00052	0.0019	4.15698E-06	0.00057	0.00057	0.0021	8.28488E-05	0.00055	0.00055	0.002	0.000251817				0
Beryllium	mg/L	0.0044892	0.000036	0.000036	0.001	1.22965E-06	0.0036	0.0036	0.01	2.87791E-05	0.00036	0.00036	0.01	5.23256E-05	0.0011	0.000036	0.001	0.000503634				0
Biochemical Oxygen Demand	mg/L	6.3954942	2	2	2	2	2	2	2	0.015988372	2	2	2	0.290697674	2.9	2	2	1.327761628				0
Bis(2-chloroethoxy) methane	mg/L	0.0005505	0.00056	0.00056	0.0096	1.91279E-05	0.00055	0.00055	0.0094	4.3968E-06	0.00061	0.00061	0.01	8.86628E-05	0.00058	0.00058	0.01	0.000265552				0
Bis(2-chloroethyl)ether	mg/L	0.0002403	0.00024	0.00024	0.0019	8.19767E-06	0.00024	0.00024	0.0019	1.9186E-06	0.00026	0.00026	0.0021	3.77907E-05	0.00025	0.00025	0.002	0.000114462				0
Bis(2-chloroisopropyl) ether	mg/L	0.0001935	0.00019	0.00019	0.0019	6.48983E-06	0.00019	0.00019	0.0019	1.5189E-06	0.00021	0.00021	0.0021	3.05233E-05	0.0002	0.0002	0.002	9.15698E-05				0

		RESULTS	TOE DRAIN				FGD PLANT				FGD YARD SUMP				MASTER SUMP				CONTACT STORMWATER			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	CONT SW_MDL	CONT SW _RL	Flow Weighted Average of the Source (mg/l)
Bis(2-ethylhexyl) phthalate	mg/L	0.0118422	0.012	0.012	0.019	0.000409884	0.012	0.012	0.019	9.59302E-05	0.013	0.013	0.021	0.001889535	0.013	0.013	0.02	0.005952035				0
Bisphenol A	mg/L	0.0005227	0.00032	0.00032	0.001	1.09302E-05	0.00031	0.00031	0.00098	2.4782E-06	0.00032	0.00032	0.001	4.65116E-05	0.00032	0.00032	0.00099	0.000146512				0
Boron	mg/L	19.6088517	0.5	0.00046	0.005	0.017078488	230	0.46	0.5	1.838662791	120	0.046	0.5	17.44186047	0.18	0.00061	0.2	0.082412791				0
Bromide	mg/L	39.5070058	0.52	0.19	0.5	0.017761628	150	4.8		1.199127907	260	4.8	13	37.79069767	0.48	0.48	1.3	0.219767442				0
Bromoform	mg/L	0.0001866	0.00019	0.00019	0.001	6.48983E-06	0.00019	0.00019	0.001	1.5189E-06	0.00019	0.00019	0.001	2.76163E-05	0.00019	0.00019	0.001	8.69913E-05				0
Butyl benzyl phthalate	mg/L	0.0013307	0.0014	0.0014	0.0096	4.78198E-05	0.0013	0.0013	0.0094	1.03924E-05	0.0015	0.0015	0.01	0.000218023	0.0014	0.0014	0.01	0.000640988				0
Cadmium	mg/L	0.0013822	0.000087	0.000074	0.001	2.97166E-06	0.011	0.0074	0.1	8.7936E-05	0.000281	0.0002	0.001	4.0843E-05	0.00026	0.000074	0.001	0.000119041	0.0002	0.0002	0.001	1.16279E-05
Carbon tetrachloride	mg/L	0.0001369	0.00014	0.00014	0.001	4.78198E-06	0.00014	0.00014	0.001	1.11919E-06	0.00014	0.00014	0.001	2.03488E-05	0.00014	0.00014	0.001	6.40988E-05				0
Chemical Oxygen Demand	mg/L	76.1203488	16	2	10	0.546511628	300	20	100	2.398255814	210	20	100	30.52325581	30	2	10	13.73546512				0
chlordane	mg/L	0.0000035	0.0000016	0.0000016	0.000012	5.46512E-08	0.0000016	0.0000016	0.000012	1.27907E-08	0.0000016	0.0000016	0.000012	2.32558E-07	0.0000016	0.0000016	0.000012	7.32558E-07				0
Chloride	mg/L	965.5514535	6.8	0.2	1	0.232267442	23100	49	250	184.6656977	204	100	100	29.65116279	1600	4.9	25	732.5581395	1	1	1	0.058139535
Chlorine, Total Residual	mg/L	0.5182267	0.02			0.00068314	0.24			0.001918605	2.2			0.319767442	0.25			0.114462209				0
Chlorobenzene	mg/L	0.0001340	0.00014	0.00014	0.001	4.78198E-06	0.00014	0.00014	0.001	1.11919E-06	0.00014	0.00014	0.001	2.03488E-05	0.00014	0.00014	0.001	6.40988E-05				0
Chlorodibromomethane	mg/L	0.0003704	0.00014	0.00014	0.001	4.78198E-06	0.00014	0.00014	0.001	1.11919E-06	0.00077	0.00014	0.001	0.000111919	0.00045	0.00014	0.001	0.000206032				0
Chloroethane	mg/L	0.0002024	0.00021	0.00021	0.001	7.17297E-06	0.00021	0.00021	0.001	1.67878E-06	0.00021	0.00021	0.001	3.05233E-05	0.00021	0.00021	0.001	9.61483E-05				0
Chloroform	mg/L	0.0088057	0.00017	0.00017	0.001	5.80669E-06	0.0038	0.00017	0.001	3.03779E-05	0.019	0.00017	0.001	0.002761628	0.013	0.00017	0.001	0.005952035				0
Chlorpyrifos	mg/L	0.0000559	0.000019	0.000019	0.00019	6.48983E-07	0.000019	0.000019	0.00019	1.5189E-07	0.00002	0.00002	0.0002	2.90698E-06	0.00002	0.00002	0.0002	9.15698E-06				0
Chromium (Hexavalent)	mg/L	0.0421279	0.044	0.0019	0.01	0.001502907	0.023	0.0019		0.000183866	0.02	0.005	0.005	0.002906977	0.0041		0.01	0.00187718	0.003	0.003	0.005	0.000174419
Chromium (Total)	mg/L	0.0095347	0.00023	0.00023	0.002	7.8561E-06	0.023	0.023	0.2	0.000183866	0.0023	0.0023	0.02	0.000334302	0.004	0.00023	0.002	0.001831395				0
Chrysene	mg/L	0.0001374	0.00013	0.00013	0.0019	4.44041E-06	0.00013	0.00013	0.0019	1.03924E-06	0.00015	0.00015	0.0021	2.18023E-05	0.00014	0.00014	0.002	6.40988E-05				0
cis-1,3-dichloropropene	mg/L	0.0001837	0.00019	0.00019	0.001	6.48983E-06	0.00019	0.00019	0.001	1.5189E-06	0.00019	0.00019	0.001	2.76163E-05	0.00019	0.00019	0.001	8.69913E-05				0
Cobalt	mg/L	0.0550824	0.0014	0.00005	0.0005	4.78198E-05	0.021	0.005	0.05	0.000167878	0.0074	0.0005	0.005	0.001075581	0.0029	0.00005	0.0005	0.001327762				0
Color	o	0.0581395				0				0				0				0				0
Copper	mg/L	0.0852873	0.00058	0.00027	0.002	1.9811E-05	0.027	0.027	0.2	0.000215843	0.0125	0.002	0.01	0.00181686	0.032	0.00027	0.002	0.014651163	0.0025	0.002	0.01	0.000145349
Cyanide (Total)	mg/L	0.0036875	0.0025	0.0025	0.01	8.53924E-05	0.0025	0.0025	0.01	1.99855E-05	0.0057	0.0025	0.01	0.000828488	0.0043	0.0019	0.01	0.00196875				0
d-BHC	mg/L	0.0000005	0.00000037	0.00000037	0.0000013	1.26381E-08	0.00000036	0.00000036	0.0000012	2.87791E-09	0.00000038	0.00000038	0.0000013	5.52326E-08	0.00000037	0.00000037	0.0000013	1.69404E-07				0
DDD	mg/L	0.0000010	0.00000064	0.00000064	0.0000013	2.18605E-08	0.00000064	0.00000064	0.0000012	5.11628E-09	0.00000066	0.00000066	0.0000013	9.59302E-08	0.00000066	0.00000066	0.0000013	3.0218E-07				0
DDT	mg/L	0.0000008	0.00000071	0.00000071	0.0000013	2.42515E-08	0.0000041	0.0000007	0.0000012	3.27762E-08	0.00000073	0.00000073	0.0000013	1.06105E-07	0.00000073	0.00000073	0.0000013	3.3423E-07				0
Demeton (total)	mg/L	0.0000304	0.000031	0.000031	0.00038	1.05887E-06	0.000031	0.000031	0.00038	2.4782E-07	0.000032	0.000032	0.00039	4.65116E-06	0.000033	0.000033	0.0004	1.5109E-05				0
Demeton-O	mg/L	0.0000378				0				0			0	0				0				0
Demeton-S	mg/L	0.0000378				0				0				0				0				0
Diazinon	mg/L	0.0000551	0.000018	0.000018	0.00019	6.14826E-07	0.000018	0.000018	0.00019	1.43895E-07	0.000018	0.000018	0.0002	2.61628E-06	0.000019	0.000019	0.0002	8.69913E-06				0
Dibenz(a,h)anthracene	mg/L	0.0001529	0.00015	0.00015	0.0019	5.12355E-06	0.00015	0.00015	0.0019	1.19913E-06	0.00016	0.00016	0.0021	2.32558E-05	0.00016	0.00016	0.002	7.32558E-05				0
Dichlorobromomethane	mg/L	0.0016057	0.00013	0.00013	0.001	4.44041E-06	0.00049	0.00013	0.001	3.91715E-06	0.0025	0.00013	0.001	0.000363372	0.0026	0.00013	0.001	0.001190407				0
Dichlorodifluoromethane	mg/L	0.0000058				0				0				0				0				0
Dieldrin	mg/L	0.0000038	0.00000079	0.00000079	0.0000013	2.6984E-08	0.0000051	0.00000078	0.0000012	4.07703E-08	0.0000032	0.00000081	0.0000013	4.65116E-07	0.0000008	0.0000008	0.0000013	3.66279E-07				0
Diesel Range Organics	mg/L	0.2738372				0				0				0	0.48	0.24	0.5	0.219767442				0
Diethylphthalate	mg/L	0.0013772	0.0014	0.0014	0.0096	4.78198E-05	0.0014	0.0014	0.0094	1.11919E-05	0.0015	0.0015	0.01	0.000218023	0.0015	0.0015	0.01	0.000686773				0
Dimethyl phthalate	mg/L	0.0007249	0.00074	0.00074	0.0096	2.52762E-05	0.00072	0.00072	0.0094	5.75581E-06	0.0008	0.0008	0.01	0.000116279	0.00077	0.00077	0.01	0.000352544				0
Di-n-butyl phthalate	mg/L	0.0011507	0.0012	0.0012	0.0096	4.09884E-05	0.0012	0.0012	0.0094	9.59302E-06	0.0013	0.0013	0.01	0.000188953	0.0012	0.0012	0.01	0.000549419				0
Di-n-octyl phthalate	mg/L	0.0019526	0.002	0.002	0.0096	6.8314E-05	0.0019	0.0019	0.0094	1.5189E-05	0.0022	0.0022	0.01	0.000319767	0.0021	0.0021	0.01	0.000961483				0
Diphenylhydrazine	mg/L	0.0006462	0.00063	0.00063	0.0096	2.15189E-05	0.00062	0.00062	0.0094	4.9564E-06	0.00069	0.00069	0.01	0.000100291	0.00066	0.00066	0.01	0.00030218				0
E. Coli	cfu/100 ml	0.0058140				0				0				0				0				0
EC (field)	µS/cm	2491.1468023	364			12.43313953	48670			389.0770349	11080			1610.465116	362			165.7412791				0
Endosulfan I	mg/L	0.0000012	0.0000009	0.0000009	0.0000013	3.07413E-08	0.0000092	0.0000009	0.0000012	7.35465E-08	0.0000023	0.00000093	0.0000013	3.34302E-07	0.00000092	0.00000092	0.0000013	4.21221E-07				0
Endosulfan II	mg/L	0.0000076	0.0000065	0.00000094	0.0000013	2.2202E-07	0.000048	0.00000093	0.0000012	3.83721E-07	0.000019	0.00000097	0.0000013	2.76163E-06	0.0000026	0.00000093	0.0000012	1.19041E-06				0
Endosulfan sulphate	mg/L	0.0000202	0.0000076	0.00000055	0.0000013	2.59593E-07	0.000073	0.00000054	0.0000012	5.83576E-07	0.00013	0.00000055	0.0000013	1.88953E-05	0.00000056	0.00000056	0.0000013	2.56395E-07				0
Endrin	mg/L	0.0000013	0.00000092	0.00000092	0.0000013	3.14244E-08	0.0000028	0.00000091	0.0000012	2.23837E-08	0.0000033	0.00000095	0.0000013	4.79651E-07	0.00000094	0.00000094	0.0000013	4.30378E-07				0
Endrin aldehyde	mg/L	0.0000009	0.00000087	0.00000087	0.0000013	2.97166E-08	0.00000086	0.00000086	0.0000012	6.875E-09	0.00000089	0.00000089	0.0000013	1.2936E-07	0.00000088	0.00000088	0.0000013	4.02907E-07				0
Enterococci	MPN/100 m	0.0058140				0				0				0				0				0
Ethylbenzene	mg/L	0.0002219	0.00023	0.00023	0.001	7.8561E-06	0.00069	0.00023	0.001	5.51599E-06	0.00023	0.00023	0.001	3.34302E-05	0.00023	0.00023	0.001	0.000105305				0
Fecal Coliforms	MPN/100 m	0.0116279				0				0				0				0				0
Fluoranthene	mg/L	0.0001576	0.00016	0.00016	0.0019	5.46512E-06	0.00015	0.00015	0.0019	1.19913E-06	0.00017	0.00017	0.0021	2.47093E-05	0.00016	0.00016	0.002	7.32558E-05				0
Fluorene	mg/L	0.0002104	0.00021	0.00021	0.0019	7.17297E-06	0.0002	0.0002	0.0019	1.59884E-06	0.00023	0.00023	0.0021	3.34302E-05	0.00022	0.00022	0.002	0.000100727				0
Fluoride	mg/L	0.8781468	0.19	0.014	0.1	0.006489826	3.2	0.35	2.5	0.025581395	4.5	0.35	2.5	0.654069767	0.22	0.035	0.25	0.100726744				0
Gasoline Range Organics	mg/L	0.0348183				0				0				0	0.057	0.025	0.1	0.026097384				0
g-BHC (Lindane)	mg/L	0.0000008	0.00000077	0.00000077	0.0000013	2.63009E-08	0.00000076	0.00000076	0.0000012	6.07558E-09	0.00000079	0.00000079	0.0000013	1.14826E-07	0.00000078	0.00000078	0.0000013	3.57122E-07				0
Hardness	mg/L	7.9651163				0				0				0				0				0
HEM	mg/L	1.1380814				0				0				0	1.8	1.8	6	0.824127907				0
Heptachlor	mg/L	0.0000150	0.00000095	0.00000095	0.0000013	3.24491E-08	0.0001	0.00000094	0.0000012	7.99419E-07	0.000092	0.00000098	0.0000013	1.33721E-05	0.00000097	0.00000097	0.0000013	4.44113E-07				0
Heptachlor epoxide	mg/L	0.0000012	0.00000093	0.00000093	0.0000013	3.1766E-08	0.0000045	0.00000092	0.0000012	3.59738E-08	0.0000024	0.00000093	0.0000013	3.48837E-07	0.00000095	0.00000095	0.0000013	4.34956E-07				0
Hexachlorobenzene	mg/L	0.0001856	0.00018	0.00018	0.0019	6.14826E-06	0.00017	0.00017	0.0019	1.35901E-06	0.00019	0.00019	0.0021	2.76163E-05	0.00018	0.00018	0.002	8.24128E-05				0
Hexachlorobutadiene	mg/L	0.0001623	0.00016	0.00016	0.0019	5.46512E-06	0.00016	0.00016	0.0019	1.27907E-06	0.00017	0.00017	0.0021	2.47093E-05	0.00017	0.00017	0.002	7.78343E-05				0
Hexachlorocyclopentadiene	mg/L	0.0004911	0.0005	0.0005	0.0096	1.70785E-05	0.00049	0.00049	0.0094	3.91715E-06	0.00054	0.00054	0.01	7.84884E-05	0.00052	0.00052	0.01	0.000238081				0
Hexachloroethane	mg/L	0.0005925	0.0006	0.0006	0.0096	2.04942E-05	0.00059	0.00059	0.0094	4.71657E-06	0.00065	0.00065	0.01	9.44767E-05	0.00063	0.00063	0.01	0.000288445				0
Indeno(1,2,3-c,d)pyrene	mg/L	0.0001935	0.00019	0.00019	0.0019	6.48983E-06	0.00019	0.00019	0.0019	1.5189E-06	0.00021	0.00021	0.0021	3.05233E-05	0.0002	0.0002	0.002	9.15698E-05				0
Iron	mg/L	22.1858541	4.4	0.0057	0.05	0.150290698	1.3	0.57	5	0.010392442	0.84	0.057	0.5	0.122093023	1.9	0.0057	0.05	0.869912791				0
Isophorone	mg/L	0.0006066	0.00062	0.00062	0.0096	2.11773E-05	0.00061	0.00061	0.0094	4.87645E-06	0.00067	0.00067	0.01	9.73837E-05	0.00064	0.00064	0.01	0.000293023				0
Kepone	mg/L	0.0090538	0.0093	0.0093	0.038	0.00031766	0.0091	0.0091	0.038	7.27471E-05	0.01	0.01	0.042	0.001453488	0.0097	0.0097	0.04	0.004441134				0
Lead	mg/L	0.0049029	0.000074	0.000057	0.001	2.52762E-06	0.0058	0.0057	0.1	4.63663E-05	0.0018	0.00057	0.01	0.000261628	0.0067	0.0012	0.01	0.003067587				0

		RESULTS	TOE DRAIN				FGD PLANT				FGD YARD SUMP				MASTER SUMP				CONTACT STORMWATER			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	CONT SW_MDL	CONT SW _RL	Flow Weighted Average of the Source (mg/l)
Lithium	mg/L	0.0747882	0.0038	0.00053	0.05	0.000129797	0.21	0.0026	0.25	0.001678779	0.13	0.0011	0.1	0.018895349	0.014	0.00053	0.05	0.006409884				0
Magnesium	mg/L	79.4206686	16	0.001	0.5	0.546511628	670	0.1	5	5.356104651	340	0.01	5	49.41860465	40	0.001	0.5	18.31395349				0
Malathion	mg/L	0.0000259	0.000021	0.000021	0.00019	7.17297E-07	0.000021	0.000021	0.00019	1.67878E-07	0.000021	0.000021	0.0002	3.05233E-06	0.000022	0.000022	0.0002	1.00727E-05				0
Manganese	mg/L	0.7100262	1	0.000046	0.005	0.034156977	1.3	0.0046	0.5	0.010392442	0.3	0.00046	0.05	0.043604651	0.16	0.00012	0.015	0.073255814				0
Mercury	mg/L	0.0000696	0.000056	0.000031	0.0002	1.91279E-06	0.00022	0.000031	0.0002	1.75872E-06	0.0001	0.000031	0.0002	1.45349E-05	0.00007	0.000031	0.0002	3.20494E-05				0
Methoxychlor	mg/L	0.0000000				0				0				0				0				0
Methyl Bromide	mg/L	0.0002960	0.00031	0.00031	0.001	1.05887E-05	0.00031	0.00031	0.001	2.4782E-06	0.00031	0.00031	0.001	4.50581E-05	0.00031	0.00031	0.001	0.000141933				0
Methyl Chloride	mg/L	0.0002708	0.00028	0.00028	0.001	9.56395E-06	0.00028	0.00028	0.001	2.23837E-06	0.00028	0.00028	0.001	4.06977E-05	0.00028	0.00028	0.001	0.000128198				0
Methylene Chloride	mg/L	0.0011925	0.00015	0.00015	0.001	5.12355E-06	0.00015	0.00015	0.001	1.19913E-06	0.00019	0.00015	0.001	2.76163E-05	0.00018	0.00015	0.001	8.24128E-05				0
Mirex	mg/L	0.0000005	0.00000046	0.00000046	0.0000013	1.57122E-08	0.00000046	0.00000046	0.0000012	3.67733E-09	0.00000048	0.00000048	0.0000013	6.97674E-08	0.00000047	0.00000047	0.0000013	2.15189E-07				0
Molybdenum	mg/L	0.0185834	0.0031	0.00026	0.005	0.000105887	0.081	0.0026	0.05	0.000647529	0.052	0.0026	0.05	0.00755814	0.0058	0.00026	0.005	0.002655523				0
Naphthalene	mg/L	0.0004179	0.00013	0.00013	0.0019	4.44041E-06	0.00013	0.00013	0.0019	1.03924E-06	0.00015	0.00015	0.0021	2.18023E-05	0.00014	0.00014	0.002	6.40988E-05				0
Nickel	mg/L	0.1064634	0.00075	0.000093	0.001	2.56177E-05	0.18	0.0093	0.01	0.001438953	0.0455	0.002	0.01	0.006613372	0.0067	0.000093	0.001	0.003067587	0.002	0.002	0.01	0.000116279
Nitrate	mg/L	0.0023256				0				0				0				0				0
Nitrate (as N)	mg/L	9.1848328	0.59	0.0062	0.1	0.020152616	35	0.16		0.279796512	55	0.16	2.5	7.994186047	1.6		0.25	0.73255814				0
Nitrite	mg/L	0.0004651				0				0				0				0				0
Nitrite (as N)	mg/L	0.1911047	0.18	0.024	0.05	0.006148256	0.6	0.6	1.3	0.004796512	0.6	0.6	1.3	0.087209302	0.17		0.05	0.077834302				0
Nitrobenzene	mg/L	0.0008178	0.00081	0.00081	0.019	2.76672E-05	0.0008	0.0008	0.019	6.39535E-06	0.00088	0.00088	0.021	0.000127907	0.00084	0.00084	0.02	0.000384593				0
Nitrogen (Organic)	mg/L	0.0034884				0				0				0				0				0
Nitrogen (Total Oxidised)	mg/L	0.0023256				0				0				0				0				0
Nitrogen (Total)	mg/L	0.0179070				0				0				0				0				0
N-Nitrosodimethylamine	mg/L	0.0007033	0.00071	0.00071	0.0019	2.42515E-05	0.00069	0.00069	0.0019	5.51599E-06	0.00077	0.00077	0.0021	0.000111919	0.00074	0.00074	0.002	0.000338808				0
N-nitrosodi-n-propylamine	mg/L	0.0003011	0.0003	0.0003	0.0019	1.02471E-05	0.00029	0.00029	0.0019	2.31831E-06	0.00032	0.00032	0.0021	4.65116E-05	0.00031	0.00031	0.002	0.000141933				0
n-Nitrosodiphenylamine	mg/L	0.0008271	0.00082	0.00082	0.0096	2.80087E-05	0.0008	0.0008	0.0094	6.39535E-06	0.00089	0.00089	0.01	0.00012936	0.00085	0.00085	0.01	0.000389172				0
Nonylphenol	mg/L	0.0000291				0				0				0				0				0
Nonylphenol Diethoxylate (Technica	mg/L	0.0018023	0.002	0.002	0.02	6.8314E-05	0.0019	0.0019	0.02	1.5189E-05	0.002	0.002	0.02	0.000290698	0.0019	0.0019	0.02	0.000869913				0
Nonylphenol Monoethoxylate (Tech	mg/L	0.0029713	0.0032	0.0032	0.01	0.000109302	0.0031	0.0031	0.0098	2.4782E-05	0.0032	0.0032	0.01	0.000465116	0.0032	0.0032	0.0099	0.001465116				0
Oil and Grease	mg/L	1.5151163	1.6	1.6	4.5	0.054651163	1.6	1.6	4.6	0.012790698	1.6	1.6	4.5	0.23255814	1.6	1.6	4.6	0.73255814				0
para-tert-Octylphenol	mg/L	0.0002971	0.00032	0.00032	0.001	1.09302E-05	0.00031	0.00031	0.00098	2.4782E-06	0.00032	0.00032	0.001	4.65116E-05	0.00032	0.00032	0.00099	0.000146512				0
Parathion	mg/L	0.0000357	0.000031	0.000031	0.00019	1.05887E-06	0.000031	0.000031	0.00019	2.4782E-07	0.000032	0.000032	0.0002	4.65116E-06	0.000032	0.000032	0.0002	1.46512E-05				0
P-Chloro-M-Cresol	mg/L	0.0007368	0.00073	0.00073	0.0096	2.49346E-05	0.00071	0.00071	0.0094	5.67587E-06	0.00079	0.00079	0.01	0.000114826	0.00075	0.00075	0.01	0.000343387				0
Pentachlorophenol	mg/L	0.0006512	0.00064	0.00064	0.0096	2.18605E-05	0.00063	0.00063	0.0094	5.03634E-06	0.00069	0.00069	0.01	0.000100291	0.00066	0.00066	0.01	0.00030218				0
pH (Field)	SU	7.1937645	6.54			0.223386628	8.44			0.06747093	8.75			1.271802326	8.68			3.974127907				0
Phenanthrene	mg/L	0.0004313	0.00041	0.00041	0.0019	1.40044E-05	0.0004	0.0004	0.0019	3.19767E-06	0.00044	0.00044	0.0021	6.39535E-05	0.00043	0.00043	0.002	0.000196875				0
Phenol	mg/L	0.0010981	0.00056	0.00056	0.0019	1.91279E-05	0.00055	0.00055	0.0019	4.3968E-06	0.0042	0.00056	0.0019	0.000610465	0.00058	0.00058	0.002	0.000265552				0
Phenolics Total	mg/L	0.0090465				0				0				0	0.016	0.0082	0.01	0.007325581				0
Phosphorus	mg/L	0.5706068	0.075	0.05	0.1	0.002561773	0.61	0.05	0.1	0.004876453	0.26	0.05	0.1	0.037790698	0.94	0.05	0.1	0.430377907				0
p-Nonylphenol (Technical mixture)	mg/L	0.0014977	0.0016	0.0016	0.005	5.46512E-05	0.0016	0.0016	0.0049	1.27907E-05	0.0016	0.0016	0.005	0.000232558	0.0016	0.0016	0.0049	0.000732558				0
Potassium	mg/L	22.8444041	3.7	0.017	0.5	0.126380814	120	1.7	5	0.959302326	71	0.17	5	10.31976744	22	0.017	0.5	10.07267442				0
Pyrene	mg/L	0.0001805	0.00015	0.00015	0.0019	5.12355E-06	0.00015	0.00015	0.0019	1.19913E-06	0.00016	0.00016	0.0021	2.32558E-05	0.00016	0.00016	0.002	7.32558E-05				0
Radium-226	pCi/L	0.3728554	0.487	0.161	1	0.016634448	6.26	2.06	1	0	2.3	1.01	1	0	0.4	0.4	1	0.183139535				0
Radium-228	pCi/L	0.5953888	0.375	0.375	1	0.012808866	3.12	3.12	1	0	2.3	1	1	0	0.869	0.607	1	0.39787064				0
Redox	mV	200.3162791	5.1			0.174200581	147.5			1.179142442	225.9			32.83430233	122.3			55.99491279				0
Selenium	mg/L	0.0129347	0.00033	0.0002	0.005	1.12718E-05	0.044	0.002	0.05	0.000351744	0.0263	0.001	0.001	0.003822674	0.0039	0.0039	0.01	0.00178561	0.0114	0.001	0.001	0.000662791
Silver	mg/L	0.0001428	0.000047	0.000047	0.001	1.60538E-06	0.0047	0.0047	0.1	3.75727E-05	0.00047	0.00047	0.01	6.8314E-05	0.000047	0.000047	0.001	2.15189E-05				0
Sodium	mg/L	383.4978924	7.3	0.011	0.5	0.24934593	710	1.1	5	5.675872093	420	0.11	5	61.04651163	670	0.011	0.5	306.7587209				0
Specific Conductivity (lab)	µS/cm	0.0000000				0				0				0				0				0
Sulfate	mg/L	1349.9789244	57	0.21	1	1.946947674	660	5.4		5.276162791	1000	5.4	25	145.3488372	2200		25	1007.267442				0
Sulfide	mg/L	0.5872674	0.41	0.41	1	0.01400436	0.41	0.41	1	0.003277616	1.3	0.47	3	0.188953488	0.41	0.41	1	0.187718023				0
sulfide (as H2S)	mg/L	0.4460538	0.41	0.41	1	0.01400436	8.2	8.2	20	0.065552326	0.41	0.41	1	0.059593023	0.41	0.41	1	0.187718023				0
Surfactants	mg/L	0.0005814				0				0				0				0				0
Temperature	oC	28.0342878	19.24			0.657180233	38.8	1	1	0.310174419	22.16			3.220930233	33.43			15.30588663				0
Tetrachloroethene	mg/L	0.0001462	0.00015	0.00015	0.001	5.12355E-06	0.00015	0.00015	0.001	1.19913E-06	0.00015	0.00015	0.001	2.18023E-05	0.00015	0.00015	0.001	6.86773E-05				0
Thallium	mg/L	0.0013820	0.000063	0.000013	0.001	2.15189E-06	0.0038	0.0013	0.01	3.03779E-05	0	0.00013	0.01	0	0.0022	0.0018	0.02	0.001007267				0
Tin	mg/L	0.0001163				0				0				0				0				0
Titanium	mg/L	0.0000291				0				0				0				0				0
Toluene	mg/L	0.0001480	0.00015	0.00015	0.001	5.12355E-06	0.00015	0.00015	0.001	1.19913E-06	0.00015	0.00015	0.001	2.18023E-05	0.00015	0.00015	0.001	6.86773E-05				0
Total Dissolved Solids	mg/L	3501.6061047	230	10	10	7.856104651	31000	200	200	247.8197674	9000	100	100	1308.139535	3600	40	40	1648.255814				0
Total Kjeldahl Nitrogen	mg/L	8.8912064	3.4	1.7	5	0.116133721	9.5	1.7	5	0.075944767	8.4	1.7	5	1.220930233	15	1.7	5	6.867732558				0
Total Organic Carbon	mg/L	4.3504360	3.4	0.19	1	0.116133721	36	3.8	20	0.287790698	9.9	0.19	1	1.438953488	2.8	0.19	1	1.281976744				0
Total Suspended Solids	mg/L	176.4317587	7.8	1	1	0.266424419	3.3	0.52		0.026380814	27	1	1	3.924418605	230		5	105.3052326				0
Toxaphene	mg/L	0.0000180	0.000018	0.000018	0.000048	6.14826E-07	0.000018	0.000018	0.000048	1.43895E-07	0.000018	0.000018	0.00005	2.61628E-06	0.000018	0.000018	0.000049	8.24128E-06				0
trans-1,2-Dibromoethene	mg/L	0.0000058				0				0				0				0				0
trans-1,3-dichloropropene	mg/L	0.0001462	0.00015	0.00015	0.001	5.12355E-06	0.00015	0.00015	0.001	1.19913E-06	0.00015	0.00015	0.001	2.18023E-05	0.00015	0.00015	0.001	6.86773E-05				0
Tributyltin	mg/L	0.0000453	0.000043	0.000043	0.000043	1.46875E-06	0.000043	0.000043	0.000043	3.4375E-07	0.000047	0.000047	0.000047	6.8314E-06	0.000052	0.000052	0.000052	2.38081E-05				0
Trichloroethene	mg/L	0.0001369	0.00014	0.00014	0.001	4.78198E-06	0.00014	0.00014	0.001	1.11919E-06	0.00014	0.00014	0.001	2.03488E-05	0.00014	0.00014	0.001	6.40988E-05				0
Trichlorofluoromethane	mg/L	0.0000058				0			0	0				0				0				0
Turbidity	NTU	85.3857558	23	0.05	0.85	0.785610465	1.8	0.05	0.85	0.014389535	33	0.05	0.85	4.796511628	21	0.05	0.85	9.614825581				0
Vinyl chloride	mg/L	0.0002211	0.00023	0.00023	0.001	7.8561E-06	0.00023	0.00023	0.001	1.83866E-06	0.00023	0.00023	0.001	3.34302E-05	0.00023	0.00023	0.001	0.000105305				0
Zinc	mg/L	0.3751538	0.025	0.0004	0.005	0.000853924	0.061	0.04	0.5	0.000487645	0.236	0.01	0.01	0.034302326	0.04	0.001	0.02	0.018313953	0.01	0.01	0.01	0.000581395

Bryan, Joseph (DEQ)

From: Kenneth Roller (Services - 6) <kenneth.roller@dom.com>
Sent: Friday, June 03, 2016 9:48 AM
To: Bryan, Joseph (DEQ); Adamson, Emilee (DEQ)
Subject: RE: Preliminary Revisions - Chesterfield Power Station draft Permit/FS
Attachments: 16E0834_2 AWS_ADR_STD_DL_LS 06 01 2016 1429.pdf

Emilee and Bryan,

We have only one additional comment on the permit. We request that condition I.C.16 be rewritten as follows to clarify that the CSWTS is excluded:

I.C.16 The LAP and UAP closures are excluded from the requirements of this special condition as they will be closed in accordance with solid waste regulations, and the temporary dewatering treatment system (CSWTS) discussed in Part I.C.21 is also excluded from the requirements of this special condition.

With respect to heptachlor. After giving the initial results a harder review we decided to collect additional samples from the FGD WWTP discharge and the FGD yard sump. We also tested the Proctors Creek WWTP effluent makeup water to the FGD scrubber as well as James River water prior to use at the station. The results of these analyses are attached. Heptachlor was not detected (<0.005 ug/L) in any of the samples.

Please call if you have any additional questions.

Thanks for all of your work on this permit to get it to this point.

Ken Roller
Supervisor, Environmental Regulations
Dominion
Electric Environmental Services
(804) 273-3494 Office
(804) 592-7825 Cell

From: Bryan, Joseph (DEQ) [mailto:Joseph.Bryan@deq.virginia.gov]
Sent: Thursday, June 02, 2016 5:42 PM
To: Kenneth Roller (Services - 6)
Cc: Adamson, Emilee (DEQ)
Subject: Preliminary Revisions - Chesterfield Power Station draft Permit/FS

Good evening,

A revised version of the permit, fact sheet, and public notice are available at the following link:

http://www.deq.virginia.gov/fileshare/wps/VA0004146%20Chesterfield%20Power%20Station/Owner%20Review%20Package/06022016%20Documents/

These files are in Word format and contain preliminary changes (in tracked changes) that will be reviewed closely in the morning. We will transmit copies of the finalized documents along with a response to comments tomorrow.

Thank you,

Joseph B. Bryan
VPDES Water Permit Writer
VA DEQ - Piedmont Regional Office
804.527.5012
joseph.bryan@deq.virginia.gov
www.deq.virginia.gov

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

Bryan, Joseph (DEQ)

From: Beverly Wood (Generation - 3) <beverly.wood@dom.com>
Sent: Thursday, June 02, 2016 3:07 PM
To: emilee/adamson@deq.virginia.gov; Bryan, Joseph (DEQ); Kenneth Roller (Services - 6)
Cc: Daniel A Olivos (Generation - 3)
Subject: Chesterfield Power Station Outfall Structures 004 and 005
Attachments: Chesterfield Power Station Outfall 004 Structure.docx.pdf; Chesterfield Power Station Outfall 005 Structure.docx

Emilee and Joseph,

Please find attached drawings illustrating the physical measured lowest level of normal operations for the upper and lower ash ponds (Outfall 004 and 005).

For Outfall 004, the drawings illustrate a grated structure that was permanently installed where the stop logs used to be placed inside of the decanting outfall structure. This grated framework provides open spaces for water to flow through to the discharge pipe as Outfall 004. A solid adjustable metal plate was installed against the upstream side of the grated structural framework and is raised or lowered to control the operating level of the pond. With the plate all the way down, there is only 2'2" of space for water to decant out of the ash pond. Once the water level decants over that plate at it's lowest position, the level cannot be decreased any more without mechanical means such as pumping. One can verify the lowest operating level by measuring down 2'2" from the top of the concrete of the outfall structure at the outfall.

Also attached is a drawing of the Outfall 005 discharge tower. This pond is discharged using a top and a bottom discharge valve illustrated on the drawing. Water cannot gravity discharge from the pond when the water level is below the bottom discharge valve. The bottom of the bottom discharge valve is 15'6" from the top of the concrete of the outfall tower structure and can be physically measured. The water level cannot go lower than this measurement without using mechanical means other than minor evaporation that could occur.

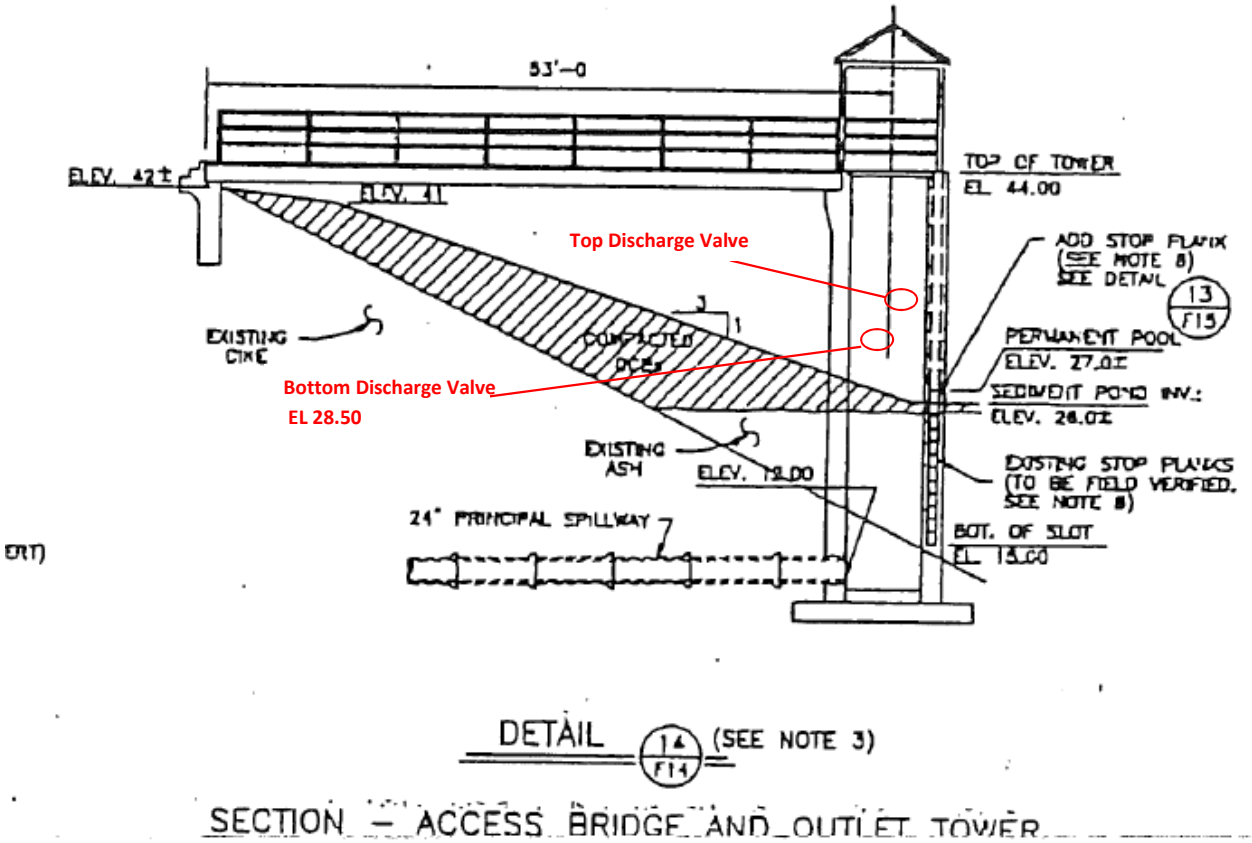
If you have any additional questions, please don't hesitate to contact me.

Best regards,

Beverly Wood
Supervisor - Environmental
Chesterfield Power Station / Bellemeade Power Station
804-796-6350 (office)
804-229-0691 (cell)

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents

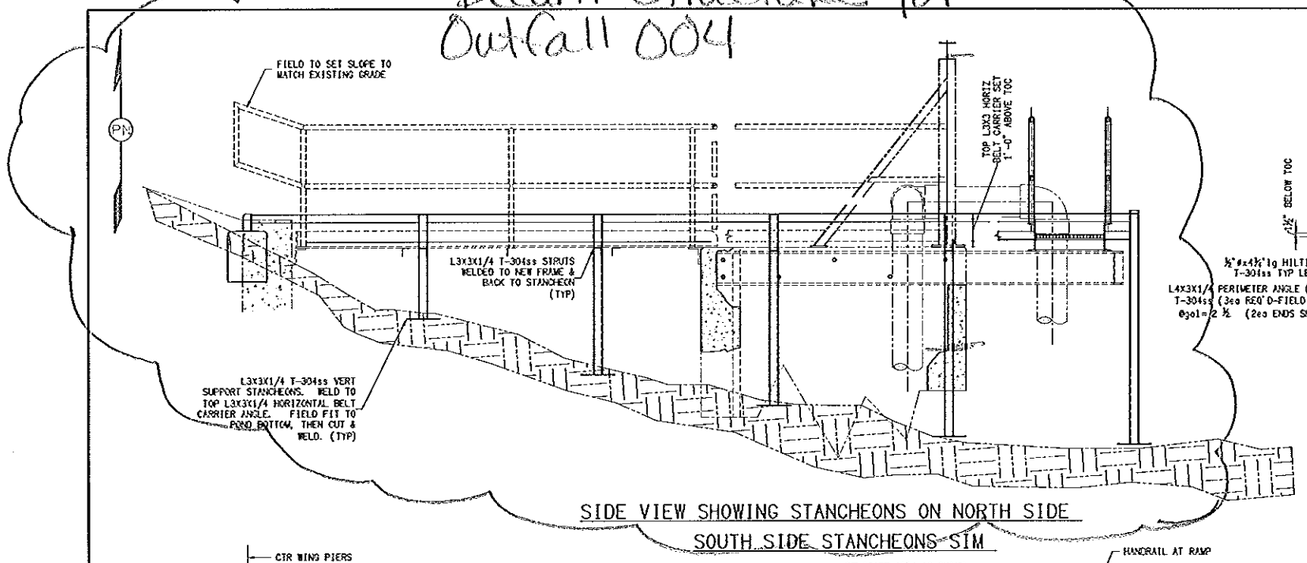
of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.



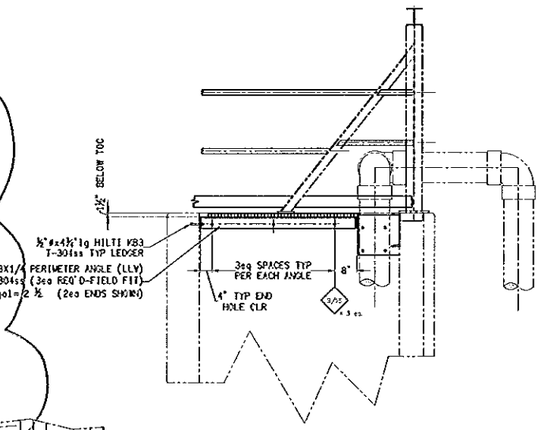
Chesterfield Power Station Outfall 005 Structure

The above drawing illustrates the Outfall 005 structure and the operating discharge valves used to drain the pond under normal conditions. The bottom of the lowest operating discharge valve (Elevation 28.50) is 15'6" below the top of concrete structure (Elevation 44.00). In order to drain pond water level below this valve (Elevation 28.50), mechanical assistance is required. (e.g. portable pump, siphon system, etc.).

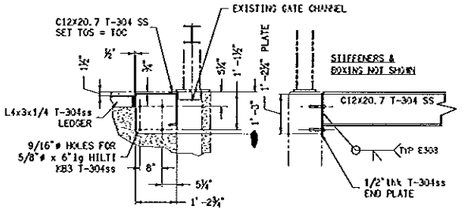
Decant Structure for Outfall 004

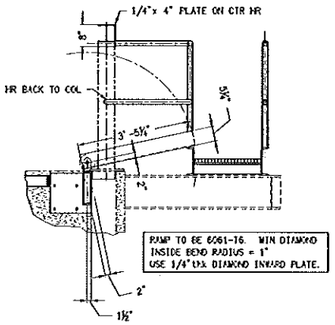


SIDE VIEW SHOWING STANCHEONS ON NORTH SIDE
SOUTH SIDE STANCHEONS SIM

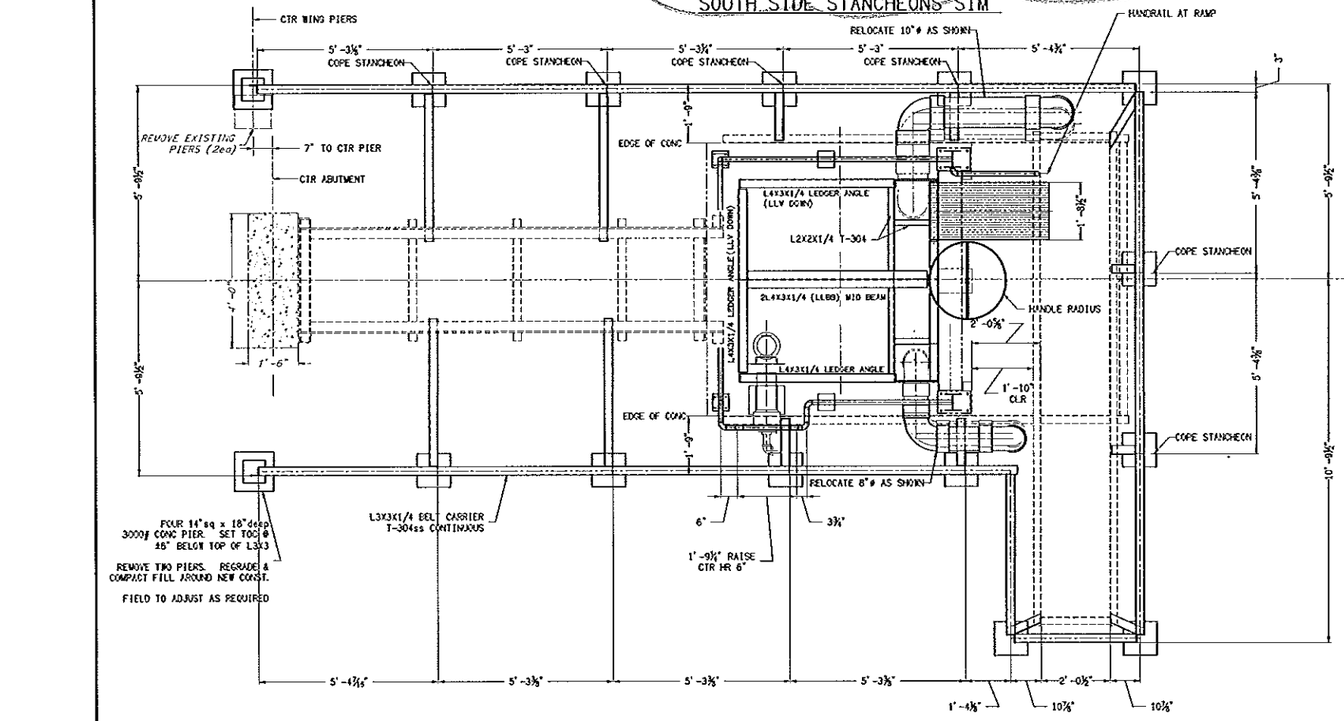


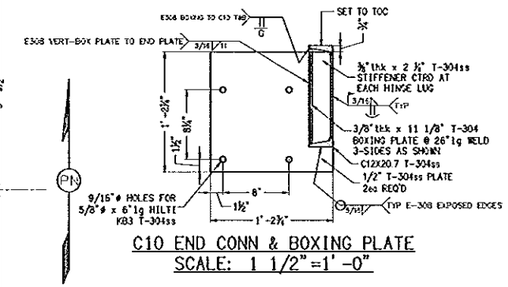
SECTION A S-2
SCALE: 1/2"=1'-0"
OPP SIDE SIM



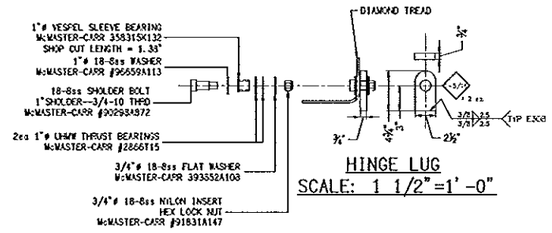


BOXING AND STIFFENERS FOR NORTH END ONLY
VERT STIFFENERS DO NOT WELD TO BOXING



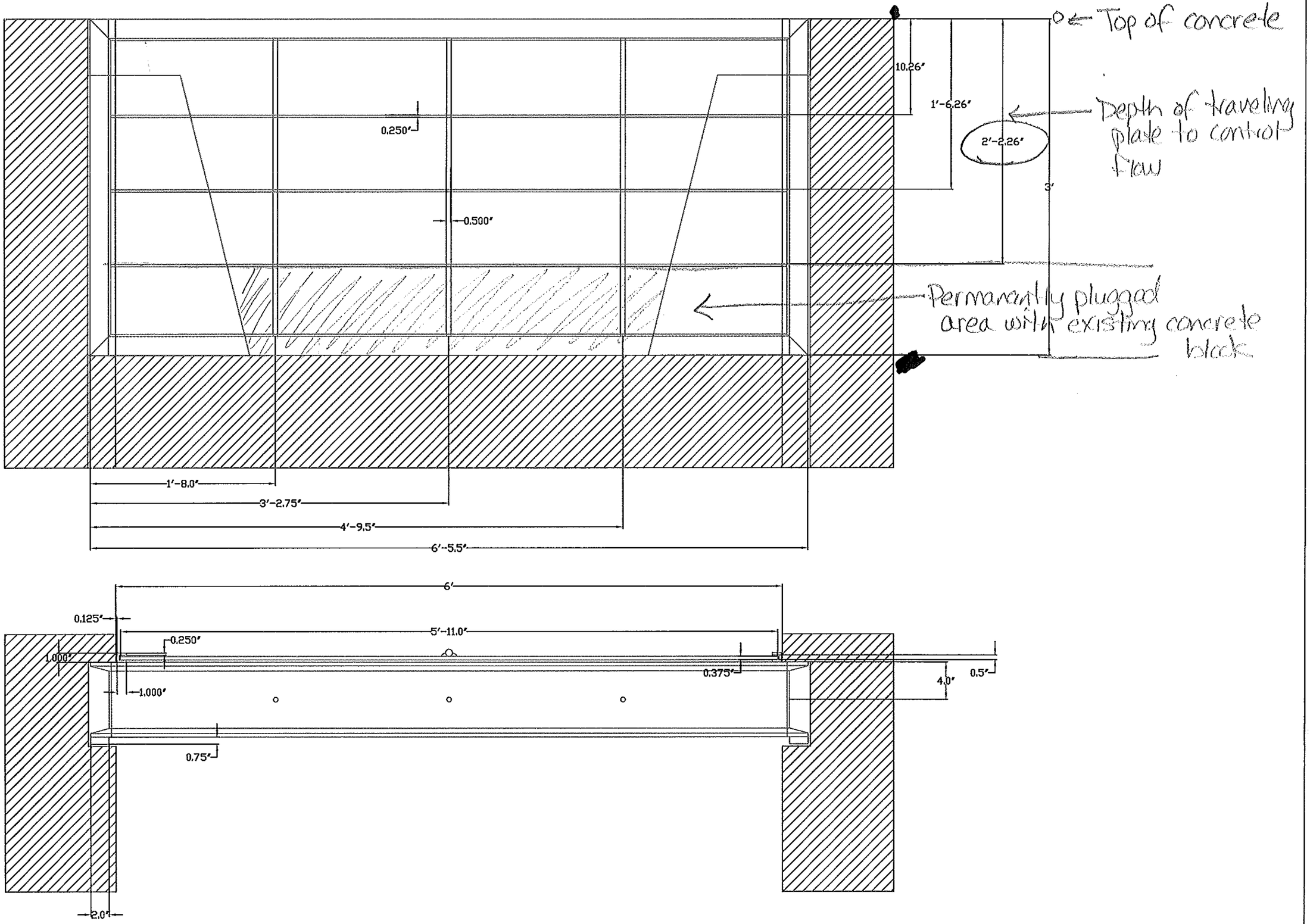


C10 END CONN & BOXING PLATE
SCALE: 1 1/2"=1'-0"



HINGE LUG
SCALE: 1 1/2"=1'-0"

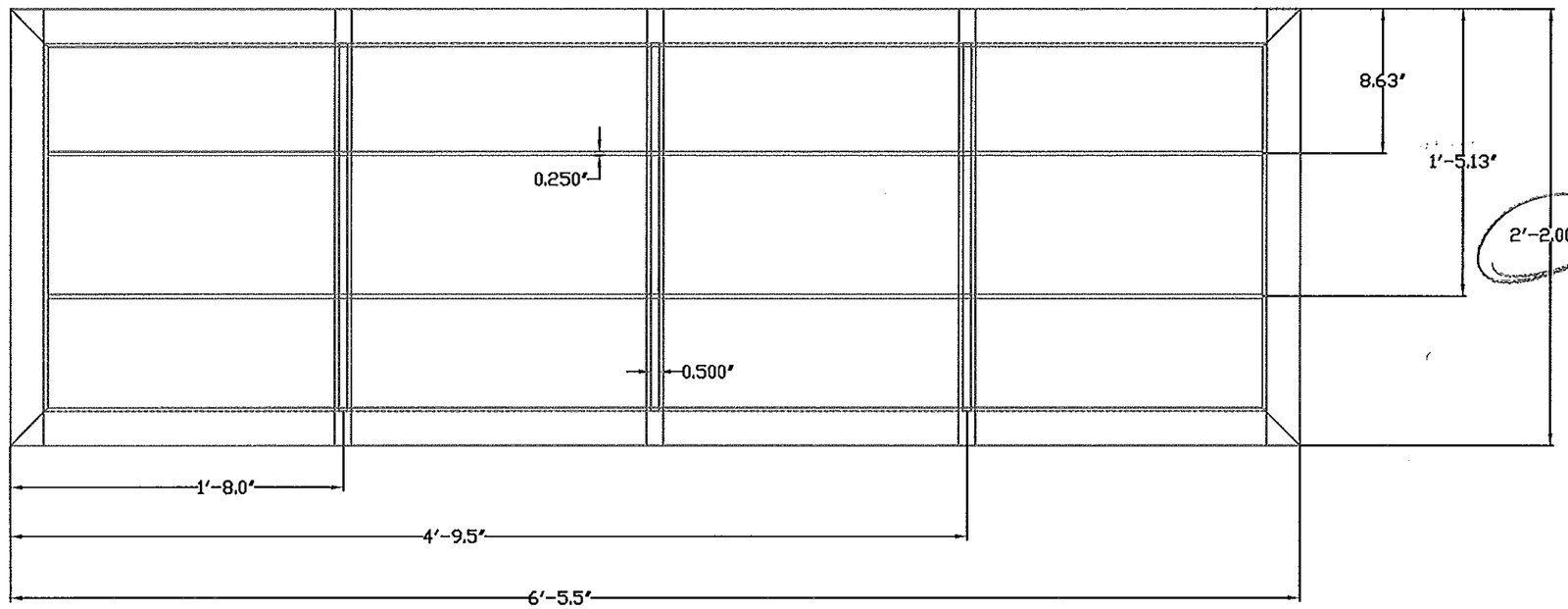
CHESTERFIELD POWER STATION
ASH POND OUTFALL #0004
RENOVATION OF ACCESS PLATFORMS AND OUTER WEIR
PERIMETER WEIR PLANS & SECTIONS
SCALE: 1/2"=1'-0"
DRAWING S-2 REV B, 10/26/10

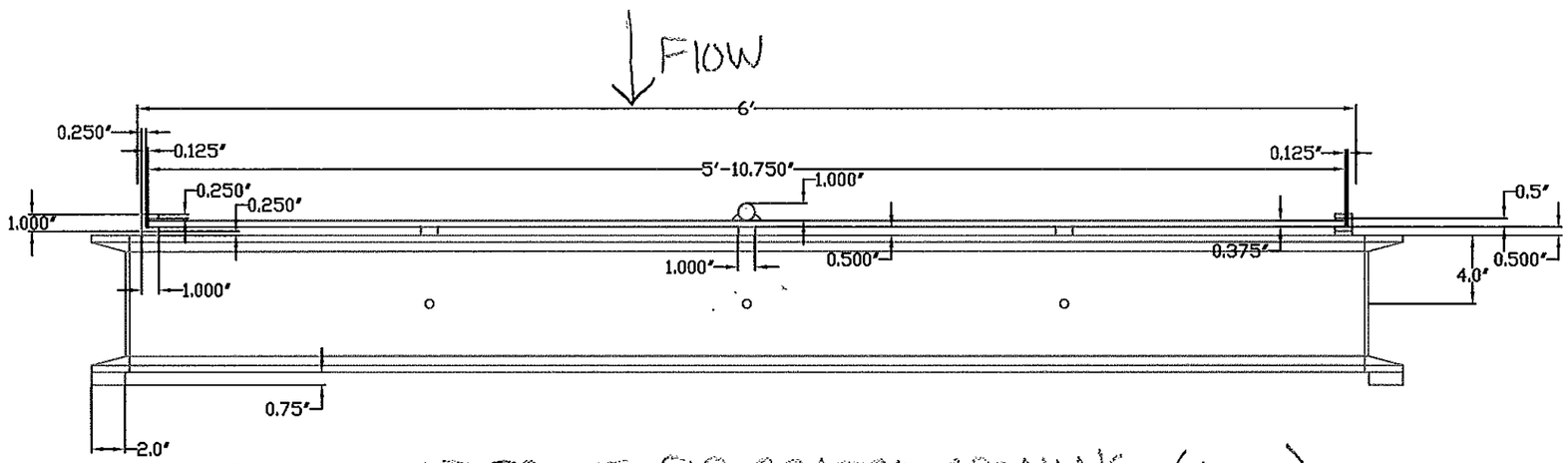

0 ← Top of concrete
10.26"
1'-6.26"
2'-2.26"
3'
Depth of traveling plate to control flow
0.250"
0.500"
Permanently plugged area with existing concrete block
1'-8.0"
3'-2.75"
4'-9.5"
6'-5.5"
6'
0.125"
5'-11.0"
0.250"
1.000"
1.000"
0.375"
4.0"
0.5"
0.75"
2.0"

OUTFALL 004 DECANT STRUCTURE

GRATED OPENING WITH ADJUSTABLE PLATE TO CONTROL FLOW

CHESTERFIELD POWER STATION





TOP VIEW OF FRAME FOR GRATED OPENING (green)
SHAFT WITH ADJUSTABLE PLATE (red)

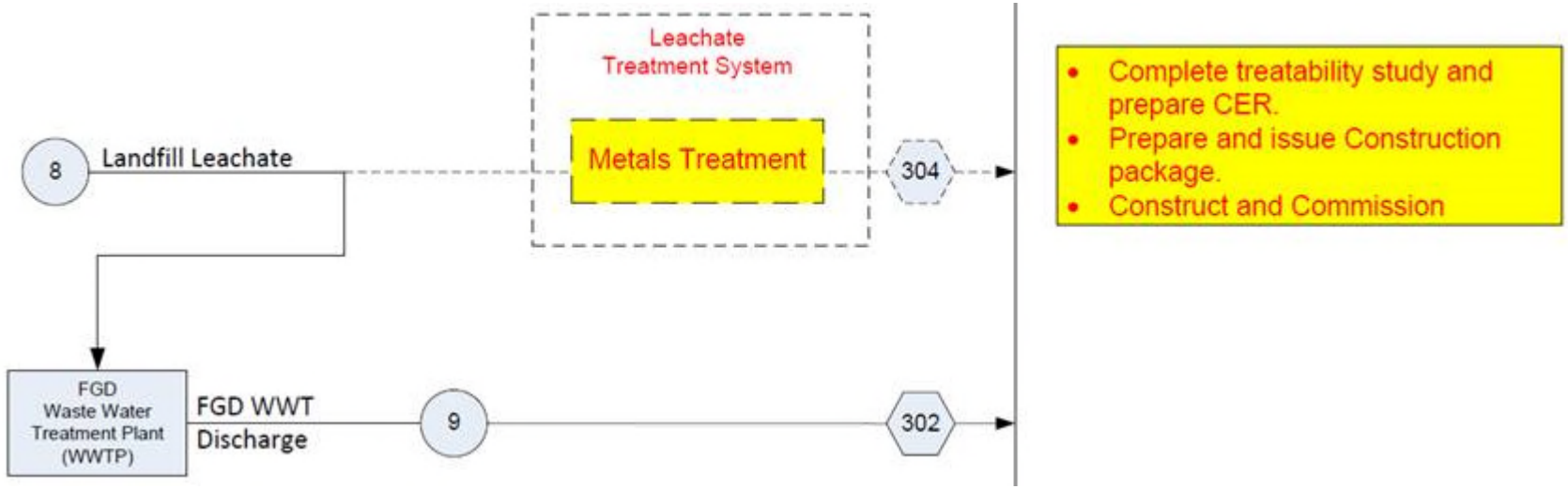
Bryan, Joseph (DEQ)

From: Kenneth Roller (Services - 6) <kenneth.roller@dom.com>
Sent: Thursday, June 02, 2016 4:14 PM
To: Adamson, Emilee (DEQ)
Cc: Bryan, Joseph (DEQ)
Subject: Gantt Chart for Landfill Leachate
Attachments: CHIAP - FFCP Leachate Treatment - Gantt Chart - Rev 0.pdf

Emilee,

Attached is the Gantt Chart for the Landfill Leachate Treatment System. Dominion currently plans to route the wastewater to the FGD WWTP. The effectiveness of the existing FGD WWTP to remove arsenic and mercury will then be evaluated. Following the evaluation, a decision will be made concerning the need for a separate metals treatment facility for the leachate. This process is shown in the diagram below.

Please let me know if you have any questions concerning this information.



Ken Roller

Supervisor, Environmental Regulations
Dominion
Electric Environmental Services
(804) 273-3494 Office
(804) 592-7825 Cell

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

Bryan, Joseph (DEQ)

From: Kenneth Roller (Services - 6) <kenneth.roller@dom.com>
Sent: Wednesday, May 18, 2016 3:53 PM
To: Adamson, Emilee (DEQ)
Cc: Bryan, Joseph (DEQ)
Subject: Additional Data for Outfall 002
Attachments: 294975-CH-002-06252002.pdf; 311532-CH-002-01142004.pdf

Emilee,

As we discussed yesterday, Dominion Environmental Services searched their Laboratory Information Management System database and found the results of additional analyses for copper that were performed on samples collected from Chesterfield Power Station's Outfall 002 during June 2002 and January 2004. The Unit 3 condenser was replaced in the Spring of 2002.

Please let me know if you have any additional questions.

Ken Roller
Supervisor, Environmental Regulations
Dominion
Electric Environmental Services
(804) 273-3494 Office
(804) 592-7825 Cell

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

DOMINION LABORATORY SERVICES

Report Produced On 5/18/2016

CERTIFICATE OF ANALYSIS TEST RESULTS BY SAMPLE

Location : CHESTERFIELD
Unit: 0

Submitter: BISHOP GLENN - CF

Dominion Lab Number: 311532
Description : OUTFALL 002

Sample Date : 01/14/2004

Parameter	Result	Method	Test Code	Analyst	Date Analyzed	Time Analyzed	Contract Analyst
Copper as Cu, ppb	<5	EPA 220.2	CUPPB	SIKESS	01/15/2004	0	
Dis. Cu, ppb	<5	EPA 220.2	CUDISPPB	SIKESS	01/15/2004	0	

Note 1: Initials in the Contract Analyst column indicate the analyst from the Contract Lab that ran the sample. Analyst for this parameter was the individual that entered results into the LIMS system.

DOMINION LABORATORY SERVICES

Report Produced On 5/18/2016

CERTIFICATE OF ANALYSIS TEST RESULTS BY SAMPLE

Location : CHESTERFIELD
Unit: 0

Submitter: ROLLER KEN - CH

Dominion Lab Number: 294975
Description : OUTFALL 002

Sample Date : 06/25/2002

Parameter	Result	Method	Test Code	Analyst	Date Analyzed	Time Analyzed	Contract Analyst
Arsenic as As, ppb	<3	EPA 206.2	ASPPB	SIKESS	07/23/2002	0	
Cadmium as Cd, ppb	<0.3	EPA 213.2	CDPPB	SIKESS	07/22/2002	0	
Chromium as Cr, ppb	<1	EPA 218.2	CRPPB	SIKESS	07/22/2002	0	
Copper as Cu, ppb	8	EPA 220.2	CUPPB	SIKESS	07/19/2002	0	
Lead as Pb, ppb	<1	EPA 239.2	PBPPB	SIKESS	07/23/2002	0	
Mercury as Hg, ppb	<0.2	EPA 245.1A	HGPPB	SIKESS	07/02/2002	0	
Nickel as Ni, ppb	<5	EPA 249.2	NIPPB	SIKESS	07/19/2002	0	
Silver as Ag, ppb	<0.1	EPA 272.2	AGPPB	SIKESS	07/23/2002	0	
Selenium as Se, ppb	<3	EPA 270.2	SEPPB	SIKESS	07/23/2002	0	
Zinc as Zn, PPM	<0.010	EPA 289.1	ZN	CHRISCOH	07/11/2002	0	
Dis. As, ppb	<3	EPA 206.2	ASDISPPB	SIKESS	07/23/2002	0	
Dis. Cd, ppb	<0.3	EPA 213.2	CDDISPPB	SIKESS	07/22/2002	0	
Dis. Cr, ppb	<1	EPA 218.2	CRDISPPB	SIKESS	07/22/2002	0	
Dis. Cu, ppb	7	EPA 220.2	CUDISPPB	SIKESS	07/19/2002	0	
Dis. Pb, ppb	<1	EPA 239.2	PBDISPPB	SIKESS	07/23/2002	0	
Dis. Hg, ppb	<0.2	EPA 245.1A	HGDISPPB	SIKESS	07/02/2002	0	
Dis. Ni, ppb	<5	EPA 249.2	NIDISPPB	SIKESS	07/19/2002	0	
Dis. Ag, ppb	<0.1	EPA 272.2	AGDISPPB	SIKESS	07/23/2002	0	
Dis. Se, ppb	<3	EPA 270.2	SEDISPPB	SIKESS	07/23/2002	0	
Dis. Zn, PPM	<0.010	EPA 289.1	ZNDIS	CHRISCOH	07/11/2002	0	
Cyanide as CN, PPM	<0.010	EPA 420.2	CN	YAWORSKD	07/01/2002	0	CH
Chrom. +6 as Cr6,PPM	<0.010	SM 3500-CR D	CR6	CHESTERD	06/25/2002	0	

Note 1: Initials in the Contract Analyst column indicate the analyst from the Contract Lab that ran the sample. Analyst for this parameter was the individual that entered results into the LIMS system.

Bryan, Joseph (DEQ)

Subject: FW: Chesterfield Power Station Outfall 301 Data
Attachments: Revised Table 1.pdf; CPS Max Sample Results and Worst Case Discharge Values rev May 12 2016.xlsx

From: Kenneth Roller (Services - 6)
Sent: Friday, May 13, 2016 9:18 AM
To: 'Adamson, Emilee (DEQ)'
Cc: 'joseph.bryan@deq.virginia.gov'
Subject: Chesterfield Power Station Outfall 301 Data

Emilee,

As requested, attached is an Excel Workbook that contains tabs for Scenarios 1 and 2, which have been updated to include the new data described in Section B of our May 5, 2016 application addendum. The workbook also includes a summary tab that contains the maximum predicted Outfall 301 concentrations for both scenarios and a column that shows the higher of the two maximums.

While reviewing the data in this Workbook I also looked at Table 1 from Section B in in our May 5 application and discovered that the concentrations of cadmium and selenium in Table 1 were reported in ug/L rather than in mg/L. Attached is a corrected version of Table 1 that shows the data for cadium and selenium in mg/L.

Please let me know if you have any questions about this information.

Thanks,

Ken Roller
Supervisor, Environmental Regulations
Dominion
Electric Environmental Services
(804) 273-3494 Office
(804) 592-7825 Cell

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

Table 1: Summary of Additional Analytical Data and Predicted Concentrations

		Maximum Predicted Outfall 301 Concentration (mg/l)	FGD Yard Sump[1]							Contact Stormwater[2]
			Dry Weather			Wet Weather			Maximum Concentration	
			Yard Sump 1	Yard Sump 2	Yard Sump 3	Yard Sump 1	Yard Sump 2	Yard Sump 3		
Ammonia as N	mg/L	1.795	0.66	ND	0.12	ND	0.74	ND	0.74	ND
Cadmium	mg/L	0.00138	ND	ND	ND	0.000281	ND	ND	0.000281	ND
Chloride	mg/L	1286	85.3	116	171	133	52.3	204	204	ND
Chromium (Hexavalent)	mg/L	0.042	ND	ND	ND	0.020	0.020	ND	0.02	ND
Copper	mg/L	0.085	0.0022	0.0038	0.0046	0.0125	0.0062	0.0075	0.0125	0.0025
Nickel	mg/L	0.106	0.0035	0.0093	0.0044	0.0455	0.0036	0.0049	0.0455	ND
Selenium	mg/L	0.01889	ND	0.0262	0.0152	0.0	0.00179	0.0263	0.0263	0.0114
Zinc	mg/L	0.375	0.0243	0.0973	0.0859	0.236	0.0825	0.124	0.236	ND

Notes:

1. FGD Yard Sump sample had previously been sampled at a location that commingled with FGD Plant effluent.
New samples were collected directly from the yard sumps.

2. Contact stormwater from the Upper Ash Pond was sampled to best represent future landfill and fly ash silo area contact stormwater

3. As part of TRC interference sampling on 11/2/15 at the FGD Plant chloride concentration was measured as 23,100 mg/L.

Dominion Resource Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
dom.com

RECEIVED PRO
MAY 09 2016

May 5, 2016

Ms. Emilee Adamson
VPDES Permit Manager
Virginia Department of Environmental Quality
Piedmont Regional Office
4949A Cox Road
Glen Allen, Virginia 23060

Subj: Addendum to Application to Modify/Renew Existing VPDES Individual Permit VA0004146 for the Chesterfield Power Station located in Chesterfield County, Virginia

Dear Ms. Adamson:

In accordance with recent discussions, Dominion Virginia Power is submitting the attached addendum to the application to modify existing VPDES individual permit VA0004146 for the Chesterfield Power Station. This addendum provides additional information to update and supplement the VPDES application package submitted on July 20, 2015 and additional information provided since that time.

If you need additional information or have any questions regarding this submittal, please contact Ken Roller at (804) 273-3494 or by email at Kenneth.Roller@dom.com. Thank you for your assistance.

Sincerely,

Paula A. Hamel
Director
Generation Environmental Services

Attachment

Permit Application Sign-Off Sheet

Project/Facility: Chesterfield Power Station

Application/Permit Type: Addendum to VPDES Permit Application Package

The following Permit Team members participated in a comprehensive review of the subject permit application addendum and agree that the addenum is ready for submittal to the applicable agency: **Brian Wright, Chris Gee, Ginger Phelps, and Pat Lee, Generation Construction; Mike Surface, Technical Services; Joshua Bennett and Beverly Wood, Station Operations; Rick Linker and Brooks Smith, Legal; Cathy Taylor, Ken Roller, and Kim Lanterman, Dominion Environmental Services**

On behalf of my organization, I agree that the application is accurate and inclusive and ready for submittal to the applicable permitting agency.

Environmental

Pamela F. Faggert or Designee Signature — Date: 5/5/16

Generation Construction

Mark D. Mitchell or Designee Signature — Date: 5/5/16

Power Generation/Operations

David A. Craymer or Designee Signature — Date: 5/5/16

Addendum to VPDES Permit Application for VPDES Permit VA0004146

Chesterfield Power Station

Chesterfield County, Virginia

May 5, 2016

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Mark D. Mitchell, VP Generation Construction

Name and Official Title

Mark D Mitchell 5/5/16

Signature and Date Signed

Table of Contents

A. Phased Compliance and Design Narrative
B. Update to Analytical Data for Outfall 301
C. FGD WWTP Proposed Sampling Approach
D. Ash Decanting and Dewatering Process
E. Conceptual Engineering Report Permit Language

SECTION A

Low Volume Wastewater Treatment System (LVWWTS)
Phased Compliance and Design Narrative

On July 20, 2015, Dominion submitted an application to address changes in wastewater management at the Chesterfield Power Station that were anticipated as a result of the Station's integrated ash project (IAP), as described below. This application addendum is intended to supplement our earlier application in order to reflect changes to previously proposed wastewater management processes that are necessary given recent regulatory developments.

The IAP is an extensive, multiyear project that is being driven by recently promulgated regulatory requirements that affect almost every aspect of how the Station currently manages wastewaters. The IAP includes the closure of the Lower Ash Pond (LAP) and the Upper Ash Pond (UAP), construction of a Fossil Fuel Combustion Product (FFCP) Management Facility, conversion from a wet to dry ash management system, installation of a new Low Volume Wastewater Treatment System (LVWWTS), and installation of a new wastewater treatment system to remove selenium from the Station's Flue Gas Desulfurization (FGD) waste stream. Closure of the LAP during the conversion from a wet to a dry ash management system will require an alternative process for the management of many wastewaters that are currently directed to the LAP. In addition, operation of the FFCP Management Facility will generate new waste streams that must be effectively managed, and substantial effort will be needed to select, design, construct, and commission new technologies that will be needed in order to comply with stringent technology-based limits on the FGD waste stream.

Following is a description of Dominion's phased strategy that will be implemented as part of the IAP to ensure compliance with the Virginia Pollutant Discharge Elimination System (VPDES) permit, including limits and conditions necessary to implement EPA's revised Steam Electric Power Generating Effluent Guidelines (ELG) for the discharge of low volume wastewater, landfill leachate, FGD wastewater treatment plant (WWTP) effluent, and coal pile runoff from the Chesterfield Power Station. The new LVWWTS will be used to collectively treat these wastewaters. A brief description of each effluent source to the LVWWTS and the effluent discharge location is provided below followed by a discussion of each phase. The project phasing is shown graphically in the diagrams provided in Attachment 1 and a Gantt chart schedule with anticipated milestones in Attachment 2. Lastly, a description of the LVWWTS design flow restrictions is provided.

LVWWTS EFFLUENT SOURCES AND OUTFALLS

As an initial step in the IAP, three new wastewater basins, an equalization (EQ) storage basin, a discharge basin, and a coal pile basin, will be constructed. With the exception of ash sluice water, all effluent sources that currently discharge to the LAP, as well as leachate and contact stormwater from the FFCP Management Facility and stormwater runoff from the fly ash silo storage area, will be routed for treatment through the LVWWTS and proposed internal Outfall 301. These wastewaters are listed below. The listed effluent sources correspond to those shown in the phase diagrams.

1. Coal pile runoff will discharge into a newly constructed coal pile basin and coal pile metals treatment system before discharging through a new internal outfall to the EQ basin and eventually internal Outfall 301.
2. The master sump will discharge directly to the EQ basin and eventually internal Outfall 301.
3. The emergency sump will discharge directly to the EQ basin and eventually internal Outfall 301.

4. The metals pond will discharge through internal Outfall 303 directly to the EQ basin and eventually internal Outfall 301.
5. The Lower Ash Pond toe drain will discharge directly to the EQ basin and eventually internal Outfall 301.
6. The Upper Ash Pond toe drain will discharge directly to the EQ basin and eventually internal Outfall 301.
7. The S-ditch stormwater overflow will discharge directly to the EQ basin and eventually internal Outfall 301.
8. FGD WWTP effluent will discharge through internal Outfall 302. From the internal outfall, it will discharge to the EQ basin and eventually internal Outfall 301. In Phase 3, selenium treatment will be added to the FGD WWTP.
9. FGD yard sumps will discharge directly to the EQ basin and eventually internal Outfall 301.
10. Landfill leachate from the FFCP Management Facility will be collected and discharged through a pipe that will tie into the FGD yard sump discharge pipe prior to discharge into the EQ basin.
11. Landfill contact stormwater will be collected and discharged through a pipe that will tie into the FGD yard sump discharge pipe prior to discharge into the EQ basin.
12. Fly ash silo area stormwater runoff will be collected and discharged through a pipe that will tie into the landfill contact stormwater discharge, which subsequently ties into the FGD yard sump discharge pipe prior to discharge into the EQ basin.

Updated one-line drawings showing proposed routing of wastewater and stormwater flows for the Station in intermediate and final time frames are provided in Attachment 3.

COMPLIANCE SEQUENCING

The compliance sequencing is broken into three phases described in more detail below. The first phase includes development of three basins to provide equalization of discharge streams for flow control, Total Suspended Solids (TSS) and pH treatment, and the ability to conduct representative treatability analyses. The second phase includes implementation of a metals treatment system for coal pile runoff and a possible metals polishing treatment system to treat the discharge between the EQ basin and the discharge basin. The third phase includes completion of the development, construction, and commissioning of the selenium treatment system for the FGD wastewater. Additional detail for each phase is presented below.

Phase 1

The initial phase of the LVWWTS construction will include construction of three basins: coal pile basin, EQ basin, and discharge basin. The basins will be constructed with both a wet volume and a dry volume storage for solids settling, as needed. The wet volume storage provides a continual pool of water to facilitate settling of suspended solids in the effluent. The dry volume storage provides storage of effluent sufficient to contain at least a 25-year, 24-hour storm event.

The coal pile basin will collect runoff from the coal pile and subsequently feed into the metals treatment system described below in Phase 2. The EQ basin will collect the low volume wastewater discharges as described above, with the exception of the coal pile runoff. For an initial intermediate period, the coal pile basin discharge will be directed to the LAP for the purposes of startup and commissioning. The purpose of the EQ basin is to provide moderation of the flows and water quality of the effluent waste streams, which is critical to efficient and reliable treatment of the combined waste streams to the required limits.

The EQ basin will be directed to the discharge basin. The purpose of the discharge basin is to maintain, in conjunction with the EQ basin, a flow below the maximum discharge rate. In addition, the discharge basin allows for the assimilation of treated effluent prior to discharge through internal Outfall 301 to ensure the permit limits are achieved. During commissioning of the Phase 1 systems, temporary connections between the EQ basin and the LAP will allow for the treated effluent from the EQ basin to discharge to the LAP, as needed. Phase 1 is estimated to be complete during Fall 2017.

Phase 2

Phase 2 consists of the design, construction, and commissioning of a coal pile runoff metals treatment system and a polishing metals treatment system, if needed, between the EQ basin and the discharge basin. A metals treatment system will be designed to reduce the concentration of metals within the coal pile runoff. The effluent from this system will be directed to the EQ basin constructed in Phase 1 through a new internal outfall. The design of the coal pile runoff metals treatment system and the location of the new internal outfall for the system will be provided in a Conceptual Engineering Report (CER) that will be prepared and submitted to DEQ.

In addition to the coal pile runoff treatment system, Phase 2 consists of the design and construction of a polishing metals treatment system, if needed, between the EQ basin and the discharge basin. After the coal pile runoff treatment system is commissioned, a treatability study will be conducted on the effluent from the EQ basin to determine if additional metals treatment is required to meet the final permit limits for internal Outfall 301. If required, the polishing metals treatment system will be designed to ensure compliance with the final discharge limits.

Phase 3

Phase 3 includes the construction and commissioning of the selenium removal system at the FGD WWTP. A treatability study will be conducted and a CER prepared and submitted to DEQ for review. The selenium treatment system will be constructed and commissioned by Spring 2022. Dominion's justification for the proposed date for applicability of the FGD ELGs was provided to DEQ by email on January 5, 2016 and is included as Attachment 4.

FLOW RESTRICTIONS

The design of the LVWWTS includes three flow restrictions that are described below.

- The LVWWTS will be designed to discharge no more than 6 million gallons per day (MGD). A maximum flow through the LVWWTS during a 25-year, 24-hour storm event is estimated to be 13.7 MGD. In order to maintain a flow below the maximum discharge rate, a minimum equalization volume of approximately 8 million gallons will be required to store the excess effluent volume from one day of maximum flow and allow for discharge of flows below 6 MGD. The LVWWTS will provide sufficient storage volume during maximum flow events through the use of the EQ basin and discharge basin described above.
- Internal Outfall 301 is a diffuser located in the thermal channel, and the thermal channel flow will be maintained at a minimum of 57.28 MGD. A narrative describing the minimum circulating water flow is provided in Attachment 5.
- Dominion will maintain zero discharge from Outfall 301 during periods when the thermal channel flows are less than 57.28 MGD. While these instances are very rare, the LVWWTS will be designed to provide sufficient storage in a zero discharge event.

Attachment 1

Compliance Sequence Phase Diagrams

LEGEND

Temporary Connection for Testing and Commissioning

LVWWTS Compliance Sequence Phase 1

Estimated Completion Fall 2017

- Construct Coal Pile Runoff Pond as designed.
- Localized pH adjustment is included in the original design.
- Temporary Connection for Commissioning purposes.
- Redirect ALL remaining existing flows, excluding Ash Sluice Lines from LAP to EQ Storage Pond.
- Make provisions for Pump Lift Station to discharge to future Metals Treatment System.
- Temporary Connection for Commissioning purposes.
- Tie-In Leachate into EQ Storage Pond once LVWWTS is in Operation and discharged to Outfall 301.

Coal Pile Runoff (1) → Existing LAP → 004

(2) Master Sump

(3) Emergency Sump

Metals Pond (4) → 303

(5) Lower Ash Pond - Toe Drain System
* In service date: Spring 2018

(6) Upper Ash Pond - Toe Drain System
* In service date: Fall 2018

(7) S-Ditch Storm Water

(8) Landfill Leachate
* In service date: Fall 2017

FGD Waste Water Treatment Plant (WWTP) — FGD WWT Discharge (9) → 302

(10) FGD Yard Sump

(11) Fly Ash Silo Area
* In service date: Fall 2017

(12) Landfill Contact Storm Water
* In service date: Fall 2017

(2), (3), (4), (5), (6), (7), (8), (10), (11), (12) → EQ Storage Basin

EQ Storage Basin → Discharge Basin → 301 → 003 Thermal Channel

EQ Storage Basin → Existing LAP → 004

Centralized Source Water Treatment System (CSWTS)

LAP → 004

Centralized Source Water Treatment System

Water Treatment System
- pH Neutralization
- Gross TSS Removal
- Metals Removal

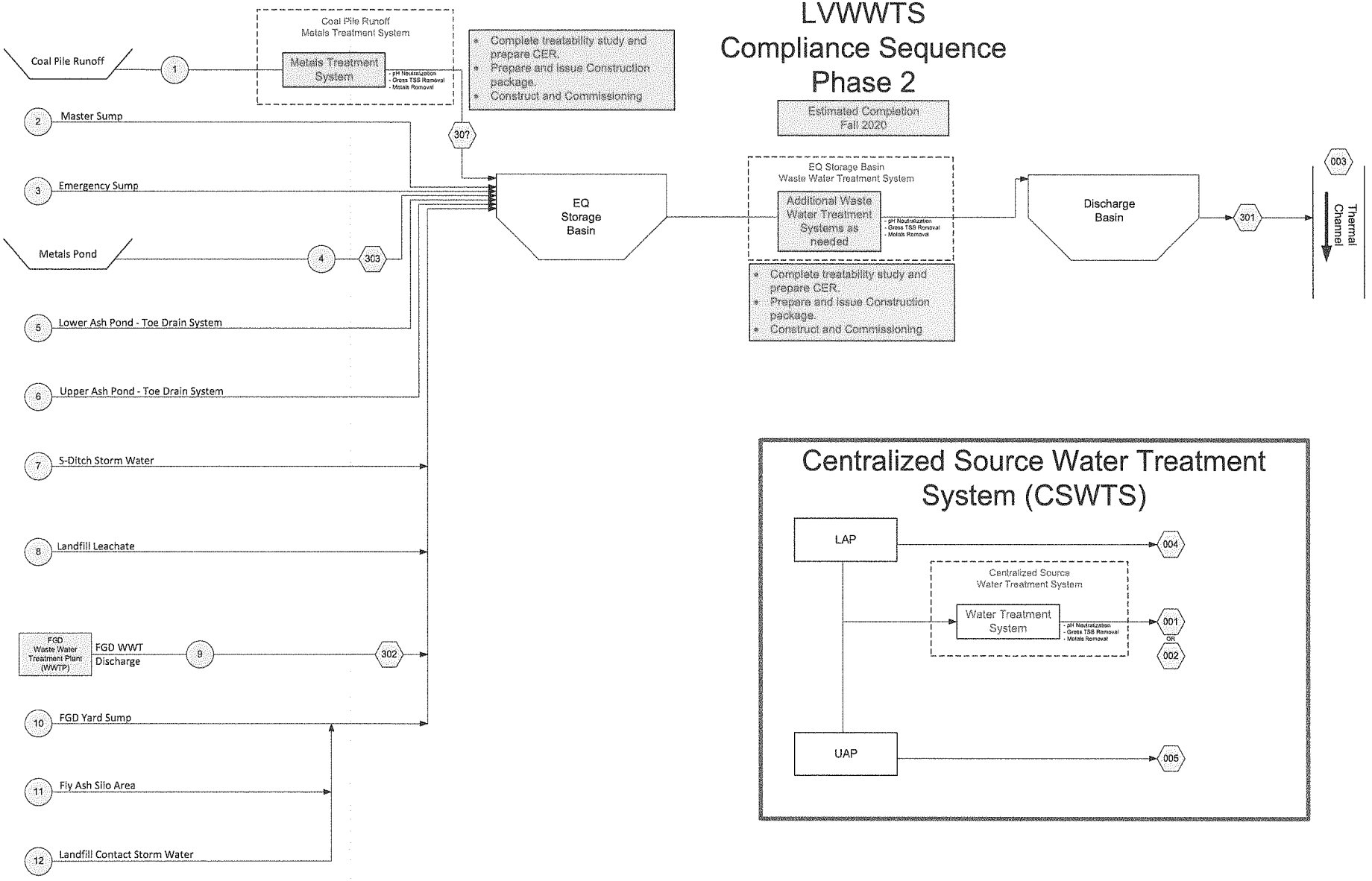
→ 001 OR 002

- Complete treatability study and prepare CER.
- Prepare and issue Construction package.
- Construct and Commissioning

UAP → 005

Dominion	VIRGINIA ELECTRIC & POWER COMPANY DOMINION VIRGINIA POWER		
	CHIAP LVWWTS – CSWTS – FGD WWTP Compliance Sequence – Phase 1		
DRAWN BY: CHRIS NUNN	SIZE	PROJECT NO. CHIAP	DRAWING NUMBER LVWWTS-CSWTS-FGD WWTP-Phase 1 / REV 0
ISSUED: 05/03/2016	SCALE NONE		SHEET 1 OF 3

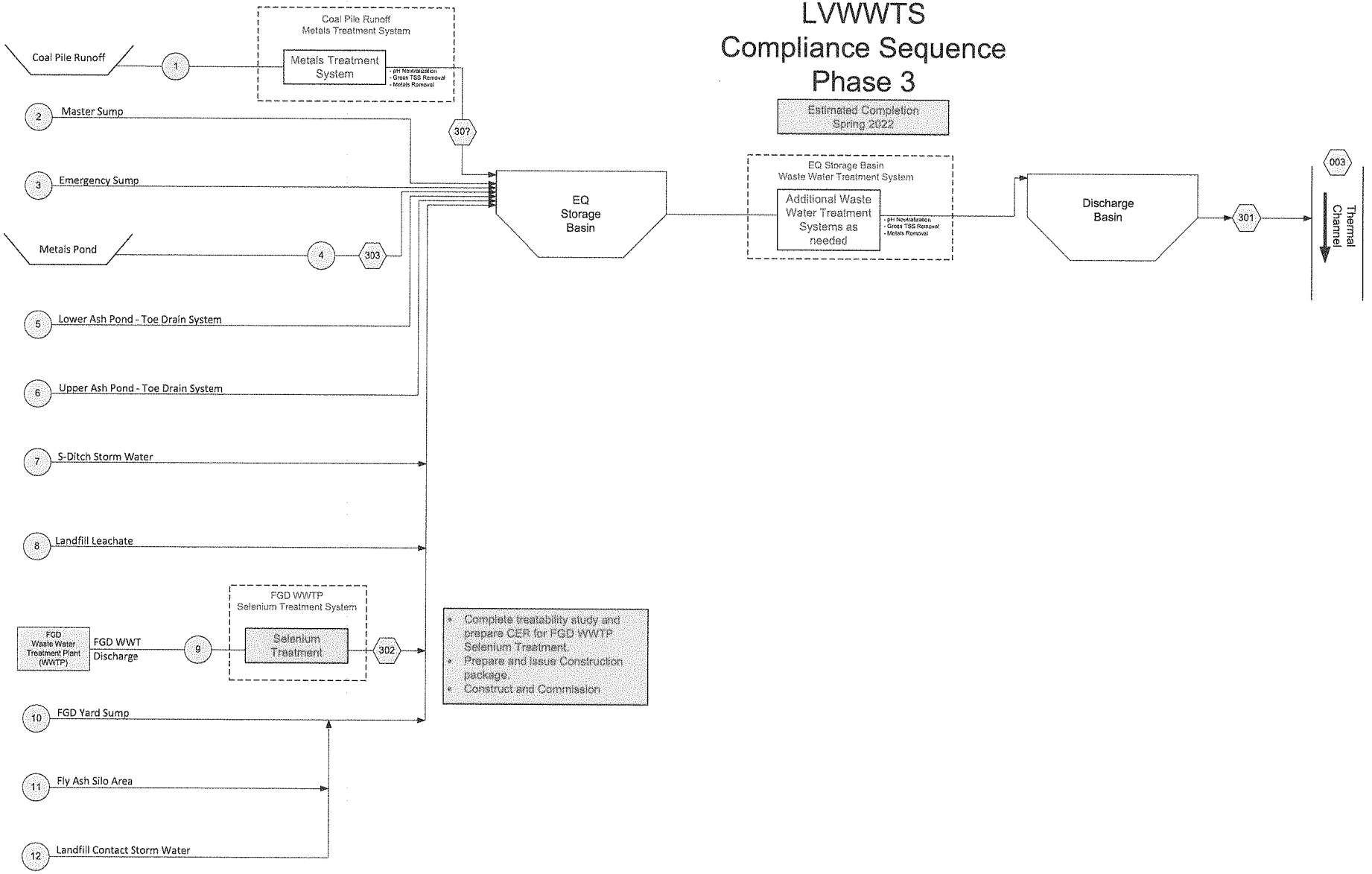
LVWWTS Compliance Sequence Phase 2



Centralized Source Water Treatment System (CSWTS)

Dominion	VIRGINIA ELECTRIC & POWER COMPANY DOMINION VIRGINIA POWER		
	CHIAP LVWWTS – CSWTS – FGD WWTP Compliance Sequence – Phase 2		
DRAWN BY: CHRIS NUNN	SIZE	PROJECT NO. CHIAP	DRAWING NUMBER LVWWTS-CSWTS-FGD WWTP-Phase 2 / REV 0
ISSUED: 05/03/2016	SCALE NONE		SHEET 2 OF 3

LVWWTS Compliance Sequence Phase 3

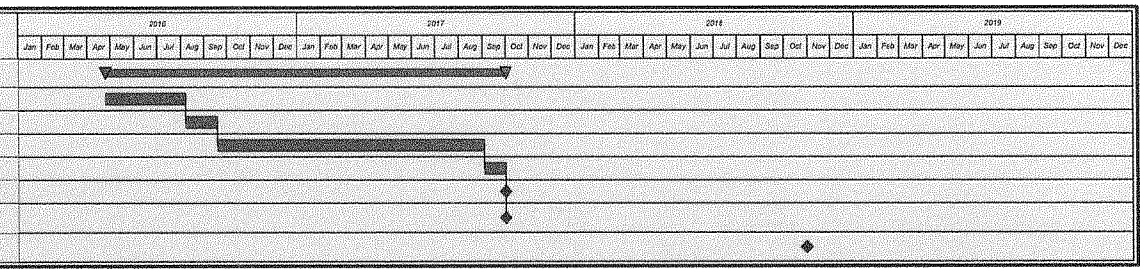


Dominion	VIRGINIA ELECTRIC & POWER COMPANY DOMINION VIRGINIA POWER			
	CHIAP LVWWTS – CSWTS – FGD WWTP Compliance Sequence – Phase 3			
DRAWN BY: CHRIS NUNN	SIZE	PROJECT NO. CHIAP	DRAWING NUMBER LVWWTS-CSWTS-FGD WWTP-Phase 3	REV 0
ISSUED: 05/03/2016	SCALE NONE		SHEET 3 OF 3	

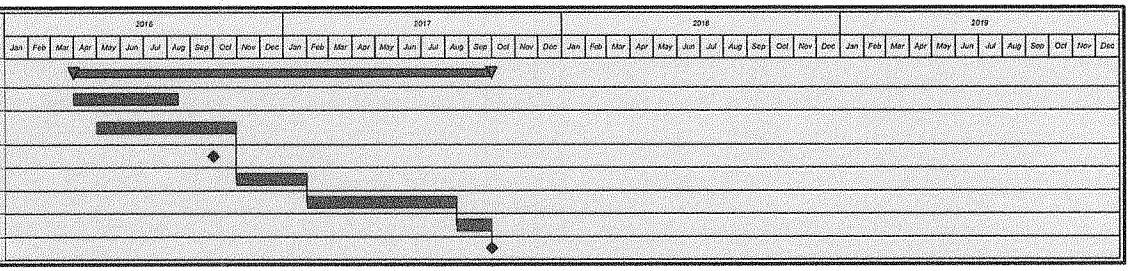
Attachment 2

Gantt Chart Schedules

ID	Task Name	Start	Finish	Duration
1	**LVWWTS – Phase 1 (Coal Pile Runoff, EQ Basin, Redirect Influent Lines, Discharge Basin)**	**4/25/2016**	**10/2/2017**	75w
2	Complete Engineering and Design (Update Construction Package)	4/25/2016	8/7/2016	15w
3	Bidding and Contractor Procurment	8/8/2016	9/18/2016	6w
4	Construction	9/19/2016	9/3/2017	50w
5	Commissioning	9/4/2017	10/1/2017	4w
6	Complete	10/2/2017	10/2/2017	0w
7	Cessation of Influents to LAP (Excluding Intermittent flow of Coal Pile Runoff)	10/2/2017	10/2/2017	0w
8	CCR Compliance Date	10/31/2018	10/31/2018	0w



ID	Task Name	Start	Finish	Duration
1	**Centralized Source Water Treatment System (CSWTS) – Phase 1 (Dewatering/Decanting System)**	**4/1/2016**	**10/1/2017**	**78.29w**
2	Treatability Study / Treatment Technology Selection	4/1/2016	8/15/2016	19.57w
3	Engineering and Design (CER, Performance Specification, Construction Package)	5/1/2016	10/30/2016	26.14w
4	Submit CER to DEQ	10/1/2016	10/1/2016	0w
5	Bidding and Contract Negotiation by RECON	10/31/2016	1/31/2017	13.29w
6	Construction	2/1/2017	8/15/2017	28w
7	Commissioning	8/16/2017	9/30/2017	6.57w
8	Completion (Start Decant/Dewatering Process)	10/1/2017	10/1/2017	0w



These dates and durations are estimated. While Dominion is committed to completing the project work as indicated above, permitting, engineering development, and operational conditions may affect the actual dates and durations.

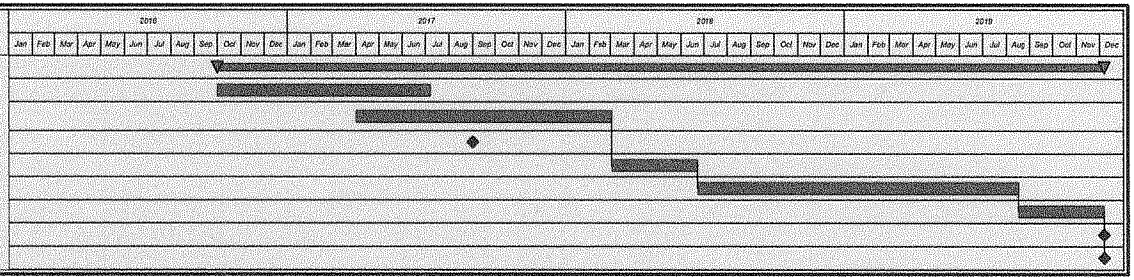
Dominion

VIRGINIA ELECTRIC & POWER COMPANY
DOMINION VIRGINIA POWER

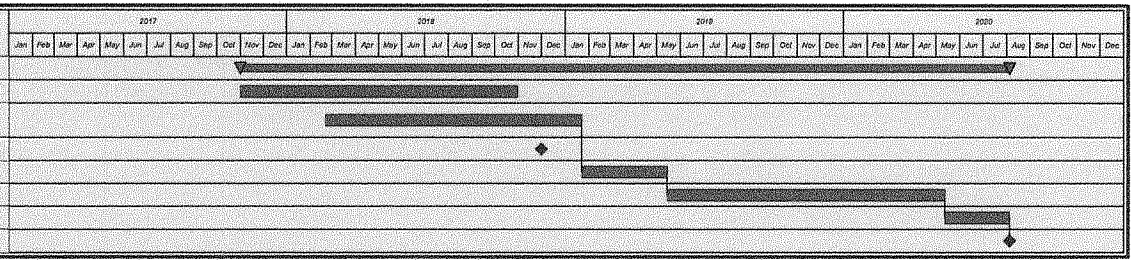
CHIAP
LVWWTS – CSWTS – FGD WWTP
Gantt Charts – Phase 1

DRAWN BY:	SIZE	PROJECT NO.	DRAWING NUMBER	REV
CHRIS NUNN		CHIAP	LVWWTS-CSWTS-FGD WWTP-Gantt - Phase 1	0
ISSUED: 05/03/2016	SCALE NONE		SHEET 1 OF 3	

ID	Task Name	Start	Finish	Duration
1	**LVWWTS – Phase 2 (Coal Pile Runoff – Metals Treatment)**	**10/1/2016**	**12/7/2019**	**166w**
2	Treatability Study / Technology Selection	10/1/2016	7/7/2017	40w
3	Engineering and Design (CER, Performance Specification, and Construction Package)	4/1/2017	3/2/2018	48w
4	Submit CER to DEQ	9/1/2017	9/1/2017	0w
5	Bidding and Contractor Procurement	3/3/2018	6/22/2018	16w
6	Construction	6/23/2018	8/16/2019	60w
7	Commissioning	8/17/2019	12/6/2019	16w
8	Completion	12/7/2019	12/7/2019	0w
9	Cessation of ALL Influents to LAP	12/7/2019	12/7/2019	0w



ID	Task Name	Start	Finish	Duration
1	**LVWWTS – Phase 2 (EQ Storage Basin – Metals Treatment)**	**11/1/2017**	**8/5/2020**	**144w**
2	Treatability Study and Technology Selection	11/1/2017	10/30/2018	52w
3	Engineering and Design (CER, Performance Specification, and Construction Package)	2/21/2018	1/22/2019	48w
4	Submit CER to DEQ	12/1/2018	12/1/2018	0w
5	Bidding and Contractor Procurment	1/23/2019	5/14/2019	16w
6	Construction	5/15/2019	5/12/2020	52w
7	Commissioning	5/13/2020	8/4/2020	12w
8	Complete	8/5/2020	8/5/2020	0w



These dates and durations are estimated. While Dominion is committed to completing the project work as indicated above, permitting, engineering development, and operational conditions may affect the actual dates and durations.

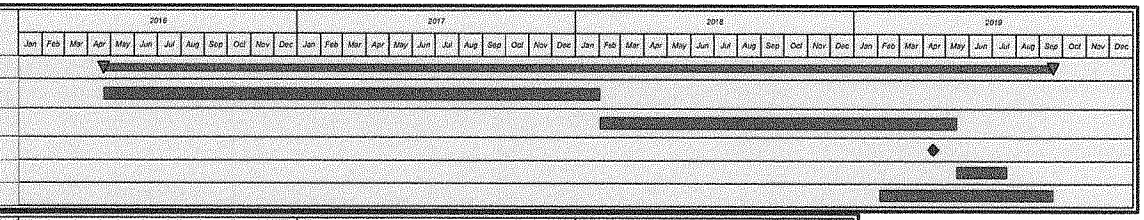
Dominion

VIRGINIA ELECTRIC & POWER COMPANY
DOMINION VIRGINIA POWER

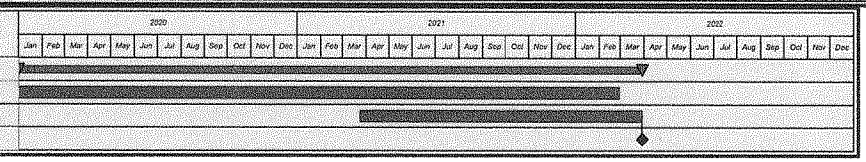
CHIAP
LVWWTS – CSWTS – FGD WWTP
Gantt Charts – Phase 2

DRAWN BY:	SIZE	PROJECT NO.	DRAWING NUMBER	REV
CHRIS NUNN		CHIAP	LVWWTS-CSWTS-FGD WWTP-Gantt - Phase 2	0
ISSUED: 05/03/2016	SCALE NONE		SHEET 2 OF 3	

ID	Task Name	Start	Finish	Duration
1	**FGD WWTP – Phase 3 (Selenium Treatment at FGD WWTP)**	**4/22/2016**	**9/18/2019**	**177.86w**
2	Treatment Technology Selection (Treatability Study and Pilot Plant)	4/22/2016	2/1/2018	93w
3	Engineering and Design (CER and Performance Specifications)	2/2/2018	5/15/2019	66.86w
4	Submit CER to DEQ	4/15/2019	4/15/2019	0w
5	Permitting	5/16/2019	7/19/2019	9.29w
6	Bidding and Contractor Procurement	2/4/2019	9/18/2019	32.43w



ID	Task Name	Start	Finish	Duration
1	**FGD WWTP – Phase 3 (Selenium Treatment at FGD WWTP)**	**1/1/2020**	**3/30/2022**	**117w**
2	Construction	1/1/2020	2/27/2022	112.71w
3	Commissioning	3/24/2021	3/29/2022	53w
4	Complete	3/30/2022	3/30/2022	0w

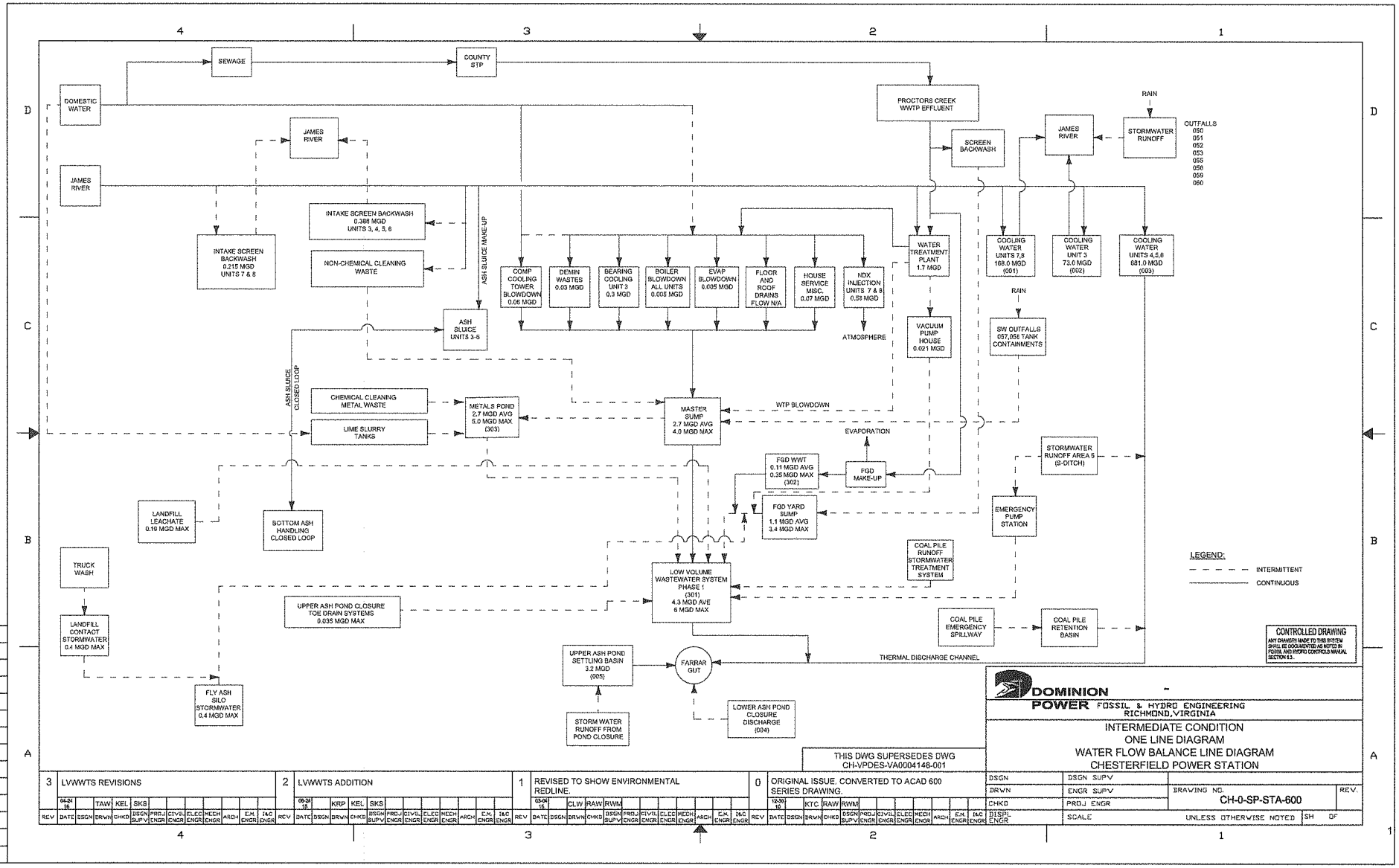


These dates and durations are estimated. While Dominion is committed to completing the project work as indicated above, permitting, engineering development, and operational conditions may affect the actual dates and durations.

Dominion	VIRGINIA ELECTRIC & POWER COMPANY DOMINION VIRGINIA POWER		
	CHIAP LVWWTS – CSWTS – FGD WWTP Gantt Charts – Phase 3		
DRAWN BY: CHRIS NUNN	SIZE	PROJECT NO. CHIAP	DRAWING NUMBER LVWWTS-CSWTS-FGD WWTP-Gantt - Phase 3 / REV 0
ISSUED: 05/03/2016	SCALE NONE		SHEET 3 OF 3

Attachment 3

Updated One-Line Diagrams



THIS DWG SUPERSEDES DWG CH-VPDES-VA0004146-001

DOMINION POWER FOSSIL & HYDRO ENGINEERING RICHMOND, VIRGINIA

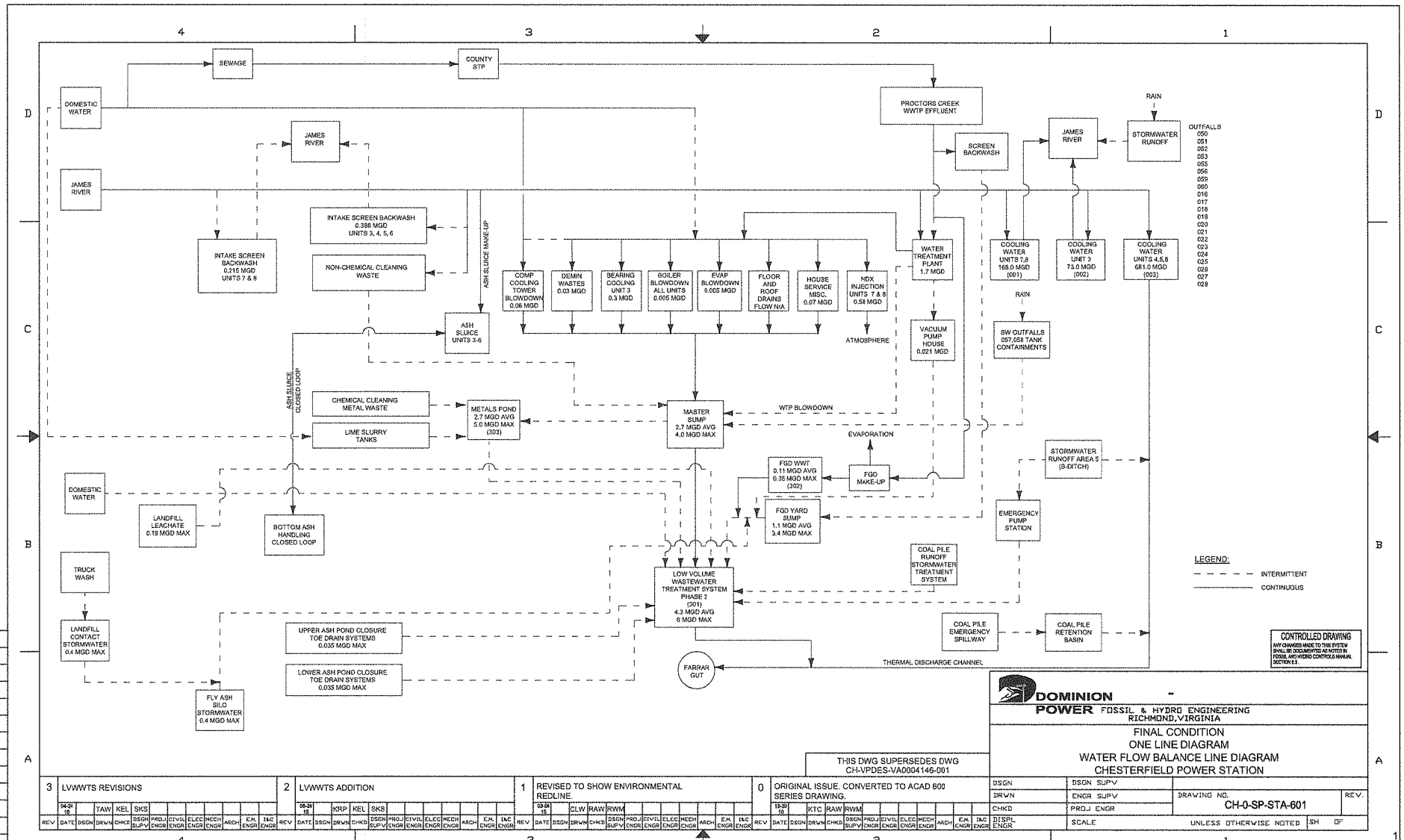
INTERMEDIATE CONDITION ONE LINE DIAGRAM WATER FLOW BALANCE LINE DIAGRAM CHESTERFIELD POWER STATION

REV	DESCRIPTION	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
3	LVWWTS REVISIONS	04-24-16		TAW	KEL	SKS							
2	LVWWTS ADDITION	06-28-16		KRP	KEL	SKS							
1	REVISED TO SHOW ENVIRONMENTAL REDLINE.	03-04-16		CLW	RAW	RWM							
0	ORIGINAL ISSUE. CONVERTED TO ACAD 600 SERIES DRAWING.	12-30-10		KTC	RAW	RWM							

DSGN	DSGN SUPV
DRWN	ENGR SUPV
CHKD	PROJ ENGR
DISPL ENGR	SCALE UNLESS OTHERWISE NOTED

DRAWING NO. CH-0-SP-STA-600 REV.

SH DF



REV	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
3	04-21-16		TAW	KEL	SKS							
2	05-21-15		KRP	KEL	SKS							
1	03-06-15		CLW	RAW	RWM							
0	12-30-13		KTC	RAW	RWM							

3 LVWWTS REVISIONS

2 LVWWTS ADDITION

1 REVISED TO SHOW ENVIRONMENTAL REDLINE.

0 ORIGINAL ISSUE. CONVERTED TO ACAD 600 SERIES DRAWING.

THIS DWG SUPERSEDES DWG CH-VPDES-VA0004146-001

DOMINION POWER FOSSIL & HYDRO ENGINEERING RICHMOND, VIRGINIA

FINAL CONDITION
ONE LINE DIAGRAM
WATER FLOW BALANCE LINE DIAGRAM
CHESTERFIELD POWER STATION

DSGN	DSGN SUPV	DRAWING NO.	REV.
DRWN	ENGR SUPV	CH-0-SP-STA-601	
CHKD	PROJ ENGR		
DISPL ENGR	SCALE	UNLESS OTHERWISE NOTED	SH OF

Attachment 4

Dominion Chesterfield Power Station
Proposed Date for Applicability of FGD Wastewater ELG Limits

In response to 40 CFR 423.13, Final Effluent Limitations Guidelines and Standards for the Steam Electric Generating Industry (ELG Rule), Dominion is providing information for consideration in establishing an applicability date by which the Chesterfield Power Station will be required to meet the limits for pollutants in the flue gas desulfurization (FGD) waste stream. The ELG Rule establishes Best Available Technology (BAT) limits for FGD wastewater with an applicability date "as soon as possible beginning November 1, 2018, but no later than December 31, 2023". The ELG Rule recognizes that a facility's ability to comply with the limits can be affected by a number of factors and, therefore, establishes criteria for a permitting authority to establish a date later than November 1, 2018 (40 CFR 423.11, definition of "as soon as possible").

Dominion has been evaluating potential compliance options since the rule's initial proposal in 2013. Attached is a preliminary schedule (Major Category Schedule) prepared by Arcadis, the engineering company that has been assisting Dominion with the preliminary technology evaluation, to develop, procure, install, and commission a treatment technology to meet the new ELG wastewater limits for the FGD discharge. We request an applicability date for the new FGD ELG wastewater limits of March 29, 2022 be included in the reissued VPDES permit for the Chesterfield Power Station. This proposed schedule was developed so that the FGD discharge can comply with the new ELG limits as soon as possible, while providing sufficient time for Dominion to fully evaluate, select, procure, install, and commission a new treatment technology that will consistently meet the ELG limits. Dominion is providing information on each of the following factors identified in the ELG Rule to support the proposed schedule:

1) Time to expeditiously plan (including to raise capital), design, procure, and install equipment to comply with the requirements of this part.

Dominion has been evaluating compliance options for the new FGD wastewater limitations since the initial Rule was proposed in 2013, including a two-phased evaluation of compliance options. The FGD wastewater limits in the Final ELG Rule are based on chemical precipitation followed by biological treatment. Compliance with these limits will require optimization of the Station's existing treatment technology along with the implementation of additional treatment technologies. Plants with the preferred technology used by EPA to set the new FGD wastewater limits have indicated to EPA they cannot meet new limits under all conditions and other technologies are currently under development by vendors and industry. These two factors significantly affect our design process and timing. Additionally, the EPA-preferred technology is supplied by one vendor for the entire country which affects procurement and start-up resources if Dominion moves forward with that approach. Our schedule includes reasonable milestones that reflect these contingencies.

The attached Major Category Schedule divides the completion of a compliance technology into five categories: Treatment Technology Selection, Engineering Design, Bidding and Contractor Procurement, Construction, and Treatment Technology Commissioning. The Treatment Technology Selection process will require pilot studies to work out design issues associated with current technology limitations. Engineering Design and Construction will need to be completed after the new Low Volume Wastewater Treatment System and landfill are operational.

2) Changes being made or planned at the plant in response to

   i. regulations that address the disposal of coal combustion residuals as solid waste, under sections 1006(b), 1008(a), 2002(a), 3001, 4004, and 4005(a) of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. 6906(b), 6907(a), 6912(a), 6944, and 6945(a).

3) Dominion is in the process of significant changes at the Station to comply with the CCR Rule and the ELG Rule, including conversion of the current wet fly ash management system to a dry system, conversion to a closed cycle system for handling bottom ash, closure of the Lower and Upper Ash Ponds, construction of a new captive industrial landfill, and the installation of a new Low Volume Wastewater Treatment System to replace the Lower Ash Pond. Ash pond closure and new ash landfill construction work will continue for approximately 2 years with a high level of site activity. The new Low Volume Wastewater Treatment System and ash disposal systems will need to be constructed and commissioned, affecting Station resources, prior to installation of the new FGD treatment technology. Additionally, the existing FGD wastewater treatment system will have to be coordinated with new Station processes and the exact response of the system to the new processes will not be known until these new processes are operational. For FGD wastewater requirements only, an initial commissioning period for the treatment system to optimize the installed equipment is required.

The Final ELG Rule and supporting documents discuss in detail the need for time to properly commission a biological wastewater treatment technology to meet the FGD ELG limits. A full year of commissioning will be needed at Chesterfield to address seasonal performance (changing temperature conditions), the impact of intermittent unit shutdowns during certain times of year (typically Spring and Fall), and any potential influence of changing coal supplies on constituent concentrations in the FGD purge water.

Based on discussions with DEQ, we understand the agency has concerns establishing a date to achieve the FGD limits that is later than the expiration date of the permit. It is important to point out that the ELG Rule directs the permitting authority to identify the date when the new limitations will "apply" to a permittee given that the limitations are based on technologies that EPA has determined are not currently available. The date is not a "compliance schedule", because the technology is not readily available and achievable. EPA discusses the issue of timing for applicability in the ELG Response to Comments, pp. 8-128 to 8-129 (language attached). As these responses make clear, EPA contemplates applicability dates that extend beyond the permit term, and in the preamble (pg. 67883) explains that setting the date in the permit will ensure that the date will be met even if the permit is administratively continued. Additionally, since setting a limit applicability date is not establishing a "compliance schedule" for a water-quality based effluent limitation, State Water Control Board Regulations that limit "compliance schedules" to the five year permit term do not apply in this case.

In summary, as allowed under the ELG Rule, Dominion proposes a date of March 29, 2022 to achieve the new ELG FGD wastewater limits. We are providing the attached Major Category Schedule to support this date. Additionally, we propose that the permit include semi-annual reporting on progress towards the milestones included in the attached schedule.

ELG Response to Comments (EPA-HQ-OW-2009-0819-6469), pp. 8-128 to 8-129.

While the commenter understandably wants these limitations to be achieved right away, the changes at facilities that have not yet employed the technologies that serve as the bases for the final limitations (or other technologies that achieves the limitations) will take time. The time provided for in the rule allows the permitting authority to account for time the facility needs to coordinate all the requirements of this rule, along with other regulatory requirements, to make the correct planning and financing decisions, and to implement the new requirements in an orderly and feasible way. While the time period of no later than 2023 seems protracted in 2015, given the extent of the capital expenditure and the complexity of these facilities, it is reasonable.

EPA disagrees that the implementation period in the final rule is inconsistent in any way with the Clean Water Act. As explained in the preamble, the final rule establishes effluent limitations applicable to the discharge of pollutants from the steam electric power generating industry based on Best Available Technology Economically Achievable. In some cases, the rule establishes limitations that are based on technologies that are available as of the date of this final rule and thus must be met by a given plant immediately once incorporated into its NPDES permit. In other cases, the rule establishes limitations based on technologies that EPA determined are not available until at least November 1, 2018 (for reasons explained in preamble section VIII.C.7). For these limitations, EPA also determined that the technologies are available for every plant by December 31, 2023. In other words, the implementation period in the final rule ("as soon as possible beginning November 1, 2018, but no later than December 31, 2023") tracks when, in EPA's judgment, certain technologies represent Best Available Technology Economically Achievable, it is not [a] "compliance schedule" for meeting limitations based on a technology that is already available and achievable. EPA further determined that the permitting authority is in the best position to decide exactly when within that implementation period particular technologies are available for plants, in light of a consideration of certain factors that EPA has judged are relevant to the inquiry. See 40 CFR 423.11(t).

Dominion Resources

Chesterfield FGD (ELG) Wastewater Treatment

Major Category Schedule 12.08.15

Category Name and Tasks	Start	Finish
Treament Technology Selection	**Mon 7/29/13**	**Thu 9/21/17**
Technology Screening and shortlist		
Pilot Program Plan Development		
Operate Pilot Unit(s)		
Treatment Technology Selection		
Treatment Technology CER and Submit to DEQ		
Engineering Design	**Fri 2/2/18**	**Thu 6/27/19**
30% design package		
60% design package		
90% design package		
Issue For Bid and Local Permitting Packages		
Bidding and Contractor Procurement	**Mon 3/18/19**	**Wed 10/30/19**
Prebid meeting(s) and bids submittal		
Contractor selection		
Contract documents and negotiation		
Notice to Proceed		
Construction	**Thu 9/12/19**	**Tue 3/23/21**
Issue For Construction Package		
Site Mobilization/Layout		
Site work (E&S, Clearing, Excavation)		
Building Construction		
Treatment Technology manufacture, deliver, and install		
Substantial Completion Activities		
Treatment Technology Commissioning	**Wed 3/24/21**	**Tue 3/29/22**

Attachment 5

Outfall 003 Minimum Circulating Water Flow Below Which No Discharge from the Low Volume Waste Water Treatment System Would Occur

The once-through cooling water that contributes to Outfall 003 originates from pumps associated with generating Units 4, 5 and 6 at the Chesterfield Power Station. The cooling water for each unit is provided by the Station's circulating water system, which supplies cooling water for condensers and heat exchangers that are required when the generating units are starting up, operating, or shutting down. In addition, water taken from the Units 4, 5 and 6 circulating water system also supplies the following Station common equipment regardless of whether the units are operating:

1. Seal water for all 5 pumps at the master sump. The master sump collects blowdown for all 6 units at Chesterfield, water treatment waste streams and floor drains, rain fall for the unit's outside perimeter, and all internal Station drains. Therefore, the seal water is always required to be available so the master sump pumps can operate.
2. Back up to the fire system – If the fire pumps become unavailable or cannot keep desired header pressure on the fire system piping, there is a control valve that would allow circulating water to supply that water and maintain required pressure.
3. Back up feed to water treatment – If the raw water pumps are not available to supply water to the clarifier in the Station's water treatment plant, the circulating water is designed to be the back-up supply to run the plant.
4. Back up feed to Station air compressors.

The Station continuously runs at least one of the Units 4, 5, or 6 circulating water pumps in order to sustain operation and reliability of the unit common equipment, even if the units are not online. The circulating water system for Unit 3, which discharges to the James River through Outfall 002, may also be used to supply the above equipment if circulating water from Units 4, 5, or 6 is not available. However, the use of Unit 3 circulating water for this purpose is an extremely rare event and occurred on only five (5) days over the past 10 years during a brief period in November 2010 when Units 4, 5 and 6 were undergoing overlapping outages.

The Unit 4 circulating water pump operates at a daily flow rate of 57.28 MGD, which is the lowest flow for any of the Units 4, 5 and 6 circulating water pumps. Examination of the daily Outfall 003 flow records for the past 10 years shows that, with the exception of eight days, the lowest daily flow was 57.28 MGD. Of the eight days with lower flows, five days with zero (0) flow occurred during the November 2010 period noted above when Units 4, 5, and 6 were undergoing overlapping outages and Unit 3 circulating water was used to supply the station common equipment. The remaining three (3) days with flows less than 57.28 MGD occurred during brief periods when Units 4, 5, and 6 were all offline and one circulating water pump ran for less than 24 hours.

Based on the above, a daily flow of 57.28 MGD represents a reasonable, process-driven, minimum flow for Outfall 003 below which Dominion can commit to no discharge from the planned Low Volume Waste Water Treatment System.

SECTION B

Update to Analytical Data Submitted with Original VPDES Permit Modification Application (the Application) for Internal Outfall 301

In order to present the most accurate and representative flow data for the Low Volume Wastewater Treatment System (LVWWTS) and the analytical data associated with those flows, Dominion conducted additional sampling on some of the existing sources. The additional sampling was completed to more accurately reflect the estimated flows and concentrations of constituents that will ultimately discharge to the LVWWTS, which will then discharge through internal Outfall 301. Table 1 provides the new sampling results and the predicted maximum Outfall 301 concentrations. The rationale for each new sampling event and associated sampling location is provided below.

- **FGD Wastewater Treatment Plant**
  The concentration of chlorides (9,600 mg/l) for this source provided in the original application seemed anomalous given the higher chloride concentrations typically associated with this wastewater source. Consequently, on November 2, 2015, Dominion re-sampled process water directly from the FGD WWTP for chlorides, under worse case conditions, and the analytical results showed a chloride concentration of 23,100 mg/l. This value was used in all subsequent calculations provided with this application addendum.

- **FGD Yard Sumps**
  The sample collected to represent this source in our original application was collected from a location where all three FGD yard sumps and the FGD WWTP effluent combine. This suggested that the sample may not be representative of the FGD Yard Sumps because of the potential for comingling with residual FGD WWTP effluent. New samples of the FGD Yard Sump effluents were collected directly from the three yard sumps, representing both wet and dry weather flows. The maximum concentrations of each parameter measured in the FGD Yard sumps were used in all subsequent analysis.

- **Upper Ash Pond Contact Stormwater**
  Upon further review of the flows that will be directed to the LVWWTS, it was determined that contact stormwater from the Upper Ash Pond should be sampled to best represent future landfill and fly ash silo area contact stormwater. In the original VPDES modification application submitted on July 20, 2015, this source was not sampled. On April 7, 2016, Dominion collected samples of the Upper Ash Pond contact stormwater. These samples were analyzed for key parameters and the results and estimated flows were included in the most recent analysis.

Table 1: Summary of Additional Analytical Data and Predicted Concentrations

		Maximum Predicted Outfall 301 Concentration (mg/l)	FGD Yard Sump[1]							Contact Stormwater[2]
			Dry Weather			Wet Weather			Maximum Concentration	
			Yard Sump 1	Yard Sump 2	Yard Sump 3	Yard Sump 1	Yard Sump 2	Yard Sump 3		
Ammonia as N	mg/L	1.795	0.66	ND	0.12	ND	0.74	ND	0.74	ND
Cadmium	mg/L	0.00138	ND	ND	ND	0.281	ND	ND	0.281	ND
Chloride	mg/L	1286	85.3	116	171	133	52.3	204	204	ND
Chromium (Hexavalent)	mg/L	0.042	ND	ND	ND	0.020	0.020	ND	0.02	ND
Copper	mg/L	0.085	0.0022	0.0038	0.0046	0.0125	0.0062	0.0075	0.0125	0.0025
Nickel	mg/L	0.106	0.0035	0.0093	0.0044	0.0455	0.0036	0.0049	0.0455	ND
Selenium	mg/L	0.01889	ND	26.2	15.2	19.0	1.79	26.3	26.3	11.4
Zinc	mg/L	0.375	0.0243	0.0973	0.0859	0.236	0.0825	0.124	0.236	ND

Notes:

1. FGD Yard Sump sample had previously been sampled at a location that commingled with FGD Plant effluent.

New samples were collected directly from the yard sumps.

2. Contact stormwater from the Upper Ash Pond was sampled to best represent future landfill and fly ash silo area contact stormwater

3. As part of TRC interference sampling on 11/2/15 at the FGD Plant chloride concentration was measured as 23,100 mg/L.

SECTION C

FGD WWTP Discharge Proposed 24-hour Composite Sampling Approach During Period Prior to ELG Applicability Date

There are two Flue Gas Desulfurization (FGD) units that operate at the Chesterfield Power Station. One FGD treats flue gases generated by Units 3, 4, and 5 and the second FGD treats flue gases produced by Unit 6. The amount of wastewater generated by the two FGD units is directly related to the number of units operating during any given period and to the sulfur content of the coal being burned by the operating units. Wastewaters produced by both FGD units are directed to a single equalization (EQ) tank where they are stored until sufficient wastewater has collected to warrant treatment. Once sufficient wastewater has accumulated in the EQ tank, pumps are engaged and the wastewater is transferred to the FGD wastewater treatment plant (WWTP) for treatment and discharge to the Lower Ash Pond. The current sampling point for the WWTP discharge, prior to comingling with any other wastewaters, is a sample tap located in the piping just upstream from the discharge pumps of the effluent tank.

Examination of the 2015 hourly flow data for the FGD WWTP shows that not all discharges from the WWTP last for a period of 24-hours. For example, during January 2015, there were 14 periods during which the discharge from the FGD WWTP was initiated and subsequently stopped. The length of these discharges ranged from 8 to 110 hours, with four of the discharges lasting less than 24 hours. Similarly, during May 2015, there were 13 days during which discharge from the FGD WWTP was initiated and subsequently stopped. The length of these discharges ranged from 8 to 89 hours, with eight of the discharges lasting less than 24 hours.

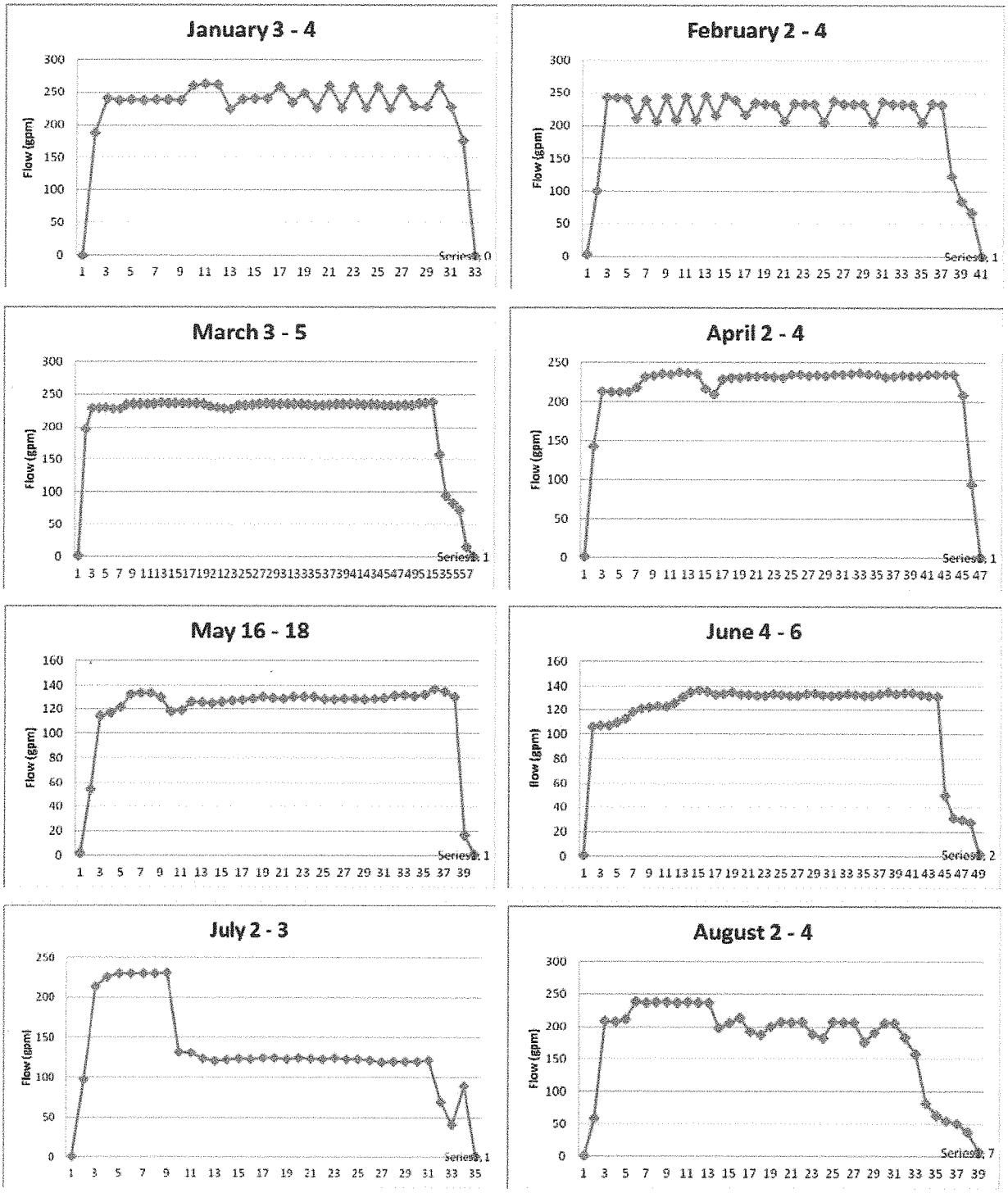
The hourly flow data for the FGD WWTP also show that effluent flows level off approximately one hour following the initiation of discharge, and typically remains stable for the remainder of the discharge period. Figure 1 shows representative periods of discharge for each month during 2015.

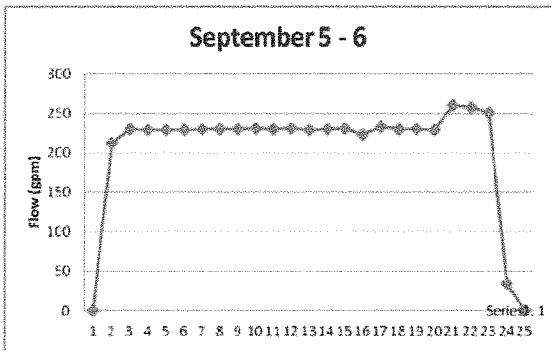
Given the above, Dominion proposes the following protocol for collection of 24-hour composite samples from the FGD WWTP.

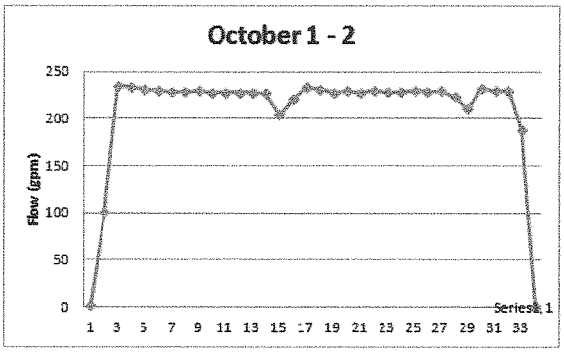
1. Sampling will be performed during a period when the FGD WWTP is expected to discharge for greater than 24 hours.
2. Two grab samples will be collected over a 24-hour period following the initiation of the discharge from the FGD WWTP.
3. The first sample will be collected no earlier than one hour and no later than 13 hours following the start of discharge.
4. The second sample will be collected no earlier than 13 hours and no later than 25 hours following the start of discharge.
5. There will be a minimum of eight (8) hours between the two samples.
6. WWTP discharge flow will be recorded during the collection of each sample and the individual grab samples will be flow-proportioned based on the two flow measurements.
7. Flow proportioning of the grab samples may be performed at the Station or in an analytical laboratory following shipment of the individual grab samples.

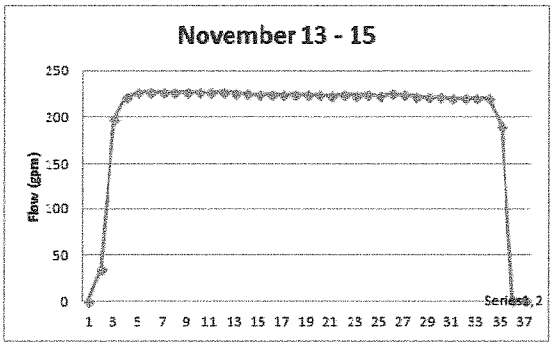
FIGURE 1

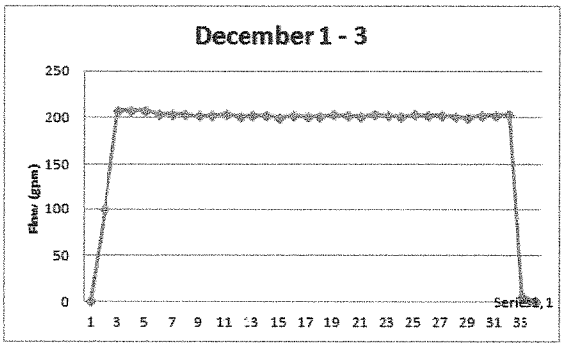
Representative Periods of FGD WWTP Discharge for Each Month During 2015




September 5 - 6
Flow (gpm)
300
250
200
150
100
50
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Series2, 1


October 1 - 2
Flow (gpm)
250
200
150
100
50
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33
Series1, 1


November 13 - 15
Flow (gpm)
250
200
150
100
50
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37
Series1, 2


December 1 - 3
Flow (gpm)
250
200
150
100
50
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33
Series1, 1

SECTION D

Lower and Upper Ash Pond Decanting/Dewatering Process

The purpose of this narrative is to provide a description of the process for decanting and dewatering the Lower Ash Pond (LAP) and the Upper Ash Pond (UAP) sediment basin. Conceptual descriptions of the decanting and dewatering processes are provided in the sections below.

After ash sluicing water and low volume wastewater ceases to discharge into the LAP, water will be allowed to drain by gravity through the existing unmodified outfall structure (Outfall 004) until the water surface elevation equals the top of the outfall structure.

ASH POND DECANTING/DEWATERING

The decanting/dewatering process will commence when mechanical methods are used to remove water from the wet pool of the ash ponds for purposes of closure. At the LAP, prior to commencement of the decanting/dewatering process, the outfall structure for Outfall 004 will be plugged to prevent further discharge through the structure. The water being decanted/dewatered from the LAP wet pool and the UAP sediment basin will discharge to a Centralized Source Water Treatment System (CSWTS) for treatment of the water to the required discharge limits. Decanting/dewatering flows will be controlled such that drawdown of the water will not exceed two feet of elevation change per day.

Dewatering at the LAP is expected to commence in Fall 2017 after ash sluicing and low volume wastewater influents cease and water has been allowed to drain by gravity through the existing unmodified outfall structure. Decanting/dewatering will commence when mechanical methods are used to begin removing water from the pond for purposes of closure. The decanting/dewatering process will be accomplished by directing contact water to the wet pool and by lowering the water within the ash pond through the use of techniques such as trenches or well points. Discharge from the ash pore space will also be directed to the wet pool. As closure construction of the wet pool area commences, the decanting/dewatering of contact stormwater will continue until the ash is covered by at least two feet of soil. Once the ash is covered and contact stormwater is no longer being generated, the decanting/dewatering activities for the LAP will cease and stormwater will be handled in compliance with the general construction stormwater permit requirements.

For the UAP sediment basin, decanting/dewatering is expected to commence towards the end of the UAP closure project once the majority of the UAP has been capped. Prior to commencement of the decanting/dewatering process of the UAP sediment basin, the outfall structure for Outfall 005 will be plugged to prevent further discharge through the structure. After removing the free water from the sediment basin, decanting/dewatering will be utilized to remove contact stormwater. Once the ash in the sediment basin is covered by at least two feet of soil and contact stormwater is no longer being generated, the decanting/dewatering activities for the UAP will cease and stormwater will be handled in compliance with the general construction stormwater permit requirements.

CENTRALIZED SOURCE WATER TREATMENT SYSTEM (CSWTS) DESCRIPTION

The CSWTS will be designed to provide the necessary treatment technologies to achieve compliance. As a means to verify compliance prior to discharging to the receiving water body, the system will include sufficient storage capacity to allow for batch analysis. The CSWTS will also be designed with a sample location for collection of treated effluent samples in accordance with the compliance testing frequency. A Conceptual Engineering Report (CER) will be submitted to DEQ for review prior to conducting decanting/dewatering activities.

Upon verification of the compliance of the treated effluent with the required limits, the treated effluent will be discharged to the James River via either Outfall 001 or 002 (existing industrial discharge outfalls). The actual outfall utilized for discharge of the CSWTS will be presented in the CER that will be submitted to DEQ.

SECTION E

Proposed Conceptual Engineering Report Permit Language

Other Requirements and Special Conditions

Commencing with the use of mechanical methods to draw down surface water from the Lower Ash Pond and the Upper Ash Pond sediment basin for the purposes of closure, all water from the decanting/dewatering process shall be treated prior to discharge. Any such discharge that exceeds one or more of the following trigger concentrations, as determined by inline process sampling, shall be routed through enhanced treatment prior to discharge:

Parameter:	Enhanced Treatment Trigger (ug/L):
Arsenic	100
Selenium	5.0
Lead	7.4
Copper	6.0
Antimony	640
Thallium	0.47

For purposes of inline process sampling, samples will be collected every 4 hours at an in-process point immediately prior to the enhanced treatment module(s), and analytical results will be returned within approximately one (1) hour after collection. This sampling is in addition to the effluent compliance monitoring required by this permit. The permittee shall maintain a log with the inline process sampling results and the times that enhanced treatment begins and ends. The log shall be available to DEQ upon request.

Prior to constructing the Centralized Source Water Treatment System (CSWTS), the permittee shall submit a final Conceptual Engineering Report (CER) to DEQ. The CER shall describe each module in the treatment and enhanced treatment process. DEQ approval shall be secured prior to constructing the CSWTS. The permittee shall construct the CSWTS in accordance with the approved CER. No later than 14 days following completion of construction of any project for which a CER has been approved, written notification shall be submitted to the DEQ-Piedmont Regional Office certifying that, based on an inspection of the project, construction was completed in accordance with the approved CER. The written notification shall be certified by a professional engineer licensed in the Commonwealth of Virginia or signed in accordance with Part II.K of this permit. The installed CSWTS shall be operated to achieve design treatment and effluent concentrations. Approval by DEQ does not relieve the owner of the responsibility for the correction of design and/or operational deficiencies. Noncompliance with the CER shall be deemed a violation of this permit.

Wrenn, Brian (DEQ)

From: Kimberly D Lanterman (Services - 6) [Kimberly.D.Lanterman@dom.com]
Sent: Wednesday, February 10, 2016 9:20 AM
To: Wrenn, Brian (DEQ)
Cc: Adamson, Emilee (DEQ); Kenneth Roller (Services - 6); Chris M Gee (Generation - 34); Beverly Wood (Generation - 3)
Subject: RE: Additional information submittal
Attachments: LVWWTS 2016 01 22 Sheet 33.pdf

Importance: High

Hello Brian – In response to your email below, Dominion is providing information to assist DEQ in processing the VPDES permit for the Chesterfield Power Station. We do not currently have all of the requested information, and plan to include this information in a Conceptual Engineering Report (CER) for the ash pond closures that would address the re-routing of the decant/dewatering wastewater from the LAP and UAP sediment basin to the 003 thermal channel, the isolation of the existing 004 and 005 discharges, the proposed treatment for the decant/dewatering discharge, the location/description of the Outfall 304 (decant/dewatering) discharge in the thermal channel, and the diffuser specifications for Outfall 304. Similar to the recently issued permits for Possum Point and Bremo, we request that there be a condition in the VPDES permit that allows us to submit the CER at a later date, prior to constructing any treatment works or re-routing the LAP and UAP sediment basin decant/dewatering discharges to the thermal channel.

Please see our responses below for the additional information requested by DEQ:

Dominion responses:

- Decant/dewater total volume and duration estimates for the LAP
  The decanting and dewatering process to remove water from the Lower Ash Pond (LAP) to allow for closure construction is anticipated to begin in October 2017, once ash sluice water is no longer discharged to the LAP and the new Low Volume Wastewater Treatment System (LVWWTS) is operational. The process of decanting and dewatering is planned to occur over an approximate three month period. Approximately 250 million gallons of water will be discharged during continuous decanting/dewatering. An additional, estimated 30 million gallons of contact storm water runoff will be pumped during construction, after the decanting/dewatering process is complete until the geomembrane portion of the cap is installed, which is estimated to be November 2018. The actual discharge volume will vary depending on weather conditions and other potential activities, such as solids removal from ash dredging. Continuous decanting/dewatering is anticipated to begin at a maximum pumping rate of 5 million gallons per day (MGD) and end at a lower rate as the water level reaches the surface of the ash. The lower rate may go as low as 1 MGD; however, actual pumping rates will be adjusted, as needed, to ensure compliance with permit conditions.

- Decant/dewater total volume and duration estimates for the LAP
  The decanting and dewatering process to remove water from the Upper Ash Pond (UAP) stormwater sediment basin in order to close the sediment basin is anticipated to begin in mid-to-late 2018. The process of decanting and dewatering is planned to occur over an approximate one month period. Contact storm water runoff will continue to be pumped out of the sediment basin for up to 60 days after the decanting/dewatering process is complete, until the geomembrane portion of the cap is installed on the sediment basin area. The estimated volume of water in the storm water sediment basin that will be discharged during the decanting/dewatering process is approximately 3.5 million gallons. The actual discharge volume will vary depending on weather conditions.

- Description of simulated dewatering sample collection process

A contractor was hired to conduct a dewatering pump test to evaluate closure design options for the Lower Ash Pond. As part of the pump test, water quality samples were collected from the discharge of the pump test. The pump test was designed to draw water from a series of well points installed into the ash in the lower ash pond. The well points were located in the southern half of the lower ash pond where the ash is above the water surface. Well points were jetted into the ash, and a washed sand pack was placed to aid in development of the well points. After development of the well points, the pump test began. Upon commencement of the pump test, water quality samples were collected at the following approximate time intervals from the time the test started: 0 hr, 0.5 hr, 1 hr, 2 hr, 4 hr, 6 hr, Day 1, Day 5, Day 6, Day 12 and Day 13. Samples were collected from the discharge end of the pump that draw water from the well points. The samples collected on Days 5, 6, 12, and 13 were tested for the full suite of analytes in the EPA Form 2C, and these results were included with the VPDES permit application to provide DEQ with information related to the dewatering water quality. The samples collected from the beginning of the pump test through Day 1 were analyzed for metals, oil and grease, GRO, DRO, ammonia, bromide, chloride, TKN, total phosphorous, TDS, TSS, nitrate, nitrite, and total phenolics. These results were not included with the VPDES permit application (since the samples were not analyzed for the full suite of EPA Form 2C parameters), but can be provided to DEQ upon request.

- Dominion has agreed to route the decant/dewatering discharge from both the LAP and the UAP sediment basin to the 003 thermal channel. The details related to the routing of the discharges to the thermal channel, as well as the isolation of existing Outfalls 004 and 005, will be included in the CER that will be developed for the ash pond closures.

- Dominion has agreed to route the decant/dewatering discharge from the LAP and the UAP sediment basin to the thermal channel. Dominion understands that a new outfall will be included in the VPDES permit (Internal Outfall 304) for the decant/dewatering discharge into the thermal channel. We do not currently have the design or specific location for this outfall, therefore, we cannot provide a lat/long for the outfall at this time. Dominion plans to treat the decant/dewatering wastewater prior to discharge to the thermal channel; however, the design and details for the proposed treatment will be included in the CER. We also do not currently have the diffuser specifications for Outfall 304, however, we expect the diffuser design will be similar to the diffuser design for Outfall 301. The specific design details for the Outfall 304 diffuser will be included in the CER.

- A drawing containing information and specifications for the diffuser to be installed at Outfall 301 for the discharge from the Low Volume Wastewater Treatment System (LVWWTS) is attached. Currently, the plan is to have two of these diffusers set at different elevations at Outfall 301 to account for the variability in flow that we may see from the LVWWTS. These diffusers are designed for a gravity discharge from the LVWWTS.

- We do not currently have any written correspondence with DCR on the proposed drawdown rates of 1 foot per day for the LAP and UAP sediment basin. However, we are in discussions with DCR and are working with them on obtaining the necessary approvals. We will provide an update on this matter as soon as possible.

I apologize for the delay in getting you this information. It took longer than expected to get some of the information for the response. Let us know if you have any questions regarding the information provided, or if you would like to have a call to discuss. Thanks!

Kim Lanterman

From: Wrenn, Brian (DEQ) [mailto:Brian.Wrenn@deq.virginia.gov]
Sent: Friday, February 05, 2016 11:05 AM
To: Kenneth Roller (Services - 6); Kimberly D Lanterman (Services - 6)
Cc: Adamson, Emilee (DEQ)
Subject: Additional information submittal

Ken and Kim,

I want to document the items we will need as part of our recent discussions. Below is a list of those items:

- The decant/dewater total volume and duration estimates for the LAP and UAP.
- A description of the simulated dewatering sample collection process.
- A description of how the decant/dewatering wastewater from the LAP and UAP will be routed to the 003 thermal channel and how discharges from the existing 004 and 005 will be eliminated (e.g., plugged, filled, etc.).
- An outfall (Outfall 304) description for the decant/dewatering discharge to the 003 thermal channel including lat/long, any proposed treatment prior to discharge, and diffuser specifics.
- The specifics for the proposed diffuser at outfall 301.
- Copies of any correspondence you may have had with DCR in regards to the proposed drawdown rates of 1' per day for the LAP and UAP.

If you have any questions on these items, please do not hesitate to contact me. Thanks.

Brian L. Wrenn
VPDES Technical Reviewer
VA DEQ - Piedmont Regional Office
804-527-5015 (Ph.)
804-527-5106 (FAX)
brian.wrenn@deq.virginia.gov
www.deq.virginia.gov

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

Geosyntec consultants

9211 Arboretum Parkway, Suite 200
Richmond, Virginia 23235
PH 804.767.2206
FAX 804.767.2182
www.geosyntec.com

Memorandum

Date:	1 December 2015
To:	Kimberly Lanterman
Copies to:	Christopher M. Gee, Kenneth Roller
From:	Scott Sheridan
Subject:	CPS Lower Ash Pond Drawdown and Discharge Rate Analysis

PURPOSE

The purpose of this analysis is to determine if the pond embankments will remain stable during a drawdown of water from the lower ash pond (LAP) at the rate of one foot per day. If excess pore pressure is not generated in the embankment by the maximum drawdown, then the condition of the embankments will not change and the embankments will remain stable. The rate of one foot per day is the maximum drawdown allowed in the draft Virginia Pollutant Discharge Elimination System permit for the Chesterfield Power Station (CPS) for decanting/dewatering of the LAP. The permitted rate corresponds to a maximum discharge flow of around 8,500 gallons per minute (gpm) when the first foot of water is lowered across the operational water area of approximately 38 acres. This analysis is based on the maximum potential discharge flow; however, Dominion's expected maximum discharge rate, on average, is 3,500 gpm or 5 million gallons per day (MGD). This rate is based on the estimated amount of water required to be discharged from the LAP during closure and an estimated schedule for discharge activities.

ANALYSIS DISCUSSION

The excess pore water pressure induced by drawdown of the water table in the LAP is illustrated in the sketch shown below as Figure 1. The shaded area is the excess pore water pressure caused by drawdown. The goal of this analysis is to determine how fast the excess pore water pressure will dissipate under the proposed drawdown rate of one foot per day. If this excess pore water pressure dissipates in less than a day, then the drawdown rate is slow enough that the condition of the embankments will not change, and the embankments will remain stable. If the excess pore pressure generated does not dissipate in less than a day, then further embankment stability analysis is required.

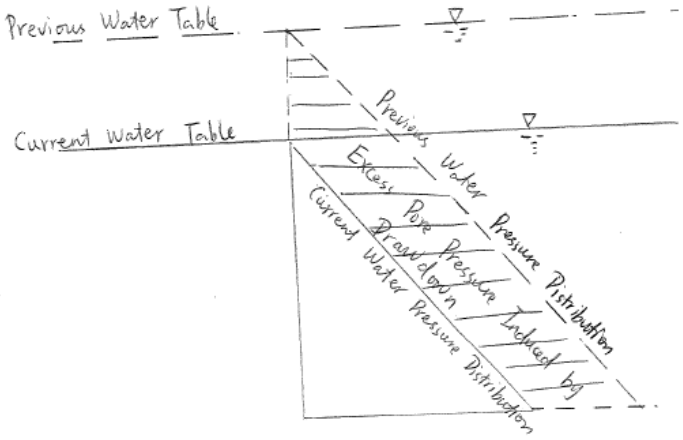


Figure 1. Excess Pore Pressure Sketch

For a critical case, we will assume that the water will be lowered by 10 feet in 10 days. At the end of the 10 days, it was estimated that if the coefficient of consolidation is greater than 2 ft^2/day, the degree of consolidation will reach a nearly fully drained condition (assuming a 5-foot drainage distance). In other words, excess pore pressure will dissipate quickly enough to maintain stability in the embankments.

Boring logs for borings located in the LAP embankment soils indicate the soils are mainly silt, silty/clayey sand, or low plasticity silt. The liquid limit of the embankment soil is less than 38%, based on available soil characterization tests conducted. Based on the empirical correlations shown in Figure 2 below, the coefficient of consolidation is estimated to be greater than 2 ft^2/day (use the lower bound reloading curve, considering that the stress increment induced by drawdown will be less than or equal to the pre-consolidation stress). Therefore, the excess pore water pressure induced by drawdown at the proposed rate will dissipate quickly enough for the embankments to remain stable.

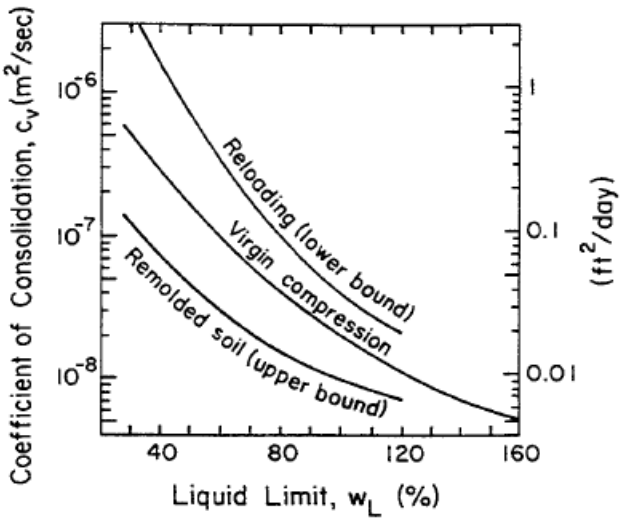


Figure 6-15. c_v versus w_L

Source: NAVFAC (21), p. 7.1-144.

Figure 2. Coefficient of Consolidation vs. Liquid Limit (NAVFAC, 1986)

CONCLUSION

Based on this preliminary engineering analysis, the excess pore pressure will almost fully dissipate within the LAP embankments, and the embankments will remain stable at a drawdown rate of one foot per day. This drawdown analysis was conducted for the maximum possible discharge rate of 8,500 gallons per minute (one foot of drawdown per day for the first foot of water). However, as stated previously, the maximum expected discharge rate from the LAP during closure is 3,500 gallons per minute, providing an additional factor of safety for embankment stability during drawdown.

REFERENCES

Naval Facilities Engineering Command. *DM-7.01 Soil Mechanics*. Naval Publications. September 1986

*****

MEMO

Date:	December 2, 2015
Project No. :	C150035.00
To:	Ms. Kimberly Lanterman
From:	GAI Consultants, Inc.; Mr. Trent Muraoka, Mr. Kevin M. Bortz, Mr. Michael B. Lott
Subject:	Dominion – Chesterfield Power Station Upper (East) Pond – Sediment Pond Water Drawdown – Stability Analysis

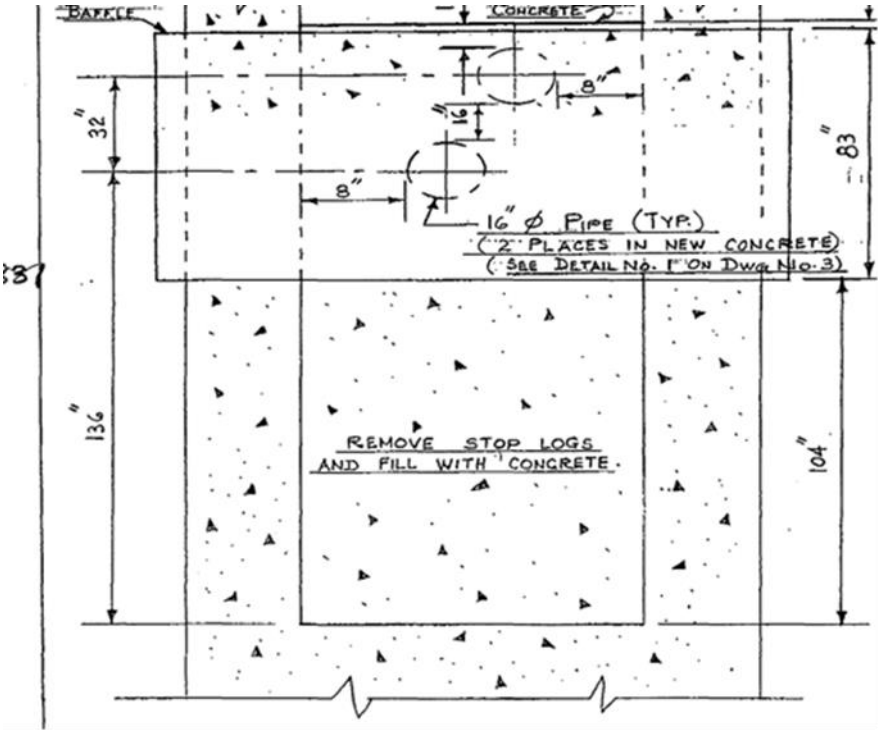
Introduction

The purpose of this analysis is to determine if the sediment pond embankments located in the Chesterfield Upper (East) Pond (UEP) Closure will remain stable during the drawdown of water from the sediment pond through outfall 005 at the rate of one foot per day. The drawdown rate of one foot per day from the UEP sediment pond equates to a maximum discharge flow of approximately 1,000 gallons per minute (GPM) or 1.5 million gallons per day (MGD). Therefore the expected maximum discharge rate from the UEP sediment pond during pond closure is 1.5 MGD.

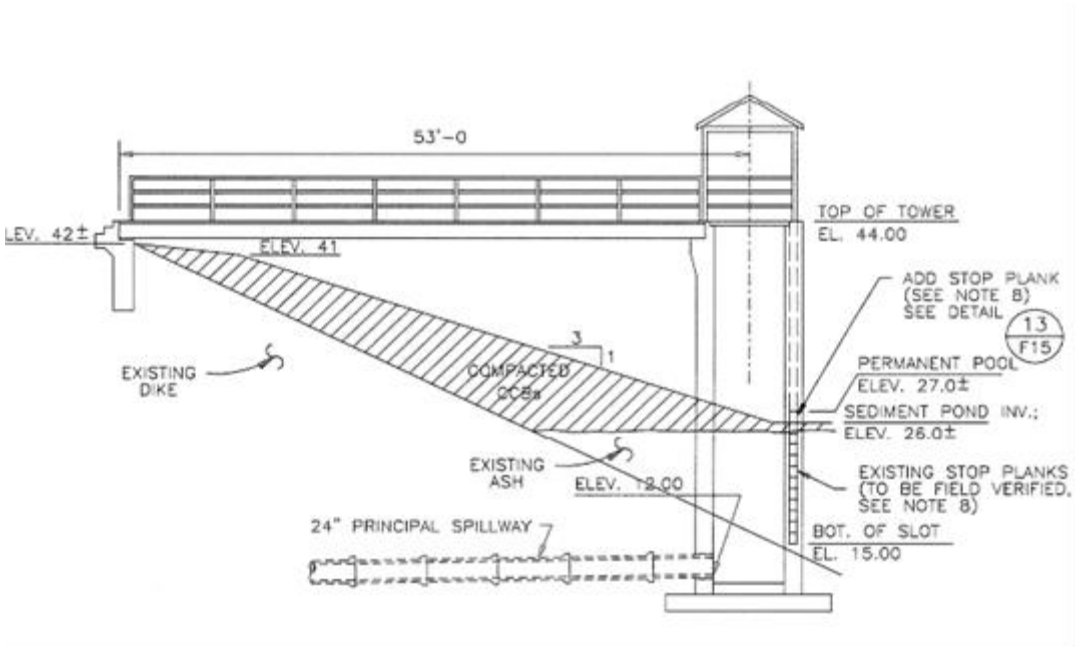
Analysis

The goal of this analysis is to determine how quickly the excess pore water pressure will dissipate under the proposed drawdown rate of one foot per day. If the pore water pressure dissipates in less than one day, then the drawdown rate is low enough that the stability of the embankment is not affected. If the dissipation of the pore water pressure takes longer than a day, then further stability analyses are required.

For the critical case, it is assumed that the lowest orifice in the UEP sediment pond outlet tower is located at invert elevation 25.67 feet (see DWG No. 2, Virginia Power Chesterfield Power Station Unit 00 New Ash Pond Stop Log Conversion DCR-91-20 January 1992). This orifice is valved shut and considered to be buried under sediment.



Dwg. No. 2 Virginia Power Chesterfield Power Station Unit 00 New Ash Pond Stop Log Conversion DCR-91-20 January 1992. The bottom of slot is elevation 15.0 feet



DWG V-96-410-F15, Detail 14, Section Access Bridge and Outlet Tower

gai consultants
transforming ideas into reality®

© 2015 GAI Consultants, Inc.

The second lowest orifice is located at invert elevation 28.33 feet.

The sediment pond bottom is located at approximate elevation 26.0 feet.

At the end of the dewatering period, if the coefficient of consolidation is greater than 2 feet-squared/day, the degree of consolidation would reach a fully drained condition (assuming a drainage distance of 1.0 feet in one day).

Boring logs performed by Schnabel Engineers, Inc. for the UEP embankment show that the soils are mostly sandy silts or silty sands with low plasticity. The liquid limit of the embankment soil is 33%, based on the laboratory data. Based on the empirical correlations shown in the Figure below, the coefficient of consolidation is estimated to be greater than 2 feet-squared/day. The lower reloading curve used as the stress increase caused by the drawdown will be equal to or less than the pre-consolidation stress. Based on this information, the excess pore water pressure induced by the drawdown at the proposed rate of one foot per day will not affect the stability of the embankment

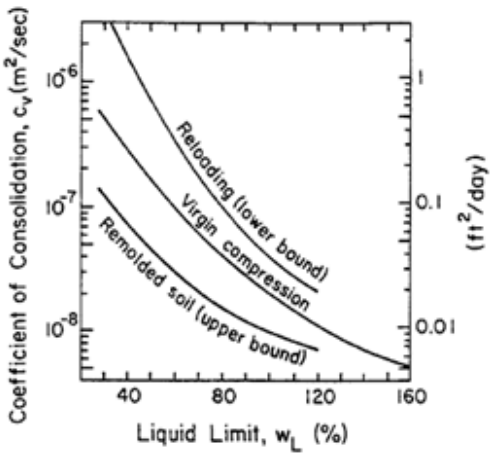


Figure 6-15. c_v versus w_L

Source: NAVFAC (21), p. 7.1-144.

Coefficient of Consolidation vs. Liquid Limit (NAVFAC, 1986)

Conclusion

Based on this preliminary engineering analysis, the excess pore water pressure will dissipate within the UEP sediment pond embankment, and the embankment will remain stable at a drawdown rate of one foot per day. This drawdown analysis was conducted for the maximum expected discharge rate of 1.5 MGD during closure. In addition, the sediment pond embankment slopes are lined with rip rap around the perimeter to provide an additional factor of safety for embankment stability during drawdown.

© 2015 GAI Consultants, Inc.

References

Naval Facilities Engineering Command. DM-7.01 Soil Mechanics. Naval Publications. September 1986

Virginia Power Chesterfield Power Station Unit 00 New Ash Pond Stop Log Conversion DCR-91-20 January 1992

GAI DWG V-96-410-F15, Closure Plan Sections and Details. Upper (East) Pond

© 2015 GAI Consultants, Inc.

		SCENARIO 1 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	COAL YARD	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Benzidine	mg/L	0.0339452	0.034	0.034	0.2	0	0.033	0.033	0.19	0
Benzo(a) pyrene	mg/L	0.0001460	0.00013	0.00013	0.002	0	0.00013	0.00013	0.0019	0
Benzo(g,h,i)perylene	mg/L	0.0001619	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0
Benzo(k)fluoranthene	mg/L	0.0005498	0.00054	0.00054	0.002	0	0.00053	0.00053	0.0019	0
Beryllium	mg/L	0.0005439	0.022	0.000036	0.001	0	0.000095	0.000036	0.001	0
Biochemical Oxygen Demand	mg/L	6.1580058	2.2	2	2	0	6.2	2	2	0
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.00058	0.00058	0.0099	0	0.00056	0.00056	0.0096	0
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.00025	0.00025	0.002	0	0.00024	0.00024	0.0019	0
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.0002	0.0002	0.002	0	0.00019	0.00019	0.0019	0
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.012	0.012	0.02	0	0.012	0.012	0.019	0
Bisphenol A	mg/L	0.0003117	0.00031	0.00031	0.00098	0	0.00031	0.00031	0.00097	0
Boron	mg/L	36.6327802	0.97	0.00046	0.005	0	0.49	0.00046	0.005	0
Bromide	mg/L	70.3643377	1.2	0.19	0.5	0	0.52	0.19	0.5	0
Bromoform	mg/L	0.0002081	0.00019	0.00019	0.001	0	0.00019	0.00019	0.001	0
Butyl benzyl phthalate	mg/L	0.0014182	0.0014	0.0014	0.0099	0	0.0014	0.0014	0.0096	0
Cadmium	mg/L	0.0009789	0.0063	0.000074	0.001	0	0.00011	0.000074	0.001	0
Carbon tetrachloride	mg/L	0.0001519	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0
Chemical Oxygen Demand	mg/L	73.4507278	120	4	20	0	130	4	20	0
chlordane	mg/L	0.0000044	0.0000061	0.0000016	0.000012	0	0.0000016	0.0000016	0.000012	0
Chloride	mg/L	727.8963610	84	0.2	1	0	37	0.2	1	0
Chlorine, Total Residual	mg/L	0.0486536	0			0	0.04			0
Chlorobenzene	mg/L	0.0001450	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0
Chlorodibromomethane	mg/L	0.0003980	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0
Chloroethane	mg/L	0.0002209	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	0
Chloroform	mg/L	0.0087341	0.00017	0.00017	0.001	0	0.00018	0.00017	0.001	0
Chlorpyrifos	mg/L	0.0001092	0.00002	0.00002	0.0002	0	0.00002	0.00002	0.0002	0
Chromium (Hexavalent)	mg/L	0.0063464	0.2	0.048	0.25	0	0.0019	0.0019	0.01	0
Chromium (Total)	mg/L	0.0031586	0.039	0.00023	0.002	0	0.0016	0.00023	0.002	0
Chrysene	mg/L	0.0001514	0.00014	0.00014	0.002	0	0.00013	0.00013	0.0019	0
cis-1,3-dichloropropene	mg/L	0.0002012	0.00019	0.00019	0.001	0	0.00019	0.00019	0.001	0
Cobalt	mg/L	0.0035488	0.3	0.00005	0.0005	0	0.0012	0.00005	0.0005	0
Color	o	0.1382824				0				0
Copper	mg/L	0.0192408	0.38	0.00027	0.002	0	0.034	0.00027	0.002	0
Cyanide (Total)	mg/L	0.0039196	0.0025	0.0025	0.01	0	0.0025	0.0025	0.01	0
d-BHC	mg/L	0.0000004	0.00000052	0.00000036	0.0000012	0	0.0000025	0.00000038	0.0000013	0
DDD	mg/L	0.0000007	0.00000065	0.00000065	0.0000013	0	0.0000069	0.00000066	0.0000013	0
DDT	mg/L	0.0000009	0.00000072	0.00000072	0.0000013	0	0.0000018	0.00000073	0.0000013	0
Demeton (total)	mg/L	0.0000314	0.000032	0.000032	0.00039	0	0.000032	0.000032	0.00039	0
Demeton-O	mg/L	0.0000899				0				0
Demeton-S	mg/L	0.0000899				0				0
Diazinon	mg/L	0.0001079	0.000018	0.000018	0.0002	0	0.000018	0.000018	0.0002	0
Dibenz(a,h)anthracene	mg/L	0.0001687	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0
Dichlorobromomethane	mg/L	0.0014567	0.00013	0.00013	0.001	0	0.00013	0.00013	0.001	0
Dichlorodifluoromethane	mg/L	0.0000138				0				0
Dieldrin	mg/L	0.0000016	0.0000008	0.0000008	0.0000013	0	0.000047	0.00000081	0.0000013	0
Diesel Range Organics	mg/L	0.2197962	0.31	0.24	0.5	0				0
Diethylphthalate	mg/L	0.0014498	0.0014	0.0014	0.0099	0	0.0014	0.0014	0.0096	0
Dimethyl phthalate	mg/L	0.0007645	0.00076	0.00076	0.0099	0	0.00074	0.00074	0.0096	0
Di-n-butyl phthalate	mg/L	0.0012389	0.0012	0.0012	0.0099	0	0.0012	0.0012	0.0096	0
Di-n-octyl phthalate	mg/L	0.0020637	0.002	0.002	0.0099	0	0.002	0.002	0.0096	0
Diphenylhydrazine	mg/L	0.0007174	0.00065	0.00065	0.0099	0	0.00063	0.00063	0.0096	0
E. Coli	cfu/100 ml	0.0138282				0				0
EC (field)	µS/cm	6180.5458515	1638			0	174			0
Endosulfan I	mg/L	0.0000015	0.00000091	0.00000091	0.0000013	0	0.00000093	0.00000093	0.0000013	0
Endosulfan II	mg/L	0.0000075	0.0000034	0.00000092	0.0000012	0	0.000039	0.00000097	0.0000013	0
Endosulfan sulphate	mg/L	0.0000349	0.00000055	0.00000055	0.0000013	0	0.00000056	0.00000056	0.0000013	0
Endrin	mg/L	0.0000016	0.00000093	0.00000093	0.0000013	0	0.00000095	0.00000095	0.0000013	0
Endrin aldehyde	mg/L	0.0000009	0.00000087	0.00000087	0.0000013	0	0.00000089	0.00000089	0.0000013	0
Enterococci	MPN/100 ml	0.0138282				0				0
Ethylbenzene	mg/L	0.0002455	0.00023	0.00023	0.001	0	0.00023	0.00023	0.001	0

		SCENARIO 1 RESULTS	BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Benzidine	mg/L	0.0339452	0.033	0.033	0.19	0.0000000	0.033	0.033	0.19	0.012008734
Benzo(a) pyrene	mg/L	0.0001460	0.00013	0.00013	0.0019	0.0000000	0.00013	0.00013	0.0019	4.73071E-05
Benzo(g,h,i)perylene	mg/L	0.0001619	0.00015	0.00015	0.0019	0.0000000	0.00014	0.00014	0.0019	5.09461E-05
Benzo(k)fluoranthene	mg/L	0.0005498	0.00053	0.00053	0.0019	0.0000000	0.00052	0.00052	0.0019	0.000189229
Beryllium	mg/L	0.0005439	0.00084	0.000036	0.001	0.0000000	0.000036	0.000036	0.001	1.31004E-05
Biochemical Oxygen Demand	mg/L	6.1580058	2	2	2	2	2	2	2	0.727802038
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.00056	0.00056	0.0096	0.0000000	0.00055	0.00055	0.0095	0.000200146
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.00024	0.00024	0.0019	0.0000000	0.00024	0.00024	0.0019	8.73362E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.00019	0.00019	0.0019	0.0000000	0.00019	0.00019	0.0019	6.91412E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.012	0.012	0.019	0.0000000	0.012	0.012	0.019	0.004366812
Bisphenol A	mg/L	0.0003117	0.0042	0.00032	0.001	0.0000000	0.00031	0.00031	0.00097	0.000112809
Boron	mg/L	36.6327802	0.16	0.00046	0.005	0.0000000	2.6	0.00061	0.2	0.946142649
Bromide	mg/L	70.3643377	0.19	0.19	0.5	0.0000000	5.3	0.19	0.5	1.9286754
Bromoform	mg/L	0.0002081	0.00019	0.00019	0.001	0.0000000	0.00019	0.00019	0.001	6.91412E-05
Butyl benzyl phthalate	mg/L	0.0014182	0.0014	0.0014	0.0096	0.0000000	0.0014	0.0014	0.0095	0.000509461
Cadmium	mg/L	0.0009789	0.00024	0.000074	0.001	0.0000000	0.00013	0.00013	0.005	4.73071E-05
Carbon tetrachloride	mg/L	0.0001519	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.09461E-05
Chemical Oxygen Demand	mg/L	73.4507278	6.1	2	10	0.0000000	11	2	10	4.002911208
chlordane	mg/L	0.0000044	0.0000016	0.0000016	0.000012	0.00E+00	0.0000016	0.0000016	0.000012	5.82242E-07
Chloride	mg/L	727.8963610	22	0.2	1	0.0000000	310	2	10	112.8093159
Chlorine, Total Residual	mg/L	0.0486536	0			0.0000000	0			0
Chlorobenzene	mg/L	0.0001450	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.09461E-05
Chlorodibromomethane	mg/L	0.0003980	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.09461E-05
Chloroethane	mg/L	0.0002209	0.00021	0.00021	0.001	0.0000000	0.00021	0.00021	0.001	7.64192E-05
Chloroform	mg/L	0.0087341	0.00017	0.00017	0.001	0.0000000	0.00035	0.00017	0.001	0.000127365
Chlorpyrifos	mg/L	0.0001092	0.00002	0.00002	0.0002	0.0000000	0.000019	0.000019	0.00019	6.91412E-06
Chromium (Hexavalent)	mg/L	0.0063464	0.0023	0.0019	0.01	0.0000000	0.0019	0.0019	0.01	0.000691412
Chromium (Total)	mg/L	0.0031586	0.0013	0.00023	0.002	0.0000000	0.00092	0.00077	0.005	0.000334789
Chrysene	mg/L	0.0001514	0.00013	0.00013	0.0019	0.0000000	0.00013	0.00013	0.0019	4.73071E-05
cis-1,3-dichloropropene	mg/L	0.0002012	0.00019	0.00019	0.001	0.0000000	0.00019	0.00019	0.001	6.91412E-05
Cobalt	mg/L	0.0035488	0.00097	0.00005	0.0005	0.0000000	0.00063	0.00005	0.0005	0.000229258
Color	o	0.1382824				0				0
Copper	mg/L	0.0192408	0.0029	0.00027	0.002	0.0000000	0.015	0.0015	0.025	0.005458515
Cyanide (Total)	mg/L	0.0039196	0.0025	0.0025	0.01	0.0000000	0.0025	0.0025	0.01	0.000909753
d-BHC	mg/L	0.0000004	0.00000037	0.00000037	0.0000013	0.00E+00	0.00000037	0.00000037	0.0000013	1.34643E-07
DDD	mg/L	0.0000007	0.00000064	0.00000064	0.0000013	0.00E+00	0.00000064	0.00000064	0.0000013	2.32897E-07
DDT	mg/L	0.0000009	0.00000071	0.00000071	0.0000013	0.00E+00	0.00000071	0.00000071	0.0000013	2.5837E-07
Demeton (total)	mg/L	0.0000314	0.000032	0.000032	0.00039	0.0000000	0.000031	0.000031	0.00038	1.12809E-05
Demeton-O	mg/L	0.0000899				0				0
Demeton-S	mg/L	0.0000899				0				0
Diazinon	mg/L	0.0001079	0.000018	0.000018	0.0002	0.0000000	0.000018	0.000018	0.00019	6.55022E-06
Dibenz(a,h)anthracene	mg/L	0.0001687	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.45852E-05
Dichlorobromomethane	mg/L	0.0014567	0.00013	0.00013	0.001	0.0000000	0.00013	0.00013	0.001	4.73071E-05
Dichlorodifluoromethane	mg/L	0.0000138				0				0
Dieldrin	mg/L	0.0000016	0.00000079	0.00000079	0.0000013	0.00E+00	0.00000079	0.00000079	0.0000013	2.87482E-07
Diesel Range Organics	mg/L	0.2197962				0	0.22	0.22	0.46	0.080058224
Diethylphthalate	mg/L	0.0014498	0.0014	0.0014	0.0096	0.0000000	0.0014	0.0014	0.0095	0.000509461
Dimethyl phthalate	mg/L	0.0007645	0.00074	0.00074	0.0096	0.0000000	0.00073	0.00073	0.0095	0.000265648
Di-n-butyl phthalate	mg/L	0.0012389	0.0012	0.0012	0.0096	0.0000000	0.0012	0.0012	0.0095	0.000436681
Di-n-octyl phthalate	mg/L	0.0020637	0.002	0.002	0.0096	0.0000000	0.002	0.002	0.0095	0.000727802
Diphenylhydrazine	mg/L	0.0007174	0.00063	0.00063	0.0096	0.0000000	0.00063	0.00063	0.0095	0.000229258
E. Coli	cfu/100 ml	0.0138282				0				0
EC (field)	µS/cm	6180.5458515	303			0.0000000	5695			2072.416303
Endosulfan I	mg/L	0.0000015	0.0000009	0.0000009	0.0000013	0.00E+00	0.0000009	0.0000009	0.0000013	3.27511E-07
Endosulfan II	mg/L	0.0000075	0.0000028	0.00000094	0.0000013	0.00E+00	0.00000094	0.00000094	0.0000013	3.42067E-07
Endosulfan sulphate	mg/L	0.0000349	0.00000055	0.00000055	0.0000013	0.00E+00	0.00000055	0.00000055	0.0000013	2.00146E-07
Endrin	mg/L	0.0000016	0.00000092	0.00000092	0.0000013	0.00E+00	0.00000092	0.00000092	0.0000013	3.34789E-07
Endrin aldehyde	mg/L	0.0000009	0.00000087	0.00000087	0.0000013	0.00E+00	0.00000087	0.00000087	0.0000013	3.16594E-07
Enterococci	MPN/100 ml	0.0138282				0				0
Ethylbenzene	mg/L	0.0002455	0.00023	0.00023	0.001	0.0000000	0.00023	0.00023	0.001	8.36972E-05

		SCENARIO 1 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Benzidine	mg/L	0.0339452	0.00556	0.00556	0.005556	7.6885E-05	0.033	0.033	0.19	0.001921397
Benzo(a) pyrene	mg/L	0.0001460	0.00111	0.00111	0.005556	1.53493E-05	0.00013	0.00013	0.0019	7.56914E-06
Benzo(g,h,i)perylene	mg/L	0.0001619	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.0019	8.73362E-06
Benzo(k)fluoranthene	mg/L	0.0005498	0.00111	0.00111	0.005556	1.53493E-05	0.00053	0.00053	0.0019	3.08588E-05
Beryllium	mg/L	0.0005439	0.002	0.002	0.004	2.76565E-05	0.000036	0.000036	0.001	2.09607E-06
Biochemical Oxygen Demand	mg/L	6.1580058	2.9	0.2	2	0.040101892	2	2	2	2
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.00111	0.00111	0.005556	1.53493E-05	0.00056	0.00056	0.0096	3.26055E-05
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.00111	0.00111	0.005556	1.53493E-05	0.00024	0.00024	0.0019	1.39738E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.00111	0.00111	0.005556	1.53493E-05	0.00019	0.00019	0.0019	1.10626E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.00111	0.00111	0.005556	1.53493E-05	0.012	0.012	0.019	0.00069869
Bisphenol A	mg/L	0.0003117				0	0.00032	0.00032	0.001	1.86317E-05
Boron	mg/L	36.6327802	3.76	0.05	0.05	0.051994178	0.5	0.00046	0.005	0.029112082
Bromide	mg/L	70.3643377	5	5	5	0.069141194	0.52	0.19	0.5	0.030276565
Bromoform	mg/L	0.0002081	0.0015	0.0015	0.005	2.07424E-05	0.00019	0.00019	0.001	1.10626E-05
Butyl benzyl phthalate	mg/L	0.0014182	0.00111	0.00111	0.005556	1.53493E-05	0.0014	0.0014	0.0096	8.15138E-05
Cadmium	mg/L	0.0009789	0.00011	0.00011	0.0003	1.52111E-06	0.000087	0.000074	0.001	5.0655E-06
Carbon tetrachloride	mg/L	0.0001519	0.001	0.001	0.005	1.38282E-05	0.00014	0.00014	0.001	8.15138E-06
Chemical Oxygen Demand	mg/L	73.4507278	12.7	10	10	0.175618632	16	2	10	0.931586608
chlordane	mg/L	0.0000044	0.000206	0.000206	0.0002062	2.84862E-06	0.0000016	0.0000016	0.000012	9.31587E-08
Chloride	mg/L	727.8963610	52.4	10	10	0.724599709	6.8	0.2	1	0.395924309
Chlorine, Total Residual	mg/L	0.0486536				0	0			0
Chlorobenzene	mg/L	0.0001450	0.0005	0.0005	0.005	6.91412E-06	0.00014	0.00014	0.001	8.15138E-06
Chlorodibromomethane	mg/L	0.0003980	0.001	0.001	0.005	1.38282E-05	0.00014	0.00014	0.001	8.15138E-06
Chloroethane	mg/L	0.0002209	0.001	0.001	0.005	1.38282E-05	0.00021	0.00021	0.001	1.22271E-05
Chloroform	mg/L	0.0087341	0.001	0.001	0.005	1.38282E-05	0.00017	0.00017	0.001	9.89811E-06
Chlorpyrifos	mg/L	0.0001092	0.0065		0.0065	8.98836E-05	0.000019	0.000019	0.00019	1.10626E-06
Chromium (Hexavalent)	mg/L	0.0063464	0.061	0.1	0.003	0.000843523	0.044	0.0019	0.01	0.002561863
Chromium (Total)	mg/L	0.0031586	0.0355	0.001	0.01	0.000490902	0.00023	0.00023	0.002	1.33916E-05
Chrysene	mg/L	0.0001514	0.00111	0.00111	0.005556	1.53493E-05	0.00013	0.00013	0.0019	7.56914E-06
cis-1,3-dichloropropene	mg/L	0.0002012	0.001	0.001	0.005	1.38282E-05	0.00019	0.00019	0.001	1.10626E-05
Cobalt	mg/L	0.0035488	0.002	0.002	0.004	2.76565E-05	0.0014	0.00005	0.0005	8.15138E-05
Color	o	0.1382824	10	10	10	0.138282387				0
Copper	mg/L	0.0192408	0.00239	0.00022	0.001	3.30495E-05	0.00058	0.00027	0.002	3.377E-05
Cyanide (Total)	mg/L	0.0039196	0.01	0.01	0.01	0.000138282	0.0025	0.0025	0.01	0.00014556
d-BHC	mg/L	0.0000004	0.000005	0.000005	0.00005155	6.91412E-08	0.00000037	0.00000037	0.0000013	2.15429E-08
DDD	mg/L	0.0000007	0.000005	0.000005	0.00005155	6.91412E-08	0.00000064	0.00000064	0.0000013	3.72635E-08
DDT	mg/L	0.0000009	0.000005	0.000005	0.00005155	6.91412E-08	0.00000071	0.00000071	0.0000013	4.13392E-08
Demeton (total)	mg/L	0.0000314				0	0.000031	0.000031	0.00038	1.80495E-06
Demeton-O	mg/L	0.0000899	0.0065		0.0065	8.98836E-05				0
Demeton-S	mg/L	0.0000899	0.0065		0.0065	8.98836E-05				0
Diazinon	mg/L	0.0001079	0.0065		0.0065	8.98836E-05	0.000018	0.000018	0.00019	1.04803E-06
Dibenz(a,h)anthracene	mg/L	0.0001687	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.0019	8.73362E-06
Dichlorobromomethane	mg/L	0.0014567	0.001	0.001	0.005	1.38282E-05	0.00013	0.00013	0.001	7.56914E-06
Dichlorodifluoromethane	mg/L	0.0000138	0.001	0.001	0.005	1.38282E-05				0
Dieldrin	mg/L	0.0000016	0.000005	0.000005	0.00005155	6.91412E-08	0.00000079	0.00000079	0.0000013	4.59971E-08
Diesel Range Organics	mg/L	0.2197962				0				0
Diethylphthalate	mg/L	0.0014498	0.00111	0.00111	0.005556	1.53493E-05	0.0014	0.0014	0.0096	8.15138E-05
Dimethyl phthalate	mg/L	0.0007645	0.00111	0.00111	0.005556	1.53493E-05	0.00074	0.00074	0.0096	4.30859E-05
Di-n-butyl phthalate	mg/L	0.0012389	0.00222	0.00222	0.005556	3.06987E-05	0.0012	0.0012	0.0096	6.9869E-05
Di-n-octyl phthalate	mg/L	0.0020637	0.00111	0.00111	0.005556	1.53493E-05	0.002	0.002	0.0096	0.000116448
Diphenylhydrazine	mg/L	0.0007174	0.00526	0.00526	0.005556	7.27365E-05	0.00063	0.00063	0.0096	3.66812E-05
E. Coli	cfu/100 ml	0.0138282	1	1	1	0.013828239				0
EC (field)	µS/cm	6180.5458515				0	364			21.19359534
Endosulfan I	mg/L	0.0000015	0.000005	0.000005	0.00005155	6.91412E-08	0.0000009	0.0000009	0.0000013	5.24017E-08
Endosulfan II	mg/L	0.0000075	0.000005	0.000005	0.00005155	6.91412E-08	0.0000065	0.00000094	0.0000013	3.78457E-07
Endosulfan sulphate	mg/L	0.0000349	0.000005	0.000005	0.00005155	6.91412E-08	0.0000076	0.00000055	0.0000013	4.42504E-07
Endrin	mg/L	0.0000016	0.000005	0.000005	0.00005155	6.91412E-08	0.00000092	0.00000092	0.0000013	5.35662E-08
Endrin aldehyde	mg/L	0.0000009	0.000005	0.000005	0.00005155	6.91412E-08	0.00000087	0.00000087	0.0000013	5.0655E-08
Enterococci	MPN/100 ml	0.0138282	1	1	1	0.013828239				0
Ethylbenzene	mg/L	0.0002455	0.0005	0.0005	0.005	6.91412E-06	0.00023	0.00023	0.001	1.33916E-05

		SCENARIO 1 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER	
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL
Benzidine	mg/L	0.0339452	0.033	0.033	0.19	0.000840611	0.036	0.036	0.21	0.008908297	0.035	0.035
Benzo(a) pyrene	mg/L	0.0001460	0.00013	0.00013	0.0019	3.3115E-06	0.00014	0.00014	0.0021	3.46434E-05	0.00013	0.00013
Benzo(g,h,i)perylene	mg/L	0.0001619	0.00014	0.00014	0.0019	3.56623E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00015	0.00015
Benzo(k)fluoranthene	mg/L	0.0005498	0.00052	0.00052	0.0019	1.3246E-05	0.00057	0.00057	0.0021	0.000141048	0.00055	0.00055
Beryllium	mg/L	0.0005439	0.0036	0.0036	0.01	9.17031E-05	0.00036	0.00036	0.01	8.9083E-05	0.0011	0.000036
Biochemical Oxygen Demand	mg/L	6.1580058	2	2	2	0.050946143	2	2	2	0.494905386	2.9	2
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.00055	0.00055	0.0094	1.40102E-05	0.00061	0.00061	0.01	0.000150946	0.00058	0.00058
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.00024	0.00024	0.0019	6.11354E-06	0.00026	0.00026	0.0021	6.43377E-05	0.00025	0.00025
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.00019	0.00019	0.0019	4.83988E-06	0.00021	0.00021	0.0021	5.19651E-05	0.0002	0.0002
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.012	0.012	0.019	0.000305677	0.013	0.013	0.021	0.003216885	0.013	0.013
Bisphenol A	mg/L	0.0003117	0.00031	0.00031	0.00098	7.89665E-06	0.00032	0.00032	0.001	7.91849E-05	0.00032	0.00032
Boron	mg/L	36.6327802	230	0.46	0.5	5.858806405	120	0.046	0.5	29.69432314	0.18	0.00061
Bromide	mg/L	70.3643377	150	4.8		3.820960699	260	4.8	13	64.33770015	0.61	
Bromoform	mg/L	0.0002081	0.00019	0.00019	0.001	4.83988E-06	0.00019	0.00019	0.001	4.7016E-05	0.00019	0.00019
Butyl benzyl phthalate	mg/L	0.0014182	0.0013	0.0013	0.0094	3.3115E-05	0.0015	0.0015	0.01	0.000371179	0.0014	0.0014
Cadmium	mg/L	0.0009789	0.011	0.0074	0.1	0.000280204	0.0023	0.00074	0.01	0.000569141	0.00026	0.000074
Carbon tetrachloride	mg/L	0.0001519	0.00014	0.00014	0.001	3.56623E-06	0.00014	0.00014	0.001	3.46434E-05	0.00014	0.00014
Chemical Oxygen Demand	mg/L	73.4507278	300	20	100	7.641921397	210	20	100	51.9650655	30	2
chlordane	mg/L	0.0000044	0.0000016	0.0000016	0.000012	4.07569E-08	0.0000016	0.0000016	0.000012	3.95924E-07	0.0000016	0.0000016
Chloride	mg/L	727.8963610	23100	49	250	588.4279476	82.5	49	250	20.41484716	17.6	4.9
Chlorine, Total Residual	mg/L	0.0486536	1.91			0.048653566	0			0	0	
Chlorobenzene	mg/L	0.0001450	0.00014	0.00014	0.001	3.56623E-06	0.00014	0.00014	0.001	3.46434E-05	0.00014	0.00014
Chlorodibromomethane	mg/L	0.0003980	0.00014	0.00014	0.001	3.56623E-06	0.00077	0.00014	0.001	0.000190539	0.00045	0.00014
Chloroethane	mg/L	0.0002209	0.00021	0.00021	0.001	5.34934E-06	0.00021	0.00021	0.001	5.19651E-05	0.00021	0.00021
Chloroform	mg/L	0.0087341	0.0038	0.00017	0.001	9.67977E-05	0.019	0.00017	0.001	0.004701601	0.013	0.00017
Chlorpyrifos	mg/L	0.0001092	0.000019	0.000019	0.00019	4.83988E-07	0.00002	0.00002	0.0002	4.94905E-06	0.00002	0.00002
Chromium (Hexavalent)	mg/L	0.0063464	0.023	0.0019		0.000585881	0.0019	0.0019	0.01	0.00047016	0.0041	
Chromium (Total)	mg/L	0.0031586	0.023	0.023	0.2	0.000585881	0.0023	0.0023	0.02	0.000569141	0.004	0.00023
Chrysene	mg/L	0.0001514	0.00013	0.00013	0.0019	3.3115E-06	0.00015	0.00015	0.0021	3.71179E-05	0.00014	0.00014
cis-1,3-dichloropropene	mg/L	0.0002012	0.00019	0.00019	0.001	4.83988E-06	0.00019	0.00019	0.001	4.7016E-05	0.00019	0.00019
Cobalt	mg/L	0.0035488	0.021	0.005	0.05	0.000534934	0.0074	0.0005	0.005	0.00183115	0.0029	0.00005
Color	o	0.1382824				0				0		
Copper	mg/L	0.0192408	0.027	0.027	0.2	0.000687773	0.015	0.0027	0.02	0.00371179	0.032	0.00027
Cyanide (Total)	mg/L	0.0039196	0.0025	0.0025		6.36827E-05	0.0057	0.0025	0.01	0.00141048	0.0043	
d-BHC	mg/L	0.0000004	0.00000036	0.00000036	0.0000012	9.17031E-09	0.00000038	0.00000038	0.0000013	9.4032E-08	0.00000037	0.00000037
DDD	mg/L	0.0000007	0.00000064	0.00000064	0.0000012	1.63028E-08	0.00000066	0.00000066	0.0000013	1.63319E-07	0.00000066	0.00000066
DDT	mg/L	0.0000009	0.0000041	0.0000007	0.0000012	1.0444E-07	0.00000073	0.00000073	0.0000013	1.8064E-07	0.00000073	0.00000073
Demeton (total)	mg/L	0.0000314	0.000031	0.000031	0.00038	7.89665E-07	0.000032	0.000032	0.00039	7.91849E-06	0.000033	0.000033
Demeton-O	mg/L	0.0000899				0			0	0		
Demeton-S	mg/L	0.0000899				0				0		
Diazinon	mg/L	0.0001079	0.000018	0.000018	0.00019	4.58515E-07	0.000018	0.000018	0.0002	4.45415E-06	0.000019	0.000019
Dibenz(a,h)anthracene	mg/L	0.0001687	0.00015	0.00015	0.0019	3.82096E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00016	0.00016
Dichlorobromomethane	mg/L	0.0014567	0.00049	0.00013	0.001	1.24818E-05	0.0025	0.00013	0.001	0.000618632	0.0026	0.00013
Dichlorodifluoromethane	mg/L	0.0000138				0				0		
Dieldrin	mg/L	0.0000016	0.0000051	0.00000078	0.0000012	1.29913E-07	0.0000032	0.00000081	0.0000013	7.91849E-07	0.0000008	0.0000008
Diesel Range Organics	mg/L	0.2197962				0				0	0.48	0.24
Diethylphthalate	mg/L	0.0014498	0.0014	0.0014	0.0094	3.56623E-05	0.0015	0.0015	0.01	0.000371179	0.0015	0.0015
Dimethyl phthalate	mg/L	0.0007645	0.00072	0.00072	0.0094	1.83406E-05	0.0008	0.0008	0.01	0.000197962	0.00077	0.00077
Di-n-butyl phthalate	mg/L	0.0012389	0.0012	0.0012	0.0094	3.05677E-05	0.0013	0.0013	0.01	0.000321689	0.0012	0.0012
Di-n-octyl phthalate	mg/L	0.0020637	0.0019	0.0019	0.0094	4.83988E-05	0.0022	0.0022	0.01	0.000544396	0.0021	0.0021
Diphenylhydrazine	mg/L	0.0007174	0.00062	0.00062	0.0094	1.57933E-05	0.00069	0.00069	0.01	0.000170742	0.00066	0.00066
E. Coli	cfu/100 ml	0.0138282				0				0		
EC (field)	µS/cm	6180.5458515	48670			1239.774381	11080			2741.775837	362	
Endosulfan I	mg/L	0.0000015	0.0000092	0.0000009	0.0000012	2.34352E-07	0.0000023	0.00000093	0.0000013	5.69141E-07	0.00000092	0.00000092
Endosulfan II	mg/L	0.0000075	0.000048	0.00000093	0.0000012	1.22271E-06	0.000019	0.00000097	0.0000013	4.7016E-06	0.0000026	0.00000093
Endosulfan sulphate	mg/L	0.0000349	0.000073	0.00000054	0.0000012	1.85953E-06	0.00013	0.00000055	0.0000013	3.21689E-05	0.00000056	0.00000056
Endrin	mg/L	0.0000016	0.0000028	0.00000091	0.0000012	7.13246E-08	0.0000033	0.00000095	0.0000013	8.16594E-07	0.00000094	0.00000094
Endrin aldehyde	mg/L	0.0000009	0.00000086	0.00000086	0.0000012	2.19068E-08	0.00000089	0.00000089	0.0000013	2.20233E-07	0.00000088	0.00000088
Enterococci	MPN/100 ml	0.0138282				0				0		
Ethylbenzene	mg/L	0.0002455	0.00069	0.00023	0.001	1.75764E-05	0.00023	0.00023	0.001	5.69141E-05	0.00023	0.00023

		SCENARIO 2 RESULTS		BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	µg/L	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000030	0.00297	0.0000028	0.0000028	0.0000096	0.0000002	0.0000028	0.0000028	0.0000096	0
Arochlor 1242	mg/L	0.0000020	0.00203	0.0000018	0.0000018	0.0000096	0.0000001	0.0000018	0.0000018	0.0000096	0
Arochlor 1248	mg/L	0.0000025	0.00251	0.0000022	0.0000022	0.0000096	0.0000001	0.0000022	0.0000022	0.0000096	0
Arochlor 1254	mg/L	0.0000015	0.00153	0.0000013	0.0000013	0.0000096	0.0000001	0.0000013	0.0000013	0.0000096	0
Arochlor 1260	mg/L	0.0000015	0.00153	0.0000013	0.0000013	0.0000096	0.0000001	0.0000013	0.0000013	0.0000096	0
Arsenic	mg/L	0.0254597	25.45974	0.0072	0.00012	0.001	0.0004334	0.003	0.003	0.01	0
Azinophos methyl	mg/L	0.0000615	0.06147	0.000022	0.000022	0.0002	0.0000013	0.000022	0.000022	0.00019	0
Barium	mg/L	0.2450745	245.07449	0.11	0.000088	0.01	0.0066215	0.08	0.000088	0.01	0
b-BHC	mg/L	0.0000028	0.00275	0.00000096	0.00000096	0.0000013	0.0000001	0.00000096	0.00000096	0.0000013	0
Benz(a)anthracene	mg/L	0.0001807	0.18068	0.00014	0.00014	0.0019	0.0000084	0.00014	0.00014	0.0019	0
Benzene	mg/L	0.0001164	0.11635	0.00011	0.00011	0.001	0.0000066	0.00011	0.00011	0.001	0
Benzidine	mg/L	0.0344150	34.41496	0.033	0.033	0.19	0.0019865	0.033	0.033	0.19	0
Benzo(a) pyrene	mg/L	0.0001374	0.13740	0.00013	0.00013	0.0019	0.0000078	0.00013	0.00013	0.0019	0
Benzo(g,h,i)perylene	mg/L	0.0001572	0.15720	0.00015	0.00015	0.0019	0.0000090	0.00014	0.00014	0.0019	0
Benzo(k)fluoranthene	mg/L	0.0005507	0.55071	0.00053	0.00053	0.0019	0.0000319	0.00052	0.00052	0.0019	0
Beryllium	mg/L	0.0046488	4.64882	0.00084	0.000036	0.001	0.0000506	0.000036	0.000036	0.001	0
Biochemical Oxygen Demand	mg/L	6.4802107	6480.21068	2	2	2	2	2	2	2	0
Bis(2-chloroethoxy) methane	mg/L	0.0005838	0.58384	0.00056	0.00056	0.0096	0.0000337	0.00055	0.00055	0.0095	0
Bis(2-chloroethyl)ether	mg/L	0.0002548	0.25479	0.00024	0.00024	0.0019	0.0000144	0.00024	0.00024	0.0019	0
Bis(2-chloroisopropyl) ether	mg/L	0.0002051	0.20509	0.00019	0.00019	0.0019	0.0000114	0.00019	0.00019	0.0019	0
Bis(2-ethylhexyl) phthalate	mg/L	0.0125590	12.55898	0.012	0.012	0.019	0.0007223	0.012	0.012	0.019	0
Bisphenol A	mg/L	0.0005491	0.54914	0.0042	0.00032	0.001	0.0002528	0.00031	0.00031	0.00097	0
Boron	mg/L	20.3147329	20314.73288	0.16	0.00046	0.005	0.0096313	2.6	0.00061	0.2	0
Bromide	mg/L	40.9787058	40978.70579	0.19	0.19	0.5	0.0114372	5.3	0.19	0.5	0
Bromoform	mg/L	0.0001979	0.19789	0.00019	0.00019	0.001	0.0000114	0.00019	0.00019	0.001	0
Butyl benzyl phthalate	mg/L	0.0014125	1.41248	0.0014	0.0014	0.0096	0.0000843	0.0014	0.0014	0.0095	0
Cadmium	mg/L	0.0017251	1.72509	0.00024	0.000074	0.001	0.0000144	0.00013	0.00013	0.005	0
Carbon tetrachloride	mg/L	0.0001452	0.14518	0.00014	0.00014	0.001	0.0000084	0.00014	0.00014	0.001	0
Chemical Oxygen Demand	mg/L	79.2096313	79209.63130	6.1	2	10	0.3671934	11	2	10	0
chlordane	mg/L	0.0000036	0.00364	0.0000016	0.0000016	0.000012	0.0000001	0.0000016	0.0000016	0.000012	0
Chloride	mg/L	231.4004515	231400	22	0.2	1	1.3243040	310	2	10	0
Chlorine, Total Residual	mg/L	0.0182167	18.21670	0			0.0000000	0			0
Chlorobenzene	mg/L	0.0001422	0.14217	0.00014	0.00014	0.001	0.0000084	0.00014	0.00014	0.001	0
Chlorodibromomethane	mg/L	0.0003869	0.38694	0.00014	0.00014	0.001	0.0000084	0.00014	0.00014	0.001	0
Chloroethane	mg/L	0.0002148	0.21476	0.00021	0.00021	0.001	0.0000126	0.00021	0.00021	0.001	0
Chloroform	mg/L	0.0091213	9.12129	0.00017	0.00017	0.001	0.0000102	0.00035	0.00017	0.001	0
Chlorpyrifos	mg/L	0.0000589	0.05894	0.00002	0.00002	0.0002	0.0000012	0.000019	0.000019	0.00019	0
Chromium (Hexavalent)	mg/L	0.0418059	41.80587	0.0023	0.0019	0.01	0.0001384	0.0019	0.0019	0.01	0
Chromium (Total)	mg/L	0.0098777	9.87765	0.0013	0.00023	0.002	0.0000783	0.00092	0.00077	0.005	0
Chrysene	mg/L	0.0001455	0.14546	0.00013	0.00013	0.0019	0.0000078	0.00013	0.00013	0.0019	0
cis-1,3-dichloropropene	mg/L	0.0001949	0.19488	0.00019	0.00019	0.001	0.0000114	0.00019	0.00019	0.001	0
Cobalt	mg/L	0.0570652	57.06516	0.00097	0.00005	0.0005	0.0000584	0.00063	0.00005	0.0005	0
Color	o	0.0601956					0				0
Copper	mg/L	0.0885437	88.54366	0.0029	0.00027	0.002	0.0001746	0.015	0.0015	0.025	0
Cyanide (Total)	mg/L	0.0038800	3.87998	0.0025	0.0025	0.01	0.0001505	0.0025	0.0025	0.01	0
d-BHC	mg/L	0.0000006	0.00055	0.00000037	0.00000037	0.0000013	2.23E-08	0.00000037	0.00000037	0.0000013	0
DDD	mg/L	0.0000011	0.00106	0.00000064	0.00000064	0.0000013	3.85E-08	0.00000064	0.00000064	0.0000013	0
DDT	mg/L	0.0000008	0.00084	0.00000071	0.00000071	0.0000013	4.27E-08	0.00000071	0.00000071	0.0000013	0
Demeton (total)	mg/L	0.0000322	0.03221	0.000032	0.000032	0.00039	0.0000019	0.000031	0.000031	0.00038	0

		SCENARIO 2 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000030	0.0000028	0.0000028	9.7E-06	5.05643E-07	0.0000029	0.0000029	0.0000099	1.74567E-07
Arochlor 1242	mg/L	0.0000020	0.0000018	0.0000018	9.7E-06	3.25056E-07	0.0000018	0.0000018	0.0000099	1.08352E-07
Arochlor 1248	mg/L	0.0000025	0.0000022	0.0000022	9.7E-06	3.97291E-07	0.0000023	0.0000023	0.0000099	1.3845E-07
Arochlor 1254	mg/L	0.0000015	0.0000013	0.0000013	9.7E-06	2.34763E-07	0.0000013	0.0000013	0.0000099	7.82543E-08
Arochlor 1260	mg/L	0.0000015	0.0000013	0.0000013	9.7E-06	2.34763E-07	0.0000013	0.0000013	0.0000099	7.82543E-08
Arsenic	mg/L	0.0254597	0.049	0.00012	0.001	0.008848758	0.034	0.00012	0.001	0.002046652
Azinophos methyl	mg/L	0.0000615	0.000022	0.000022	0.0002	3.97291E-06	0.000022	0.000022	0.0002	1.3243E-06
Barium	mg/L	0.2450745	0.084	0.000088	0.01	0.0151693	0.1	0.000088	0.01	0.006019564
b-BHC	mg/L	0.0000028	0.00000097	9.7E-07	1.3E-06	1.75169E-07	0.00000099	0.00000099	0.0000013	5.95937E-08
Benz(a)anthracene	mg/L	0.0001807	0.00015	0.00015	0.002	2.7088E-05	0.00014	0.00014	0.0019	8.42739E-06
Benzene	mg/L	0.0001164	0.00011	0.00011	0.001	1.98646E-05	0.00011	0.00011	0.001	6.62152E-06
Benzidine	mg/L	0.0344150	0.034	0.034	0.2	0.006139955	0.033	0.033	0.19	0.001986456
Benzo(a) pyrene	mg/L	0.0001374	0.00013	0.00013	0.002	2.34763E-05	0.00013	0.00013	0.0019	7.82543E-06
Benzo(g,h,i)perylene	mg/L	0.0001572	0.00015	0.00015	0.002	2.7088E-05	0.00015	0.00015	0.0019	9.02935E-06
Benzo(k)fluoranthene	mg/L	0.0005507	0.00054	0.00054	0.002	9.75169E-05	0.00053	0.00053	0.0019	3.19037E-05
Beryllium	mg/L	0.0046488	0.022	0.000036	0.001	0.003972912	0.000095	0.000036	0.001	5.71859E-06
Biochemical Oxygen Demand	mg/L	6.4802107	2.2	2	2	0.397291196	6.2	2	2	0.373212942
Bis(2-chloroethoxy) methane	mg/L	0.0005838	0.00058	0.00058	0.0099	0.00010474	0.00056	0.00056	0.0096	3.37096E-05
Bis(2-chloroethyl)ether	mg/L	0.0002548	0.00025	0.00025	0.002	4.51467E-05	0.00024	0.00024	0.0019	1.4447E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002051	0.0002	0.0002	0.002	3.61174E-05	0.00019	0.00019	0.0019	1.14372E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0125590	0.012	0.012	0.02	0.002167043	0.012	0.012	0.019	0.000722348
Bisphenol A	mg/L	0.0005491	0.00031	0.00031	0.00098	5.59819E-05	0.00031	0.00031	0.00097	1.86606E-05
Boron	mg/L	20.3147329	0.97	0.00046	0.005	0.1751693	0.49	0.00046	0.005	0.029495862
Bromide	mg/L	40.9787058	1.2	0.19	0.5	0.216704289	0.52	0.19	0.5	0.031301731
Bromoform	mg/L	0.0001979	0.00019	0.00019	0.001	3.43115E-05	0.00019	0.00019	0.001	1.14372E-05
Butyl benzyl phthalate	mg/L	0.0014125	0.0014	0.0014	0.0099	0.000252822	0.0014	0.0014	0.0096	8.42739E-05
Cadmium	mg/L	0.0017251	0.0063	0.000074	0.001	0.001137698	0.00011	0.000074	0.001	6.62152E-06
Carbon tetrachloride	mg/L	0.0001452	0.00014	0.00014	0.001	2.52822E-05	0.00014	0.00014	0.001	8.42739E-06
Chemical Oxygen Demand	mg/L	79.2096313	120	4	20	21.67042889	130	4	20	7.825432656
chlordane	mg/L	0.0000036	0.0000061	0.0000016	1.2E-05	1.10158E-06	0.0000016	0.0000016	0.000012	9.6313E-08
Chloride	mg/L	231.4004515	84	0.2	1	15.16930023	37	0.2	1	2.227238525
Chlorine, Total Residual	mg/L	0.0182167	0			0	0.04			0.002407825
Chlorobenzene	mg/L	0.0001422	0.00014	0.00014	0.001	2.52822E-05	0.00014	0.00014	0.001	8.42739E-06
Chlorodibromomethane	mg/L	0.0003869	0.00014	0.00014	0.001	2.52822E-05	0.00014	0.00014	0.001	8.42739E-06
Chloroethane	mg/L	0.0002148	0.00021	0.00021	0.001	3.79233E-05	0.00021	0.00021	0.001	1.26411E-05
Chloroform	mg/L	0.0091213	0.00017	0.00017	0.001	3.06998E-05	0.00018	0.00017	0.001	1.08352E-05
Chlorpyrifos	mg/L	0.0000589	0.00002	0.00002	0.0002	3.61174E-06	0.00002	0.00002	0.0002	1.20391E-06
Chromium (Hexavalent)	mg/L	0.0418059	0.2	0.048	0.25	0.036117381	0.0019	0.0019	0.01	0.000114372
Chromium (Total)	mg/L	0.0098777	0.039	0.00023	0.002	0.007042889	0.0016	0.00023	0.002	9.6313E-05
Chrysene	mg/L	0.0001455	0.00014	0.00014	0.002	2.52822E-05	0.00013	0.00013	0.0019	7.82543E-06
cis-1,3-dichloropropene	mg/L	0.0001949	0.00019	0.00019	0.001	3.43115E-05	0.00019	0.00019	0.001	1.14372E-05
Cobalt	mg/L	0.0570652	0.3	0.00005	0.0005	0.054176072	0.0012	0.00005	0.0005	7.22348E-05
Color	o	0.0601956				0				0
Copper	mg/L	0.0885437	0.38	0.00027	0.002	0.068623025	0.034	0.00027	0.002	0.002046652
Cyanide (Total)	mg/L	0.0038800	0.0025	0.0025	0.01	0.000451467	0.0025	0.0025	0.01	0.000150489
d-BHC	mg/L	0.0000006	0.00000052	3.6E-07	1.2E-06	9.39052E-08	0.0000025	0.00000038	0.0000013	1.50489E-07
DDD	mg/L	0.0000011	0.00000065	6.5E-07	1.3E-06	1.17381E-07	0.0000069	0.00000066	0.0000013	4.1535E-07
DDT	mg/L	0.0000008	0.00000072	7.2E-07	1.3E-06	1.30023E-07	0.0000018	0.00000073	0.0000013	1.08352E-07
Demeton (total)	mg/L	0.0000322	0.000032	0.000032	0.00039	5.77878E-06	0.000032	0.000032	0.00039	1.92626E-06

		SCENARIO 2 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	UPPER TOE DRAIN_MDL	UPPER TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000030	0.00002	0.00002	0.0005155	1.20391E-07	0.0000028	0.0000028	9.6E-06	1.68548E-07
Arochlor 1242	mg/L	0.0000020	0.00004	0.00004	0.0005155	2.40783E-07	0.0000018	0.0000018	9.6E-06	1.08352E-07
Arochlor 1248	mg/L	0.0000025	0.00005	0.00005	0.0005155	3.00978E-07	0.0000022	0.0000022	9.6E-06	1.3243E-07
Arochlor 1254	mg/L	0.0000015	0.00004	0.00004	0.0005155	2.40783E-07	0.0000013	0.0000013	9.6E-06	7.82543E-08
Arochlor 1260	mg/L	0.0000015	0.00004	0.00004	0.0002062	2.40783E-07	0.0000013	0.0000013	9.6E-06	7.82543E-08
Arsenic	mg/L	0.0254597	0.0495	0.00061	0.001	0.000297968	0.0013	0.00012	0.001	7.82543E-05
Azinophos methyl	mg/L	0.0000615	0.0065		0.0065	3.91272E-05	0.000022	0.000022	0.00019	1.3243E-06
Barium	mg/L	0.2450745	0.193	0.002	0.01	0.001161776	0.065	0.000088	0.01	0.003912716
b-BHC	mg/L	0.0000028	0.000005	0.000005	0.00005155	3.00978E-08	0.00000096	9.6E-07	1.3E-06	5.77878E-08
Benz(a)anthracene	mg/L	0.0001807	0.00556	0.00556	0.005556	3.34688E-05	0.00014	0.00014	0.0019	8.42739E-06
Benzene	mg/L	0.0001164	0.001	0.001	0.005	6.01956E-06	0.00011	0.00011	0.001	6.62152E-06
Benzidine	mg/L	0.0344150	0.00556	0.00556	0.005556	3.34688E-05	0.033	0.033	0.19	0.001986456
Benzo(a) pyrene	mg/L	0.0001374	0.00111	0.00111	0.005556	6.68172E-06	0.00013	0.00013	0.0019	7.82543E-06
Benzo(g,h,i)perylene	mg/L	0.0001572	0.00111	0.00111	0.005556	6.68172E-06	0.00015	0.00015	0.0019	9.02935E-06
Benzo(k)fluoranthene	mg/L	0.0005507	0.00111	0.00111	0.005556	6.68172E-06	0.00053	0.00053	0.0019	3.19037E-05
Beryllium	mg/L	0.0046488	0.002	0.002	0.004	1.20391E-05	0.000036	0.000036	0.001	2.16704E-06
Biochemical Oxygen Demand	mg/L	6.4802107	2.9	0.2	2	0.017456734	2	2	2	2
Bis(2-chloroethoxy) methane	mg/L	0.0005838	0.00111	0.00111	0.005556	6.68172E-06	0.00056	0.00056	0.0096	3.37096E-05
Bis(2-chloroethyl)ether	mg/L	0.0002548	0.00111	0.00111	0.005556	6.68172E-06	0.00024	0.00024	0.0019	1.4447E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002051	0.00111	0.00111	0.005556	6.68172E-06	0.00019	0.00019	0.0019	1.14372E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0125590	0.00111	0.00111	0.005556	6.68172E-06	0.012	0.012	0.019	0.000722348
Bisphenol A	mg/L	0.0005491				0	0.00032	0.00032	0.001	1.92626E-05
Boron	mg/L	20.3147329	3.76	0.05	0.05	0.022633559	0.5	0.00046	0.005	0.030097818
Bromide	mg/L	40.9787058	5	5	5	0.030097818	0.52	0.19	0.5	0.031301731
Bromoform	mg/L	0.0001979	0.0015	0.0015	0.005	9.02935E-06	0.00019	0.00019	0.001	1.14372E-05
Butyl benzyl phthalate	mg/L	0.0014125	0.00111	0.00111	0.005556	6.68172E-06	0.0014	0.0014	0.0096	8.42739E-05
Cadmium	mg/L	0.0017251	0.00011	0.00011	0.0003	6.62152E-07	0.000087	0.000074	0.001	5.23702E-06
Carbon tetrachloride	mg/L	0.0001452	0.001	0.001	0.005	6.01956E-06	0.00014	0.00014	0.001	8.42739E-06
Chemical Oxygen Demand	mg/L	79.2096313	12.7	10	10	0.076448457	16	2	10	0.963130173
chlordane	mg/L	0.0000036	0.000206	0.000206	0.0002062	1.24003E-06	0.0000016	0.0000016	1.2E-05	9.6313E-08
Chloride	mg/L	231.4004515	52.4	10	10	0.315425132	6.8	0.2	1	0.409330324
Chlorine, Total Residual	mg/L	0.0182167				0	0			0
Chlorobenzene	mg/L	0.0001422	0.0005	0.0005	0.005	3.00978E-06	0.00014	0.00014	0.001	8.42739E-06
Chlorodibromomethane	mg/L	0.0003869	0.001	0.001	0.005	6.01956E-06	0.00014	0.00014	0.001	8.42739E-06
Chloroethane	mg/L	0.0002148	0.001	0.001	0.005	6.01956E-06	0.00021	0.00021	0.001	1.26411E-05
Chloroform	mg/L	0.0091213	0.001	0.001	0.005	6.01956E-06	0.00017	0.00017	0.001	1.02333E-05
Chlorpyrifos	mg/L	0.0000589	0.0065		0.0065	3.91272E-05	0.000019	0.000019	0.00019	1.14372E-06
Chromium (Hexavalent)	mg/L	0.0418059	0.061	0.1	0.003	0.000367193	0.044	0.0019	0.01	0.002648608
Chromium (Total)	mg/L	0.0098777	0.0355	0.001	0.01	0.000213695	0.00023	0.00023	0.002	1.3845E-05
Chrysene	mg/L	0.0001455	0.00111	0.00111	0.005556	6.68172E-06	0.00013	0.00013	0.0019	7.82543E-06
cis-1,3-dichloropropene	mg/L	0.0001949	0.001	0.001	0.005	6.01956E-06	0.00019	0.00019	0.001	1.14372E-05
Cobalt	mg/L	0.0570652	0.002	0.002	0.004	1.20391E-05	0.0014	0.00005	0.0005	8.42739E-05
Color	o	0.0601956	10	10	10	0.060195636				0
Copper	mg/L	0.0885437	0.00239	0.00022	0.001	1.43868E-05	0.00058	0.00027	0.002	3.49135E-05
Cyanide (Total)	mg/L	0.0038800	0.01	0.01	0.01	6.01956E-05	0.0025	0.0025	0.01	0.000150489
d-BHC	mg/L	0.0000006	0.000005	0.000005	0.00005155	3.00978E-08	0.00000037	3.7E-07	1.3E-06	2.22724E-08
DDD	mg/L	0.0000011	0.000005	0.000005	0.00005155	3.00978E-08	0.00000064	6.4E-07	1.3E-06	3.85252E-08
DDT	mg/L	0.0000008	0.000005	0.000005	0.00005155	3.00978E-08	0.00000071	7.1E-07	1.3E-06	4.27389E-08
Demeton (total)	mg/L	0.0000322				0	0.000031	0.000031	0.00038	1.86606E-06

		SCENARIO 2 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000030	0.0000028	0.0000028	0.0000095	2.31753E-08	2.9E-06	2.9E-06	0.0000099	4.36418E-07	0.0000029	0.0000029	0.0000098	1.37472E-06
Arochlor 1242	mg/L	0.0000020	0.0000018	0.0000018	0.0000095	1.48984E-08	1.8E-06	1.8E-06	0.0000099	2.7088E-07	0.0000018	0.0000018	0.0000098	8.53273E-07
Arochlor 1248	mg/L	0.0000025	0.0000022	0.0000022	0.0000095	1.82092E-08	2.3E-06	2.3E-06	0.0000099	3.46125E-07	0.0000022	0.0000022	0.0000098	1.04289E-06
Arochlor 1254	mg/L	0.0000015	0.0000013	0.0000013	0.0000095	1.076E-08	1.3E-06	1.3E-06	0.0000099	1.95636E-07	0.0000013	0.0000013	0.0000098	6.16253E-07
Arochlor 1260	mg/L	0.0000015	0.0000013	0.0000013	0.0000095	1.076E-08	1.3E-06	1.3E-06	0.0000099	1.95636E-07	0.0000013	0.0000013	0.0000098	6.16253E-07
Arsenic	mg/L	0.0254597	0.17	0.012	0.01	0.001407073	0.06	0.0012	0.01	0.009029345	0.007	0.003	0.001	0.003318284
Azinophos methyl	mg/L	0.0000615	0.000022	0.000022	0.00019	1.82092E-07	0.000022	0.000022	0.0002	3.31076E-06	0.000023	0.000023	0.0002	1.09029E-05
Barium	mg/L	0.2450745	0.5	0.0088	1	0.00413845	0.28	0.00088	0.1	0.042136945	0.35	0.000088	0.01	0.165914221
b-BHC	mg/L	0.0000028	0.000012	0.00000095	0.0000012	9.93228E-08	0.000012	9.9E-07	0.0000013	1.80587E-06	0.00000098	0.00000098	0.0000013	4.6456E-07
Benz(a)anthracene	mg/L	0.0001807	0.00014	0.00014	0.0019	1.15877E-06	0.00015	0.00015	0.0021	2.25734E-05	0.00015	0.00015	0.002	7.11061E-05
Benzene	mg/L	0.0001164	0.00023	0.00011	0.001	1.90369E-06	0.00011	0.00011	0.001	1.65538E-05	0.00011	0.00011	0.001	5.21445E-05
Benzidine	mg/L	0.0344150	0.033	0.033	0.19	0.000273138	0.036	0.036	0.21	0.005417607	0.035	0.035	0.2	0.016591422
Benzo(a) pyrene	mg/L	0.0001374	0.00013	0.00013	0.0019	1.076E-06	0.00014	0.00014	0.0021	2.10685E-05	0.00013	0.00013	0.002	6.16253E-05
Benzo(g,h,i)perylene	mg/L	0.0001572	0.00014	0.00014	0.0019	1.15877E-06	0.00016	0.00016	0.0021	2.40783E-05	0.00015	0.00015	0.002	7.11061E-05
Benzo(k)fluoranthene	mg/L	0.0005507	0.00052	0.00052	0.0019	4.30399E-06	0.00057	0.00057	0.0021	8.57788E-05	0.00055	0.00055	0.002	0.000260722
Beryllium	mg/L	0.0046488	0.0036	0.0036	0.01	2.97968E-05	0.00036	0.00036	0.01	5.41761E-05	0.0011	0.000036	0.001	0.000521445
Biochemical Oxygen Demand	mg/L	6.4802107	2	2	2	0.0165538	2	2	2	0.300978179	2.9	2	2	1.374717833
Bis(2-chloroethoxy) methane	mg/L	0.0005838	0.00055	0.00055	0.0094	4.55229E-06	0.00061	0.00061	0.01	9.17983E-05	0.00058	0.00058	0.01	0.000274944
Bis(2-chloroethyl)ether	mg/L	0.0002548	0.00024	0.00024	0.0019	1.98646E-06	0.00026	0.00026	0.0021	3.91272E-05	0.00025	0.00025	0.002	0.00011851
Bis(2-chloroisopropyl) ether	mg/L	0.0002051	0.00019	0.00019	0.0019	1.57261E-06	0.00021	0.00021	0.0021	3.16027E-05	0.0002	0.0002	0.002	9.48081E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0125590	0.012	0.012	0.019	9.93228E-05	0.013	0.013	0.021	0.001956358	0.013	0.013	0.02	0.006162528
Bisphenol A	mg/L	0.0005491	0.00031	0.00031	0.00098	2.56584E-06	0.00032	0.00032	0.001	4.81565E-05	0.00032	0.00032	0.00099	0.000151693
Boron	mg/L	20.3147329	230	0.46	0.5	1.903686983	120	0.046	0.5	18.05869074	0.18	0.00061	0.2	0.085327314
Bromide	mg/L	40.9787058	150	4.8		1.241534989	260	4.8	13	39.12716328	0.61		1.3	0.289164786
Bromoform	mg/L	0.0001979	0.00019	0.00019	0.001	1.57261E-06	0.00019	0.00019	0.001	2.85929E-05	0.00019	0.00019	0.001	9.00677E-05
Butyl benzyl phthalate	mg/L	0.0014125	0.0013	0.0013	0.0094	1.076E-05	0.0015	0.0015	0.01	0.000225734	0.0014	0.0014	0.01	0.000663657
Cadmium	mg/L	0.0017251	0.011	0.0074	0.1	9.10459E-05	0.0023	0.00074	0.01	0.000346125	0.00026	0.000074	0.001	0.000123251
Carbon tetrachloride	mg/L	0.0001452	0.00014	0.00014	0.001	1.15877E-06	0.00014	0.00014	0.001	2.10685E-05	0.00014	0.00014	0.001	6.63657E-05
Chemical Oxygen Demand	mg/L	79.2096313	300	20	100	2.483069977	210	20	100	31.6027088	30	2	10	14.22121896
chlordane	mg/L	0.0000036	0.0000016	0.0000016	0.000012	1.3243E-08	1.6E-06	1.6E-06	0.000012	2.40783E-07	0.0000016	0.0000016	0.000012	7.58465E-07
Chloride	mg/L	231.4004515	23100	49	250	191.1963883	82.5	49	250	12.41534989	17.6	4.9	25	8.343115124
Chlorine, Total Residual	mg/L	0.0182167	1.91			0.015808879	0			0	0			0
Chlorobenzene	mg/L	0.0001422	0.00014	0.00014	0.001	1.15877E-06	0.00014	0.00014	0.001	2.10685E-05	0.00014	0.00014	0.001	6.63657E-05
Chlorodibromomethane	mg/L	0.0003869	0.00014	0.00014	0.001	1.15877E-06	0.00077	0.00014	0.001	0.000115877	0.00045	0.00014	0.001	0.000213318
Chloroethane	mg/L	0.0002148	0.00021	0.00021	0.001	1.73815E-06	0.00021	0.00021	0.001	3.16027E-05	0.00021	0.00021	0.001	9.95485E-05
Chloroform	mg/L	0.0091213	0.0038	0.00017	0.001	3.14522E-05	0.019	0.00017	0.001	0.002859293	0.013	0.00017	0.001	0.006162528
Chlorpyrifos	mg/L	0.0000589	0.000019	0.000019	0.00019	1.57261E-07	0.00002	0.00002	0.0002	3.00978E-06	0.00002	0.00002	0.0002	9.48081E-06
Chromium (Hexavalent)	mg/L	0.0418059	0.023	0.0019		0.000190369	0.0019	0.0019	0.01	0.000285929	0.0041		0.01	0.001943567
Chromium (Total)	mg/L	0.0098777	0.023	0.023	0.2	0.000190369	0.0023	0.0023	0.02	0.000346125	0.004	0.00023	0.002	0.001896163
Chrysene	mg/L	0.0001455	0.00013	0.00013	0.0019	1.076E-06	0.00015	0.00015	0.0021	2.25734E-05	0.00014	0.00014	0.002	6.63657E-05
cis-1,3-dichloropropene	mg/L	0.0001949	0.00019	0.00019	0.001	1.57261E-06	0.00019	0.00019	0.001	2.85929E-05	0.00019	0.00019	0.001	9.00677E-05
Cobalt	mg/L	0.0570652	0.021	0.005	0.05	0.000173815	0.0074	0.0005	0.005	0.001113619	0.0029	0.00005	0.0005	0.001374718
Color	o	0.0601956				0				0				0
Copper	mg/L	0.0885437	0.027	0.027	0.2	0.000223476	0.015	0.0027	0.02	0.002257336	0.032	0.00027	0.002	0.0151693
Cyanide (Total)	mg/L	0.0038800	0.0025	0.0025		2.06922E-05	0.0057	0.0025	0.01	0.000857788	0.0043		0.01	0.002038375
d-BHC	mg/L	0.0000006	0.00000036	0.00000036	0.0000012	2.97968E-09	3.8E-07	3.8E-07	0.0000013	5.71859E-08	0.00000037	0.00000037	0.0000013	1.75395E-07
DDD	mg/L	0.0000011	0.00000064	0.00000064	0.0000012	5.29722E-09	6.6E-07	6.6E-07	0.0000013	9.93228E-08	0.00000066	0.00000066	0.0000013	3.12867E-07
DDT	mg/L	0.0000008	0.0000041	0.0000007	0.0000012	3.39353E-08	7.3E-07	7.3E-07	0.0000013	1.09857E-07	0.00000073	0.00000073	0.0000013	3.4605E-07
Demeton (total)	mg/L	0.0000322	0.000031	0.000031	0.00038	2.56584E-07	0.000032	0.000032	0.00039	4.81565E-06	0.000033	0.000033	0.0004	1.56433E-05

Bryan, Joseph (DEQ)

From: Kimberly D Lanterman (Services - 6) <Kimberly.D.Lanterman@dom.com>
Sent: Monday, November 09, 2015 4:25 PM
To: Wrenn, Brian (DEQ)
Cc: Adamson, Emilee (DEQ)
Subject: New TRC and Chloride Data for the Chesterfield Power Station VPDES Permit Application

Importance: High

Hello Brian – I hope you are doing well. As we discussed by phone early last week, after doing a detailed evaluation of all the initial data submitted to DEQ as part of the Chesterfield Power Station VPDES permit application package, Dominion determined that the concentrations from specific locations for both Total Residual Chlorine (TRC) and Chloride appeared anomalous. For example, the original chloride value for the FGD Yard Sumps was 14,000 mg/l. Since the water in these sumps contain primarily stormwater, it was Dominion's professional opinion that this value seemed excessive and not representative of the discharge from that location. Additionally, since the FGD Wastewater Treatment Plant (FGD Plant) does not chlorinate the process water at the plant, it was also Dominion's professional opinion that there was likely interference compounds that resulted in a false positive reading for TRC. Based on this reasoning, Dominion decided to re-sample and re-analyze the discharge from the specific locations with the anomalous readings for TRC and Chlorides. On November 2, 2015, Dominion re-tested for Chlorides at the FGD Yard Sump, Master Sump, and FGD Plant. In addition, on November 2, 2015, Dominion also re-tested for TRC at the bottom ash management area, toe drains, coal pile runoff, FGD yard sump, master sump, and FGD Plant (all locations where TRC was previously detected). The results from the November 2, 2015 re-test (as well as the original results presented with the VPDES permit application, are provided in the table below.

The Chloride readings for the units that were re-tested appear reasonable and representative for the FGD yard sump, master sump, and FGD plant. It is expected that the FGD plant would have an elevated Chloride concentration, which was demonstrated with the results from the re-test (23,100 mg/l). It was also expected that the master sump and yard sumps would have lower levels of Chloride, since these processes contain mostly stormwater. This was also demonstrated in the concentrations from the re-test (82.5 mg/l for the FGD yard sump and 17.6 mg/l for the master sump). Using the new sampling results for Chloride (FGD plant, master sump, and FGD yard sump), the two scenarios previously presented with the VPDES application (Scenario 1 and Scenario 2) were re-run to obtain the worst case concentration of Chloride expected at Outfall 301. Both the original and new Scenario 1 and 2 results for Chloride are provided in the table below.

Regarding TRC, Dominion does not expect this constituent to be present in any of the units contributing flow to the new Low Volume Wastewater Treatment System (LVWWTS) and Outfall 301. Based on the original detected levels of TRC in the discharge from the bottom ash management area, toe drains, coal pile runoff, FGD yard sump, master sump, and FGD Plant, Dominion decided to re-test these locations for TRC. As stated previously, the FGD plant does not chlorinate its water and the other process flows should also not have elevated total residual chlorine concentrations. The results of the re-testing for TRC are also provided in the table below. All re-tested TRC concentrations were below the quantitation level for TRC (0.100 mg/l), with the exception of the sample collected from the FGD plant. It is Dominion's professional opinion that this result (1.91 mg/l) is a false positive and is the result of interference from other constituents in the process flow. Dominion attempted to discern the nature of this interference, by sampling known interference parameters (manganese, copper, iron, etc.) published by the HACH Company for the method used for TRC. However, based on the laboratory data and the results, we were unable to determine the source of the interference that gave a false positive on the TRC test for the FGD plant. However, it is extremely unlikely that the results for TRC are valid since chlorine is not used nor is it expected as a constituent of this process stream.

Based on this information, we request that the original results provided for Chloride and TRC be replaced with the new results for these constituents from the November 2, 2015 re-test. We believe these new results from 11/2/15 are more

accurate and representative of the re-tested process discharges. We request that these new results be used in DEQ's reasonable potential analysis for these constituents.

ChemName	Output Unit	Bottom Ash	Coal Pile Runoff	Toe Drain	FGD WWTP	FGD Yard Sump	Master Sump	Original Scenario 1	Origin Scenari
Chloride (11/2/15 results)	mg/L	N/A	N/A	N/A	23100	82.5	17.6	N/A	N/A
Chloride (original results)	mg/L	22	84	6.8	9600	14000	1600	4289	2964
Chlorine, Total Residual (11/2/15 results)	mg/L	<0.10	<0.10	<0.10	1.91	<0.10	<0.10		
Chlorine, Total Residual (original results)	mg/L	0.04	0.44	0.02	0.24	>2.2	0.25		

If you have any questions or need additional information, please let me know. We would be glad to have a call to discuss if that would be helpful. Thanks!

Kim Lanterman
Dominion Environmental Services
804-273-4123

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

Table 1. Flow Estimates for Scenarios 1 and 2

Source of Flow	Scenario #1 - Process Max Flow (Q)		Scenario 2 - Storm Event Flow (Q, Process Average + Stormwater)					
			Process Average Flow (MGD)		Design Stormwater Runoff Flow (MGD)		Scenario 2 Flow (MGD)	
	Flow (MGD)	Description	Flow (MGD)	Description	Flow (MGD)	Description	Flow (MGD)	Justification
Bottom Ash	--	No process water	--	No process water	0.8	25-year, 24-hour storm event runoff across drainage area	0.8	Stormwater runoff only
S-Ditch	--	No process water	--	No process water	0.8	Manually operated 3,000 GPM pump.	0.8	Stormwater runoff only
Master Sump	4	Maximum of master sump flow meter data	2.7	Maximum of master sump flow meter data	3.6	25-year, 24-hour storm event runoff across drainage area	6.3	Process average plus design storm runoff to capture 25-year event
FGD Yard	3.4	Maximum of FGD sump pipe flow meter data with FGD Plant removed	1.1	Maximum of FGD sump pipe flow meter data with FGD Plant removed	0.9	25-year, 24-hour storm event runoff across drainage area	2.0	Process average design plus stormwater runoff flow[1]
FGD Plant	0.35	Maximum of metered flow data	0.11	Maximum of metered flow data	--	No storm water	0.11	Process average flow, no stormwater runoff flow
Leachate	0.19	Peak daily leachate discharge for Year 14 of landfill operation.	0.08	Peak daily leachate discharge for Year 14 of landfill operation.	--	No storm water	0.08	Process average flow, no stormwater runoff flow
Contact Stormwater[2]	--	No process water	--	No process water	0.4	25-year, 24-hour storm event runoff across drainage area	0.4	Stormwater runoff only
LAP Toe Drain[2]	0.4	Pump capacity of two pumps	0.2	Pump capacity of two pumps	--	No stormwater	0.2	Process average flow, no stormwater runoff flow
UAP Toe Drain[2]	0.4	Pump capacity of two pumps	0.2	Pump capacity of two pumps	--	No stormwater	0.2	Process average flow, no stormwater runoff flow
Metals Pond	5	Existing 2009 VPDES Application Estimate	2.7	Existing 2009 VPDES Application Estimate	--	No stormwater	--	Will not discharge during the 25-year, 24-hour storm runoff period
Coal Yard	--	No process water	--	No process water	2.4	25-year, 24-hour storm event runoff across drainage area	2.4	Design storm runoff
Total	13.74		7.09		8.9		13.29	

[1] S-Ditch stormwater discharge is connected to the FGD Yard sump pipe. Therefore, the 0.8 MGD flow from the S-ditch was subtracted from the FGD Yard Scenario 2 flow in order to avoid double counting the S-ditch flow.

[2] Contact stormwater, UAP toe drain, and LAP toe drain flows are combined in the Worst Case Concentration calculation, equal to 0.8 MGD for Scenario 1 and 0.8 MGD for Scenario 2.

Action Items

A meeting was held on Monday, September 21, 2015 with DEQ, Dominion, and Geosyntec. The purpose of the meeting was to discuss responses to DEQ comments and requests for additional information. Multiple action items were generated during the call, and Dominion is providing this response to provide additional information to DEQ to assist them in the processing and review of the VPDES Permit Application. The specific action items and Dominion's responses are provided below.

Action Item #1: Provide an explanation of all the flows to the new Low Volume Wastewater Treatment System (LVWWTS) and spreadsheets showing the worst case concentration of constituents expected in the final discharge to Outfall 301.

Response: The response to Action Item #1 is provided in three separate sections below. The first section provides a discussion of the flow estimates. The second section describes the two scenarios presented to DEQ, and the third section provides a discussion of the worst case concentration calculation for the two scenarios.

Flow Descriptions

Flow estimates have been measured and estimated for the various process and stormwater runoff flows that discharge to the LVWWTS. The attached Table 1 presents a summary of the maximum and average process flows and the stormwater runoff flows for the various waste streams. The table also includes flow information for two typical operating scenarios at the Chesterfield Power Station. The scenarios are presented in the following section.

The average and maximum process flows were estimated based on actual metered flow data (Master Sump, FGD Yard, and FGD Plant), design information such as pump capacities (LAP toe drain and UAP toe drain), design modeling (leachate), and previously reported flow data (metals pond). Other sources contribute stormwater only and have no process water contribution (bottom ash, S-ditch, contact stormwater, and coal pile runoff).

Stormwater flows were generally calculated by modeling the runoff from a 25-year, 24-hour storm event (design storm) over the drainage area contributing to the source. The S-ditch stormwater flow is a manually controlled stormwater discharge, and the estimate is based on the operation of a 3,000 GPM pump.

Some revisions to the previously reported flows have been made since the initial application submission. The revisions and the reasons for these revisions are as follows:

- Leachate process maximum. The leachate process maximum flow was revised from 0.36 MGD to 0.19 MGD. The flow was revised based on a more detailed analysis of the phasing of the landfill. The original estimate was based on an overly conservative fully open landfill with a peak daily leachate generation rate. The current estimate is based on a peak daily leachate generation with 10 acres of open cell (maximum allowed under the solid waste permit) with the remaining portions of the landfill with intermediate or final cover.
- Contact stormwater. Previously no flow was reported for the contact stormwater discharge from the FFCP Management Facility's contact stormwater basin. An analysis of this contact stormwater discharge during a 25-year, 24-hour stormwater event, based on the maximum

contributing area for the potential to generate contact stormwater, indicated a maximum flow of 0.4 MGD.

- Lower ash pond toe drain. The lower ash pond toe drain pumps were revised to be identical to the upper ash pond toe drain pumps. Therefore, the flows were revised to be identical.
- Coal pile. In recent email correspondence, DEQ noted a discrepancy with the coal pile runoff flow reported in the application versus what was reported in the CER. A change in design resulted in a design flow of 2.4 MGD based on a 25-year, 24-hour storm event and an 18.8 acre drainage area.
- Metals pond. A flow of 3.23 MGD was reported in the draft 2014 fact sheet as part of the 2009 permit renewal application in which the metals pond operation was assumed to continue as a gravity flow system. The current metals pond design is a pumped system; therefore, the anticipated average and maximum flows are different. The correct flow value for the new design is 2.7 MGD.

The flows described above and provided in Table 1 are appropriate for analysis of the worst case concentrations for Outfall 301. Other documents in which these flows are reported (Conceptual Engineering Report, Process Flow Diagram, and the One-line Drawing) will be revised to reflect these flows and will be submitted under separate cover to DEQ.

Scenario Descriptions

Dominion understands DEQ desires to use a conservative approach to determine worst case concentrations for the discharge through Outfall 301. DEQ initially used the maximum reported concentration for each pollutant from any source and the total maximum reported flow, which was a summation of flows for all sources, to determine the worst case concentrations. While the analysis provided an ultra-conservative estimate, Dominion believes the scenario is not realistic or even possible based on the operating conditions of the Chesterfield Power Station and the variability in flows. Therefore, Dominion has developed two "typical" discharge scenarios for DEQ's use. These scenarios are still conservative but are more representative of actual conditions. The first scenario is the maximum process flow from the Station during nice weather. The second scenario is the maximum flow anticipated during a 25-year, 24-hour storm event, which is considered the design storm event for the LVWWTS. Scenario 1 is process flow only, and Scenario 2 represents both process and stormwater flow combined. It should be noted that in estimating Scenario 2 flows, the average process flow was added to the stormwater flow for discharges that include both process and stormwater flow. The average process flow was used since it most accurately represents Station operations during a major storm event.

Table 1 presents the individual flows for each internal discharge along with the flows for both scenarios. The Scenario 1 flow is equal to the Process Maximum flow. The Scenario 2 flow is equal to the sum of the Process Average flow and the Design Stormwater Runoff flow. A discussion of Dominion's proposed worst case concentration calculation is provided below.

Worst Case Concentrations

The flow weighted average of the concentrations for the pollutants of concern in the waste streams that contribute to Outfall 301 are attached (two spreadsheets). The worst case scenario was calculated by first multiplying the pollutant concentration by the flow (Q, see Table 1) for the particular waste stream.

The product of the concentration and flow was summed for each contributing waste stream. The sum was then divided by the sum of Qs expected for Outfall 301 as shown by the following equation:

Combined Discharge Concentration (mg/L) = $(Q_1/\sum Q_i)$ x Max $Conc_1$ + $(Q_2/\sum Q_i)$ x Max $Conc_2$ + ….. $(Q_n/\sum Q_i)$ x Max $Conc_n$)

Where Q_i is the expected maximum flow rate from each waste stream (i.e. Master Sump, FGD Plant, etc) and Max $Conc_1$ is the maximum constituent concentration sampled from the waste stream.

A description of the calculation steps and an example calculation for Copper using Scenario 2 are provided below.

Inputs:

Step 1 – Assume a constituent to analyze. For this example, the element copper will be used. In order to identify the maximum potential concentration, the total copper value will be used. For the Attachment A constituents, metals (such as copper) were required to be in the dissolved form. For Form 2C, the total form was required to be reported. Dominion analyzed both forms of this element. Usually, the total form of an element is greater than the dissolved form. Therefore, in order to be conservative, the total form of copper will be used in this example. The unit for the concentration of copper is milligrams per liter.

Step 2 – Assume a particular waste steam. The first goal of this example is to examine one waste stream and one constituent and calculate the maximum expected concentration of this constituent in one particular waste stream. For this example, the unit contributing to the flow will be "Bottom Ash". Please note that this selection is arbitrary, and we could have selected any of the units contributing to the total flow to analyze for this example.

Step 3 – Under Scenario 2, there are a total of ten flows that contribute to the total flow to Outfall 301, as shown in the table below. Of the ten flows, the LAP toe drains, UAP toe drains, and contact stormwater are combined and represented by the water quality data from the UAP toe drain. These data are considered representative of the other two flows and are derived from an actual source. Each flow will have a concentration of copper in it. In this example, the bottom ash flow is estimated to be 0.8 MGD. Therefore, Q_1 = 0.8 MGD.

Unit Contributing to Flow	**Flow Qi (MGD)**
Bottom Ash	0.8
S-Ditch	0.8
Master Sump	6.3
FGD Yard	2.0
FGD Plant	0.11
Leachate	0.08
LAP / UAP Toe Drains and Non-Contact Stormwater	0.8
Coal Yard	2.4
Totals (∑Qi)	13.29

Step 4 – Calculate the copper concentration in the unit contributing to the flow (i.e., Bottom Ash). A sample of the bottom ash slurry was collected and analyzed for both total and dissolved copper. As discussed above, the total copper concentration was conservatively used in developing the worse-case concentration for Outfall 301. The concentration of copper used in this example is 0.0029 mg/L; therefore, Max $Conc_1$ is 0.0029 mg/L.

Step 5 – Sum up all the flows contributing to Outfall 301. The bottom ash unit is only one of the units contributing to total flow that will be expected at Outfall 301. In order to determine this amount, each flow must be added together to obtain the total. In the equation above, this is represented by = $\sum Q_i$ and is the sum of all flows.

Sum of all flows = $\sum Q_i$ = 0.8 MGD + 0.8 MGD + 6.3 MGD + 2 MGD + 0.11 MGD + 0.08 MGD + 0.8 MGD + 2.4 MGD = 13.29 MGD.

Step 6 – Calculate the portion of the total flow that each waste stream will contribute. In this example, the flow for "Bottom Ash" is used. This portion of the total flow (expressed as a percentage) is calculated by dividing the individual flow by the total flow as shown below. This proportional flow will be used to estimate the weighted contribution of copper to the total flow by the bottom ash waste stream.

$(Q_1/\sum Q_i)$ = 0.8 MGD / 13.29 MGD = 0.0601956

Step 7 – Calculate the copper concentration in the portion of the flow calculated in Step 6 above. This value is calculated by multiplying the copper concentration sampled in the bottom ash sample by the calculated flow. The equation for this step is shown below.

$(Q_1/\sum Q_i)$ x Max $Conc_1$ = 0.0601956 x 0.0029 mg/L = 0.0001746 mg/L

Step 8 – Compute the combined discharge concentration by adding up individual, flow-weighted copper concentrations of all the waste streams using the same methodology outlined in Steps 1-7. This equation is shown below.

Combined Discharge Concentration (mg/L) = $(Q_1/\sum Q_i)$ x Max $Conc_1$ + $(Q_2/\sum Q_i)$ x Max $Conc_2$ + ….. $(Q_n/\sum Q_i)$ x Max $Conc_n$)

Total Maximum Expected Concentration of Copper in Outfall 301 =

$(Q_1/\sum Q_i)$ x Max $Conc_1$ (Bottom Ash) +

$(Q_2/\sum Q_i)$ x Max $Conc_2$ (Metals Pond) +

$(Q_3/\sum Q_i)$ x Max $Conc_3$ (Coal Yard) +

$(Q_4/\sum Q_i)$ x Max $Conc_4$ (Sierra Ditch) +

$(Q_5/\sum Q_i)$ x Max $Conc_5$ (Leachate) +

$(Q_{6,\ 7,\ 8}/\sum Q_{6,\ 7,\ 8})$ x Max $Conc_1$ (LAP and UAP Toe Drains and Non-Contact Stormwater are combined, and water quality is represented by the UAP Toe Drain sample)

$(Q_9/\sum Q_i)$ x Max $Conc_9$ (FGD Plant) +

$(Q_{10}/\sum Q_i)$ x Max $Conc_{10}$ (FGD Yard Sump) +

$(Q_{11}/\sum Q_i)$ x Max $Conc_{11}$ (Master Sump) =

0.0001746 + 0 + 0.068623 + 0.00204665+ 1.43868E-05 + 3.49135E-05 + 0.00022348 + 0.0022574 + 0.0151693 = 0.0885437 mg/L

The tables provided below show the results for the constituents of potential concern recently developed by DEQ as a result of DEQ's initial RPA evaluation. These tables show the worst case concentration for both Scenarios 1 and 2. The calculation steps above were repeated for each parameter and each scenario.

Scenario 1

Parameter	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (µg/l)
Copper	0.019	19.241
Nickel	0.023	22.852
Selenium	0.019	19.070
Zinc	0.027	27.171

Scenario 2

Parameter	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (µg/l)
Copper	0.088	88.544
Nickel	0.111	111.255
Selenium	0.013	13.421
Zinc	0.359	359.095

Action Item #2: Provide an explanation of all values that had the laboratory qualifier of "P" and ensure that the maximum concentration for each value is used to determine the worst case concentration at Outfall 301.

Response: Geosyntec has reviewed the results for all constituents that had a "P" qualifier. Please note that the analytical laboratory selected the lower value (mg/L of the constituent) of the two GC columns and reported that value with a "P" qualifier. Since the laboratory reported the lower of the results from the two GC columns, we selected the higher of these values (i.e., maximum concentration) and used these values in the worst case scenario spreadsheets and calculations. Dominion is providing both column tests in the attached spreadsheet labeled "P Qualifier Data Table". Please note that this qualifier was only used for the following pesticide results (i.e., 4,4-DDE, a-BHC, Aldrin, d-BHC, DDD, DDT, Dieldrin, Endosulfan I, Endosulfan II, Endosulfan sulphate, g-BHC {Lindane}, and Heptachlor).

Action Item #3: Provide an explanation for the elevated QLs for the leachate data provided to DEQ previously. In the absence of an appropriate QL, DEQ has generated proposed limits for several SVOCs (see response) that do not appear to be constituents of potential concern for Outfall 301.

Response: The laboratory (Air, Water and Soil Laboratories, AWS) that analyzed the leachate samples only provided the LOQ for the results. Dominion requested that AWS also provide the LOD values with the data. As a result, AWS has re-issued the report for the leachate sample results. This report shows the LOD and LOQ of the analyses and is attached to this response. With the re-issued report showing both LOD and LOQ results, all results are now lower than DEQ's QL of 0.010 mg/L. For example (as shown on the attached table), the maximum concentration of 1,1,1-trichloroethane in the two leachate samples was reported as <0.001U mg/L. The laboratory provided an MDL (LOD) of 0.001 mg/l and a RL (LOQ or QL) of 0.005 mg/l. This result is below DEQ's QL of 0.010 mg/L.

Since the lab reported the MDL/LODs for the leachate results and since all values are below 0.010 mg/L, the proposed limits previously generated by DEQ for several SVOCs (e.g., Benzo anthracene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Benzo (a) pyrene, and Chrysene) are no longer necessary or applicable.

Dominion Responses to the August 13, 2015 DEQ Additional Information Request

for the Chesterfield Power Station VPDES Permit Application Submitted July 20, 2015

- **DEQ Comment:** Please provide additional information regarding the decanting versus dewatering processes. Specifically, at what point (e.g., water surface level, volume, etc.) will the decant process switch to the dewater process? How will the lower decant water and the dewatering water be treated to prevent the discharge of coal ash?

  Dominion Response: Decant water will be discharged by pumping water from the free water surface and discharging it through Outfall 004. Decanting is defined as the water that will be discharged until the water surface in the pond reaches an elevation of approximately 10 ft MSL, at which time the transition to dewatering will take place. This elevation was chosen based on a review of the most recent bathymetric survey of the ash level in the pond. The average ash level in the pond was closer to approximately 5 ft MSL, but reached a maximum elevation of 10 ft MSL. Since dewatering is defined as removing water from the interstitial pore spaces of the material, any water above this elevation is properly characterized as decant water and hence 10 ft MSL is an appropriate measure and will serve as the demarcation line between decanting and dewatering. Decanting will be conducted by utilizing a floating, fixed weir extraction unit with a wet well and submersible pump to ensure that water is removed from the surface only and to minimize the likelihood of ash entering the unit. During the decanting process, Dominion will draw down the pond in one foot increments and collect one sample for every foot of drawdown. This sample will be sent to a certified laboratory for Total Suspended Solids (TSS) analysis with a 24-hour turn-around time, while decanting of the water continues. Dominion will monitor trends in the collected TSS data, and if an upward trend is detected (i.e., concentration is approaching permit limits), an on-site mobile treatment unit will be utilized, as needed, to ensure that the TSS concentrations in the decant water remain below the established TSS permit limits. If the TSS concentration is below permit limits and does not show an increasing trend, decanting will continue until the pond reaches an elevation of approximately 10 ft MSL. Once dewatering commences, the on-site, mobile treatment unit will be utilized, as needed, to ensure that TSS concentrations remain below established permit limits.

- **DEQ Comment:** Please verify that decant/dewatering discharges at outfall 004 will be representative of the discharges at outfall 005 during the settling pond closure.

  Dominion Response: We do not expect the decanting/dewatering discharges from Outfall 004 to be representative of the discharges from Outfall 005 during the settling pond closure. Discharges of water from Outfall 005 during the settling pond closure are expected to be similar to what is currently being discharged through Outfall 005. Therefore, Dominion will continue complying with existing permit limits for Outfall 005 during the settling pond closure.

- **DEQ Comment:** Please provide the worst case discharge flows from outfalls 004 and 005 during the closure process.

Dominion Response: **Worse case flows are expected to be ~4.05 MGD from Outfall 005 and ~22.23 MGD from Outfall 004. These flows were determined by selecting the maximum flow collected from the Station for both outfalls during the time period of January 2013 through June 2015.**

- **DEQ Comment:** In the table on p. 3 of the IAP, the LVWWTS description includes a statement regarding discharge from gas-fired Units 7&8. Please describe this discharge further. Has it been characterized?

  Dominion Response: **Units 7 & 8 process water typically consists of boiler blowdown and plant/floor drain discharges. The discharge from Units 7 & 8 is directed to the master sump, which currently discharges to the lower ash pond. This discharge will be re-routed to the LVWWTS once closure of the lower ash pond commences. Since the discharge from Units 7 & 8 is directed to the master sump, the discharge was characterized and included in the analytical results provided for the master sump.**

- **DEQ Comment:** Please provide the estimated maximum 30-day average flows for outfalls 301. Please verify that the estimated flows during the ash pond closure will be the same as the flows post-pond closure.

  Dominion Response: **The VPDES permit application presented a 30-day maximum average flow for the process water. This does not include storm water, due to its unpredictable nature and occurrence. The 30-day maximum average for normal operations is expected to be 4.3 MGD. However, the worst case flow, including stormwater from a 25-year storm, may approach 8.9 MGD. Please note that Dominion did not use this number in the VPDES Permit Modification Application since it does not represent normal operating or discharge conditions for the LVWWTS.**

  There is no reason to expect that the estimated flows during the ash pond closure will be different than the flows post-pond closure, since all flows will be redirected to the LVWWTS prior to commencing closure of the LAP. The only additional flow that will occur post-pond closure is the Lower Ash Pond toe drain discharge. The Lower Ash Pond toe drain is not expected to contribute any measurable flow and will comply with permit limits.

- **DEQ Comment:** Please provide the worst case scenario pollutant concentrations at outfall 301 during ash pond closure and post-pond closure. The worst case scenario should be a flow weighted average of the waste streams.

  Dominion Response: **Flow weighted average of the concentrations for the pollutants of concern in the waste streams that contribute to outfall 301 are attached. The worst case scenario was calculated by first multiplying the pollutant concentration by the 30-day average flow for the particular waste stream. The product of the concentration and flow was summed for each contributing waste stream. The sum was then divided by the sum of Qs expected for outfall 301 as shown by the following equation:**

  Combined Discharge Concentration (mg/L) = (Q_1 x Max $Conc_1$ + Q_2 x Max $Conc_2$…..Q_n x Max $Conc_n$) / (Q_1 + Q_2 + ….Q_n)

Where Q is the expected maximum flow rate from each waste stream (i.e. Master Sump, FGD Plant etc) and Max Conc is the maximum constituent concentration sampled from the waste stream.

- **DEQ Comment:** The application proposes to route coal pile runoff to the LVWWTS. During our pre-application meetings, we discussed two possibilities for limiting this waste stream: 1) monitoring and limiting as an internal outfall; 2) comingling the waste stream and applying the most stringent limitations. It is our understanding that Dominion would prefer to comingle the waste stream and apply the most stringent limitations. Please verify this is correct.

  Dominion Response: Yes, that is correct.

- **DEQ Comment:** On p. 8 of the CER submitted with the application, it is stated that upgrades to the FGD WWTP will be submitted in a CER under a separate cover. Please provide a brief description of the upgrades and whether they include a biological treatment component.

  Dominion Response: Dominion is in process of evaluating different technologies to comply with the future Effluent Limitation Guidelines (ELGs). Dominion will provide whatever treatment may be necessary to ensure compliance with the applicable ELGs, once promulgated.

- **DEQ Comment:** One additional request from DEQ. It appears we confused some data between the metals pond and the leachate column tests in the effluent characteristics data submitted for Form 2C in the application. We need to provide corrected pages for this data in accordance with DEQ's request below.

  Dominion Response: There was a typographic error in the heading of the metals pond data located in Form 2C. The error has been corrected, and the revised form is attached.

Additional Items from Dominion:

- **The Outfall 301 location has been relocated since the VPDES permit application was submitted to avoid a conflict with a retaining wall located along the thermal discharge channel (moved to Latitude 37.00 deg, 22.00 min, 26.70 sec; Longitude 77.00 deg, 23.00 min, 1.03 sec). The revised outfall location is also shown on Figure 3 (attached).**

Table 1 [1]		LEACHATE		BOTTOM
	Units	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)
Total Suspended Solids	mg/L	18.4	0.3522	110
Arsenic	mg/L	0.0495	0.0009	0.0072
Copper	mg/L	0.0021	0.0000	0.0029
Iron	mg/L	0.0044	0.0001	0.29
Mercury	mg/L	0.0000	0.0000	0.0000
Selenium	mg/L	0.344	0.0066	0.0016
Cadmium	mg/L	0.000261	0.0000	0.0002
Chromium	mg/L	0.059	0.0011	0.0013
Chromium 6	mg/L	0.061	0.0012	0.0023
Lead	mg/L	0.0000	0.0000	0.0007
Nickel	mg/L	0.00448	0.0001	0.0030
Zinc	mg/L	0.00571	0.0001	0.0200

	Flow (MGD)	Weighted Flow (Q1/Qtotal)
Bottom Ash	0.19	0.045454545
FGD Plant	0.11	0.026315789
FGD Yard	1.1	0.263157895
Master Sump	2.7	0.645933014
Leachate	0.08	0.019138756
Sum	4.18	

Note:

[1] – Represents continuous flows only and includ

Table 2 [2]		LEACHATE		BOTTOM
	Units	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)
Total Suspended Solids	mg/L	18.4	0.3522	110
Arsenic	mg/L	0.0495	0.0009	0.0072
Copper	mg/L	0.0021	0.0000	0.0029
Iron	mg/L	0.0044	0.0001	0.29
Mercury	mg/L	0.0000	0.0000	0.0000
Selenium	mg/L	0.344	0.0066	0.0016
Cadmium	mg/L	0.000261	0.0000	0.0002
Chromium	mg/L	0.059	0.0011	0.0013
Chromium 6	mg/L	0.061	0.0012	0.0023
Lead	mg/L	0.0000	0.0000	0.0007
Nickel	mg/L	0.00448	0.0001	0.0030
Zinc	mg/L	0.00571	0.0001	0.0200

	Flow (MGD)	Weighted Flow (Q1/Qtotal)
Bottom Ash	0.19	0.018478895

Note:

Coal Yard	2.4	0.233417623
FGD Plant	0.11	0.010698308
FGD Yard	1.1	0.106983077
Master Sump	2.7	0.262594826
metals	2.7	0.262594826
S-Ditch	0.8	0.077805874
UAP Toe D	0.202	0.019645983
Leachate	0.08	0.007780587
Sum	10.282	

[2] – Represents continuous and intermittent flows

M ASH	FGD PLANT		FGD YARD SUMP		MASTE
Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)
5.0000	3.3	0.0868	20	5.2632	89
0.0003	0.17	0.0045	0.03	0.0079	0.0070
0.0001	0.0270	0.0007	0.0150	0.0039	0.0320
0.0132	1.3000	0.0342	0.84	0.2211	1.9000
0.0000	0.0002	0.0000	0.0001	0.0000	0.0001
0.0001	0.0000	0.0000	0.0084	0.0022	0.0021
0.0000	0.0110	0.0003	0.0023	0.0006	0.0003
0.0001	0.0049	0.0001	0.0035	0.0009	0.0040
0.0001	0.0230	0.0006	0.0000	0.0000	0.0041
0.0000	0.0058	0.0002	0.0018	0.0005	0.0067
0.0001	0.1800	0.0047	0.0970	0.0255	0.0067
0.0009	0.2500	0.0066	0.0410	0.0108	0.0400

es flows for: leachate, bottom ash, FGD plant, FGD yard sump and master sump sources.

M ASH	COAL PILE RUNOFF		FGD PLANT		FGD YAF
Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)
5.0000	160	37.3468	3.3	0.0868	20
0.0003	0.049	0.0114	0.17	0.0045	0.03
0.0001	0.38	0.0887	0.0270	0.0007	0.0150
0.0132	120	28.0101	1.3000	0.0342	0.84
0.0000	0.0001	0.0000	0.0002	0.0000	0.0001
0.0001	0.023	0.0054	0.0000	0.0000	0.0084
0.0000	0.0071	0.0017	0.0110	0.0003	0.0023
0.0001	0.0440	0.0103	0.0049	0.0001	0.0035
0.0001	0.2000	0.0467	0.0230	0.0006	0.0000
0.0000	0.0075	0.0018	0.0058	0.0002	0.0018
0.0001	0.5700	0.1330	0.1800	0.0047	0.0970
0.0009	1.8000	0.4202	0.2500	0.0066	0.0410

s for: leachate, coal pile runoff, bottom ash, FGD plant, FGD yard sump, master sump, metals pond, sierra ditch, and uppe

R SUMP	
Flow Weighted Average of the Source (mg/l)	Worst Case Concentation of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)
57.4880	68.1902
0.0045	0.0182
0.0207	0.0255
1.2273	1.4958
0.0000	0.0001
0.0014	0.0102
0.0002	0.0011
0.0026	0.0048
0.0026	0.0045
0.0043	0.0050
0.0043	0.0348
0.0258	0.0442

RD SUMP	MASTER SUMP		METALS POND		SIERRA
Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)
5.2632	89	57.4880	0.0000	0.0000	49
0.0079	0.0070	0.0045	0.0011	0.0003	0.0047
0.0039	0.0320	0.0207	0.0054	0.0014	0.034
0.2211	1.9000	1.2273	0.18	0.0473	1.4
0.0000	0.0001	0.0000	0.0001	0.0000	0.0000
0.0022	0.0021	0.0014	0.0055	0.0014	0.0005
0.0006	0.0003	0.0002	0.0001	0.0000	0.0001
0.0009	0.0040	0.0026	0.0009	0.0002	0.0016
0.0000	0.0041	0.0026	0.0000	0.0000	0.0000
0.0005	0.0067	0.0043	0.0004	0.0001	0.0032
0.0255	0.0067	0.0043	0.0085	0.0022	0.0140
0.0108	0.0400	0.0258	0.0061	0.0016	0.0940

er ash pond toe drain sources.

A DITCH		UAP TOE DRAIN	
Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentation of the COC Expected in Outfall 301 Prior to Any Treatment
3.8125	7.8	0.1532	72.1559
0.0004	0.0013	0.0000	0.0188
0.0026	0.0006	0.0000	0.0296
0.1089	4.4	0.0864	1.7384
0.0000	0.0001	0.0000	0.0001
0.0000	0.0003	0.0000	0.0117
0.0000	0.0001	0.0000	0.0011
0.0001	0.0007	0.0000	0.0052
0.0000	0.0440	0.0009	0.0054
0.0002	0.0001	0.0000	0.0053
0.0011	0.0008	0.0000	0.0382
0.0073	0.0250	0.0005	0.0536

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* [redacted] OUTFALL NO. 301 LEACHATE COLUMNS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (RAINWATER) b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.9	8.7	-	-	2.5	7.5	2	mg/L	lb/day	4.6	13.8	1
b. Chemical Oxygen Demand *(COD)*	12.7	38.2	-	-	8.85	26.6	2	mg/L	lb/day	10	30.0	1
c. Total Organic Carbon *(TOC)*	1.8	5.4	-	-	1.15	3.5	2	mg/L	lb/day	1.7	5.1	1
d. Total Suspended Solids *(TSS)*	18.4	55.3	-	-	11	33.0	2	mg/L	lb/day	2.2	6.6	1
e. Ammonia *(as N)*	2	6.0	-	-	1.805	5.4	2	mg/L	lb/day	0.4	1.2	1
f. Flow	VALUE 0.36 MGD		VALUE -		VALUE 0.002 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE -		VALUE -		VALUE -		2	°C		VALUE -		-
i. pH	MINIMUM 10.97	MAXIMUM 11.26	MINIMUM -	MAXIMUM -	Below Detection Limit		2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (RAINWATER) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x	x	5	15.0			2.5	7.5						
b. Chlorine, Total Residual	x	x	Not Tested	Not Tested										
c. Color		x	10	N/A	-	-	5	15.0	2	pcu		10	N/A	1
d. Fecal Coliform		x	<4	N/A	-	-	-	-	2	MPN/100 mL	N/A	<4	N/A	1
e. Fluoride (16984-48-8)		x	2.8	8.4			2.6	7.8						
f. Nitrate-Nitrite *(as N)*	x		0.4	1.2	-	-	0.05	0.2	2	mg/L	lb/day	0.33	1.0	1

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (RAINWATER)		
			a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
g. Nitrogen, Total Organic (*as N*)	x		3.08	9.3	-	-	1.91	5.7	2	mg/L	lb/day	0.89	2.7	1
h. Oil and Grease	x		5	15.0	-	-	2.5	7.5	2	mg/L	lb/day	5	15.0	1
i. Phosphorus (as P), Total (7723-14-0)	x		0.03	0.1	-	-	0.0175	0.05	2	mg/L	lb/day	0.02	0.1	1
j. Radioactivity					-	-	-	-	2	mg/L	lb/day	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	Not Tested	Not Tested										
(4) Radium 226, Total		x	Not Tested	Not Tested										
k. Sulfate (*as SO4*) (14808-79-8)		x	984	2956.3			832.5	2501.1						
l. Sulfide (*as S*)		x	0.05	0.2			0.025	0.08						
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		1.09	3.3	-	-	1.085	3.3	2	mg/L	lb/day	0.05	0.2	1
p. Barium, Total (7440-39-3)	x		0.193	0.6	-	-	0.169	0.51	2	mg/L	lb/day	0.0149	0.0	1
q. Boron, Total (7440-42-8)	x		3.76	11.3	-	-	3.5	10.5	2	mg/L	lb/day	0.06	0.2	1
r. Cobalt, Total (7440-48-4)	x		0.004	0.0	-	-	0.002	0.006	2	mg/L	lb/day	0.004	0.0	1
s. Iron, Total (7439-89-6)	x		0.01	0.0	-	-	0.0037	0.011	2	mg/L	lb/day	0.622	1.9	1
t. Magnesium, Total (7439-95-4)	x		0.105	0.3	-	-	0.08515	0.26	2	mg/L	lb/day	0.234	0.7	1
u. Molybdenum, Total (7439-98-7)	x		0.55	1.7	-	-	0.352	1.06	2	mg/L	lb/day	0.05	0.2	1
v. Manganese, Total (7439-96-5)	x		0.01	0.0	-	-	0.0010	0.003	2	mg/L	lb/day	0.0379	0.1	1
w. Tin, Total (7440-31-5)	x		0.02	0.1	-	-	0.0100	0.030	2	mg/L	lb/day	0.02	0.1	1
x. Titanium, Total (7440-32-6)	x		0.05	0.2	-	-	0.0025	0.008	2	mg/L	lb/day	0.05	0.2	1

CONTINUED FROM PAGE 3 OF FORM 2-C

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301- LEACHATE COLUMNS

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (RAINWATER)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		3.44000	0.0103	-	-	0.003365	0.01	2	µg/L	lb/day	0.11	0.0003	1
2M. Arsenic, Total (7440-38-2)	x	x		49.50000	0.1487	-	-	0.0467	0.14	2	µg/L	lb/day	0.61	0.0018	1
3M. Beryllium, Total (7440-41-7)	x	x		0.00200	0.0000	-	-	0.001	0.00000300	2	µg/L	lb/day	0.004	0.0000	1
4M. Cadmium, Total (7440-43-9)	x	x		0.00011	0.0000	-	-	0.000055	0.00000017	2	µg/L	lb/day	0.11	0.0003	1
5M. Chromium, Total (7440-47-3)	x	x		0.03550	0.0001	-	-	0.01775	0.05	2	µg/L	lb/day	0.01	0.0000	1
6M. Copper, Total (7440-50-8)	x	x		2.390000	0.0072	-	-	0.002245	0.01	2	µg/L	lb/day	1.29	0.0039	1
7M. Lead, Total (7439-92-1)	x	x		0.00016	0.0000	-	-	0.00008	0.00000024	2	µg/L	lb/day	0.16	0.0005	1
8M. Mercury, Total (7439-97-6)	x	x		0.000023	0.0000	-	-	0.0000115	0.00000003	2	µg/L	lb/day	0.023	0.0001	1
9M. Nickel, Total (7440-02-0)	x	x		4.670000	0.0140	-	-	0.004575	0.01	2	µg/L	lb/day	1.76	0.0053	1
10M. Selenium, Total (7782-49-2)	x	x		344.0000	1.0335	-	-	0.3075	0.92	2	µg/L	lb/day	0.65	0.0020	1
11M. Silver, Total (7440-22-4)	x	x		0.029000	0.0001	-	-	0.0145	0.00004	2	µg/L	lb/day	0.029	0.0001	1
12M. Thallium, Total (7440-28-0)	x	x		0.058000	0.0002	-	-	0.029	0.00009	2	µg/L	lb/day	0.058	0.0002	1
13M. Zinc, Total (7440-66-6)	x	x		5.71	0.0172	-	-	0.00472	0.01	2	µg/L	lb/day	175	0.5258	1
14M. Cyanide, Total (57-12-5)	x	x		0.01	0.00003	-	-	0.005	0.00002	2	mg/L	lb/day	0.01	0.0000	1
15M. Phenols, Total			x	0.05	0.0001	-	-	0.025	0.00008	-	µg/L	lb/day	0.05	0.0001	1
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
2V. Acrylonitrile (107-13-1)	x	x		25.00	0.0751	-	-	12.5	0.0376	2	µg/L	lb/day	25.00	0.0751	1
3V. Benzene (71-43-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										1
5V. Bromoform (75-25-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
6V. Carbon Tetrachloride (56-23-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
7V. Chlorobenzene (108-90-7)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
8V. Chlorodi-bromomethane (124-48-1)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
9V. Chloroethane (75-00-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
11V. Chloroform (67-66-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
12V. Dichloro-bromomethane (75-27-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required								5.00	0.0150	1
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
17V. 1,2-Dichloro-propane (78-87-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
19V. Ethylbenzene (100-41-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
20V. Methyl Bromide (74-83-9)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
21V. Methyl Chloride (74-87-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		20.00	0.0601	-	-	10	0.0300	2	µg/L	lb/day	20.00	0.0601	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
24V. Tetrachloro-ethylene (127-18-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
25V. Toluene (108-88-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
27V. 1,1,1-Trichloro- ethane (71-55-6)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
28V. 1,1,2-Trichloro- ethane (79-00-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
29V Trichloro-ethylene (79-01-6)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required								5.00	0.0150	1
31V. Vinyl Chloride (75-01-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
5A. 2,4-Dinitro-phenol (51-28-5)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
6A. 2-Nitrophenol (88-75-5)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
7A. 4-Nitrophenol (100-02-7)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
8A. P-Chloro-M-Cresol (59-50-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
9A. Pentachloro-phenol (87-86-5)	x	x		42.1	0.1265	-	-	21.05	0.0632	2	µg/L	lb/day	42.1	0.1265	1
10A. Phenol (108-95-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
11A. 2,4,6-Trichloro- phenol (88-05-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
2B. Acenaphtylene (208-96-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
3B. Anthracene (120-12-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
4B. Benzidine (92-87-5)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
16B. 2-Chloro-naphthalene (91-58-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
18B. Chrysene (218-01-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
24B. Diethyl Phthalate (84-66-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
25B. Dimethyl Phthalate (131 -11-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
31B. Fluoranthene (206-44-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
32B. Fluorene (86-73-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
33B. Hexachloro-benzene (118-74-1)	x	x		5.26	0.0158	-	-	2.63	0.0079	2	µg/L	lb/day	5.26	0.0158	1
34B. Hexachloro-butadiene (87-68-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
36B Hexachloro-ethane (67-72-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
38B. Isophorone (78-59-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
39B. Naphthalene 91-20-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
40B. Nitrobenzene(98-95-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

Below Detection Limit

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
44B. Phenanthrene (85-01-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
45B. Pyrene (129-00-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
2P. α-BHC (319-84-6)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
3P. β-BHC (319-85-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
4P. γ-BHC (58-89-9)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
5P. δ-BHC (319-86-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
6P. Chlordane (57-74-9)	x	x		0.213	0.0006399	-	-	0.1065	0.0003	2	µg/L	lb/day	0.213	0.0006399	1
7P. 4,4'-DDT (50-29-3)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
8P. 4,4'-DDE (72-55-9)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
9P. 4,4'-DDD (72-54-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
10P. Dieldrin (60-57-1)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
11P. α-Enosulfan (115-29-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
12P. β-Endosulfan (115-29-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
14P. Endrin (72-20-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
15P. Endrin Aldehyde (7421-93-4)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
16P. Heptachlor (76-44-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1

Below Detection Limit

CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301- LEACHATE COLUMNS

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
18P. PCB-1242 (53469-21-9)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
19P. PCB-1254 (11097-69-1)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
20P. PCB-1221 (11104-28-2)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
21P. PCB-1232 (11141-16-5)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
22P. PCB-1248 (12672-29-6)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
23P. PCB-1260 (11096-82-5)	x	x		0.2	0.0006009	-	-	0.1	0.0003	2	µg/L	lb/day	0.2	0.0006009	1
24P. PCB-1016 (12674-11-2)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
25P. Toxaphene (8001-35-2)	x	x		1.06	0.0031846	-	-	0.53	0.0016	2	µg/L	lb/day	1.06	0.0031846	1

Below Detection Limit

Dominion Resource Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
dom.com

July 20, 2015

Ms. Emilee Adamson
VPDES Permit Manager
Virginia Department of Environmental Quality
Piedmont Regional Office
4949A Cox Road
Glen Allen, Virginia 23060

Subj: Application to Modify Existing VPDES Individual Permit VA0004146 for the Chesterfield Power Station Located in Chesterfield County, Virginia

Dear Ms. Adamson:

Dominion Virginia Power is submitting the attached application to modify existing VPDES individual permit VA0004146 for the Chesterfield Power Station. As you are aware, the purpose of this modification is to address changes to the VPDES permit related to the Station's integrated ash project. The application package provides detail on this modification request.

If you need additional information or have any questions regarding the attached application, please contact Kim Lanterman at (804) 273-4123 or by email at Kimberly.D.Lanterman@dom.com. Thank you for your assistance.

Sincerely,

Scott Lawton
Director
Electric Environmental Business Support

Attachment

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S		T/A	C
F	110000342530		D
1	2 13	14	15

LABEL ITEMS

- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING ADDRESS
- VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
	16	17	18		19	20	21
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		X	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
	22	23	24		25	26	27
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
	28	29	30		31	32	33
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
	34	35	36		37	38	39
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
	40	41	42		43	44	45

III. NAME OF FACILITY

C	SKIP	
1		Dominion Chesterfield Power Station
15	16 – 29	30 69

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
C 2 Faggert, Pamela F., VP and Chief Environmental Officer	(804) 273-3467
15 16 45	46 48 49 51 52- 55

V. FACILTY MAILING ADDRESS

A. STREET OR P.O. BOX

C 3 5000 Dominion Boulevard

15 16 45

B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4 Glen Allen	VA	23060
15 16 40	41 42	47 51

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

C 5 500 Coxendale Road

15 16 45

B. COUNTY NAME

Chesterfield

46 70

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
C 6 Chester	VA	23836	041
15 16 40	41 42	47 51	52 -54

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
4911 (specify) Electric Services	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: Virginia Electric and Power Company

B. Is the name listed in Item VIII-A also the owner? ☑ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box: if "Other," specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P (specify)

D. PHONE *(area code & no.)*: A (804) 796-6000

E. STREET OR P.O. BOX: 500 Coxendale Road

F. CITY OR TOWN: Chester

G. STATE: VA

H. ZIP CODE: 23836

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
N See addendum	P See addendum
B. UIC *(Underground Injection of Fluids)*	**E. OTHER** *(specify)*
U	See addendum (specify)
C. RCRA *(Hazardous Wastes)*	**E. OTHER** *(specify)*
R See addendum	See addendum (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Chesterfield Power Station generates electricity through the combustion of coal and other fossil fuels.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
David A. Craymer, VP, Power Generation System Operations	David A Craymer	7/20/15

COMMENTS FOR OFFICIAL USE ONLY

C

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
110000342530

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM 2C NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (*list*)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (*name*)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
301	37.00	22.00	71.00	77.00	23.00	1.70	Internal Outfall to Outfall 003
302	37.00	22.00	58.07	77.00	23.00	9.63	FGD Internal Outfall to New Outfall 301
303	32.00	22.00	35.00	77.00	23.00	3.68	Metals Pond Internal OF to New OF 301
004	37.00	22.00	18.00	77.00	22.00	54.00	Existing Outfall from Lower Ash Pond
005	37.00	22.00	20.00	77.00	21.00	50.00	Existing Outfall from Upper Ash Pond

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (*list*)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (*list*)	b. AVERAGE FLOW (*include units*)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
301	Low Volume Waste Water	4.3 MGD	Settling, pH adjustment, oil and grease removal	2-E	4-A
	Coal pile stormwater runoff				
	General stormwater runoff				
302	FGD Treatment Plant Discharge	0.11 MGD	Flocculation, chemical precipitation	1-G	2-C
303	Metals Pond	2.7 MGD	Neutralization, mixing, chemical precipitation	2-K	I-O
004	Lower Ash Pond Discharge (See	10.1 MGD	Sedimentation, skimming	1-U	X-X
	renewal application for more info.)				
	Decanting	1.0 MGD	Sedimentation, skimming		
005	Storm water runoff from pond	3.2 MGD	Sedimentation, skimming, discharge to surface water	1-4	X-X
	closure, recovery wells/toe drains			4-A	

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☑ YES (*complete the following table*) ☐ NO (*go to Section III*)

1. OUTFALL NUMBER (*list*)	2. OPERATION(s) CONTRIBUTING FLOW (*list*)	3. FREQUENCY a. DAYS PER WEEK (*specify average*)	3. FREQUENCY b. MONTHS PER YEAR (*specify average*)	4. FLOW a. FLOW RATE (*in mgd*) 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE (*in mgd*) 2. MAXIMUM DAILY	4. FLOW B. TOTAL VOLUME (*specify with units*) 1. LONG TERM AVERAGE	4. FLOW B. TOTAL VOLUME (*specify with units*) 2. MAXIMUM DAILY	4. FLOW C. DURATION (*in days*)
302	FGD Wastewater Treatment Plant, (batch discharge)	7	11	0.11 MGD	0.35 MGD	See Attachment	See Attachment	120
303	Metals Pond	7	3	2.7 MGD	5.0 MGD	See Attachment	See Attachment	10
005	Upper Ash Pond	< 4 days	2	2.6 MGD	6.0 MGD	See Attachment	See Attachment	<4

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☑ YES (*complete Item III-B*) ☐ NO (*go to Section IV*)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (*or other measure of operation*)?

☐ YES (*complete Item III-C*) ☑ NO (*go to Section IV*)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (*specify*)	2. AFFECTED OUTFALLS (*list outfall numbers*)

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operations of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☑ YES (*complete the following table*) ☐ NO (*go to Item IV-B*)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED
CCR, ELG and VA Solid Waste Regulations	301	Low Volume Wastewater Treatment System	New low-volume wastewater treatment system to satisfy proposed ELG requirements.		
	301	FFCP Management Facility	Captive industrial landfill for CCR dry disposal.		
	004	Lower Ash Pond	Final closure of Lower Ash Pond in accordance with CCR Rule.		
	005	Upper Ash Pond	Final closure of Upper Ash Pond in accordance with VPDES permit and CCR Rule.		

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (*or other environmental projects which may affect your discharges*) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

CONTINUED FROM PAGE 2

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Strontium	Fossil fuels, ash		
Uranium	Fossil fuels, ash		
Vanadium	Fossil fuels, ash		
Zirconium	Fossil fuels, ash		

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☑ YES (*list all such pollutants below*) ☐ NO (*go to Item VI-B*)

Virginia Power sells coal combustion by-products (ash and gypsum) from the Chesterfield Power Station for beneficial reuse as a raw material. Coal combustion by-products may contain minute quantities of the metals listed in Item V-C.

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☑ YES (*identify the test(s) and describe their purposes below*) ☐ NO (*go to Section VIII*)

Whole Effluent Toxicity (WET) testing of station discharges has been performed in accordance with Part I.A.4 (Outfall 004 only) and Special Condition I.B.17 "Toxics Management Program" (Outfalls 001, 002, 003, 004, and 005) of the current VPDES permit for the Chesterfield Power Station. See VPDES Permit Renewal Application dated July 6, 2009.

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

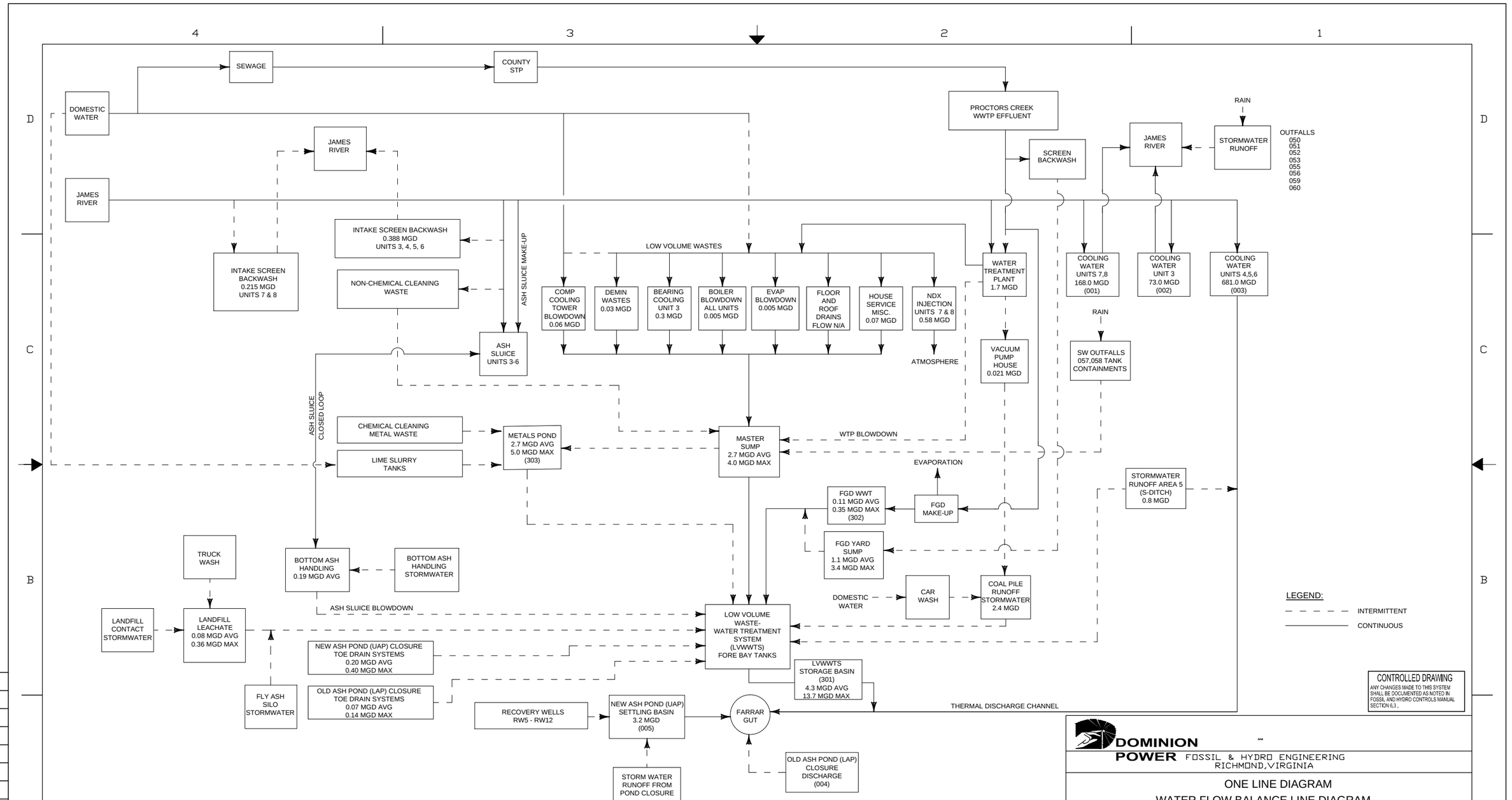
☑ YES (*list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below*) ☐ NO (*go to Section IX*)

A. NAME	B. ADDRESS	C. TELEPHONE (*area code & no.*)	D. POLLUTANTS ANALYZED (*list*)
TestAmerica Laboratories, Inc.	TestAmerica Pittsburgh 301 Alpha Drive RIDC Park Pittsburgh, PA 15238	Veronica Bortot Senior Project Manager (412)963-2435	See Attachment
Air Water & Soil Laboratories, Inc	1941 Reymet Rd, Richmond, VA 23237	(804)-358-8295	Bacteriological
Dominion In-House Laboratory	500 Coxendale Road, Chester, VA	804-796-6350	WET

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (*type or print*)	B. PHONE NO. (*area code & no.*)
David A. Craymer VP, Power Generation System Operations	(804) 273-3655
C. SIGNATURE	D. DATE SIGNED 7/20/15



THIS DWG SUPERSEDES DWG
CH-VPDES-VA0004146-001

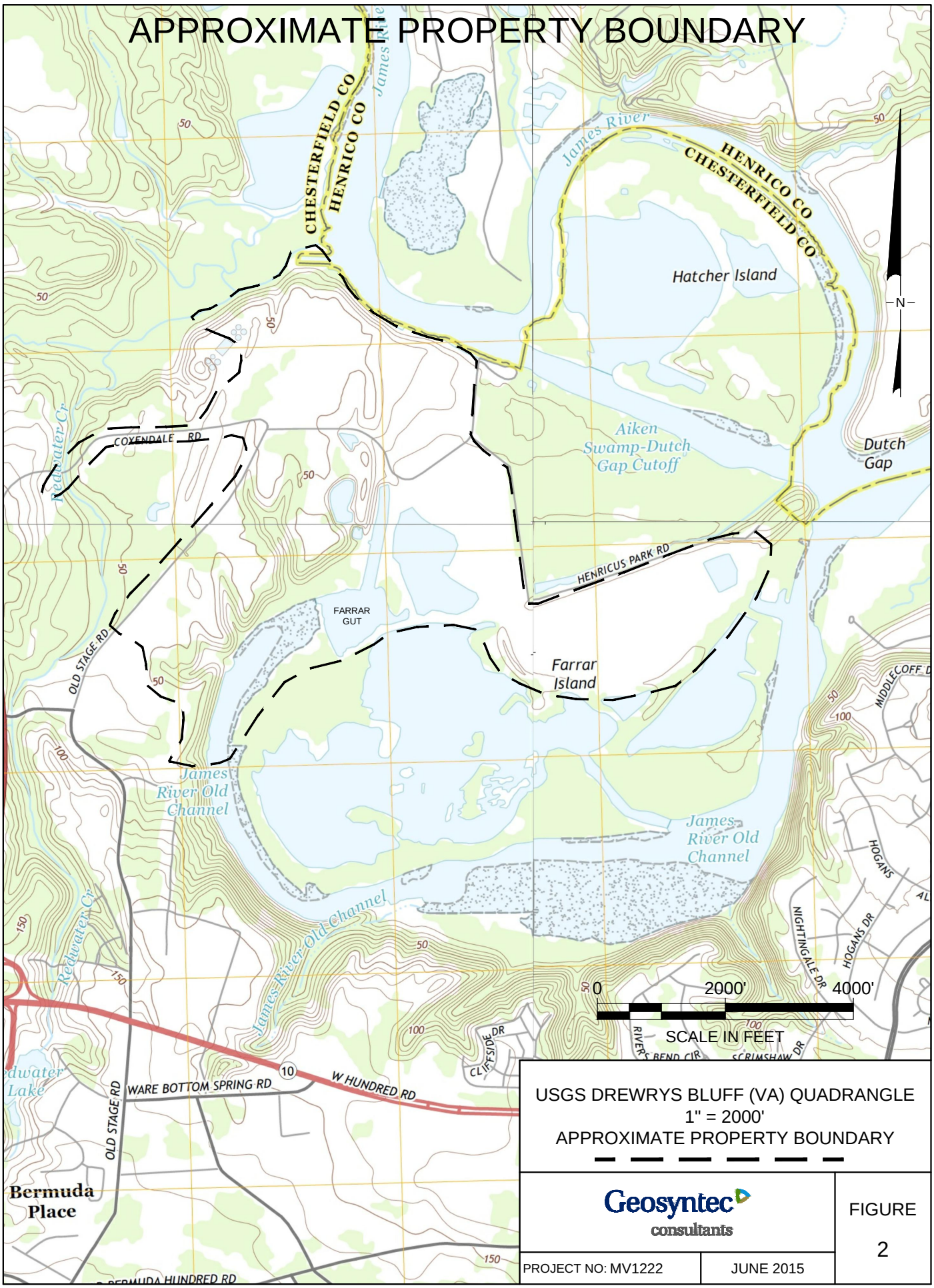
DOMINION POWER FOSSIL & HYDRO ENGINEERING
RICHMOND, VIRGINIA

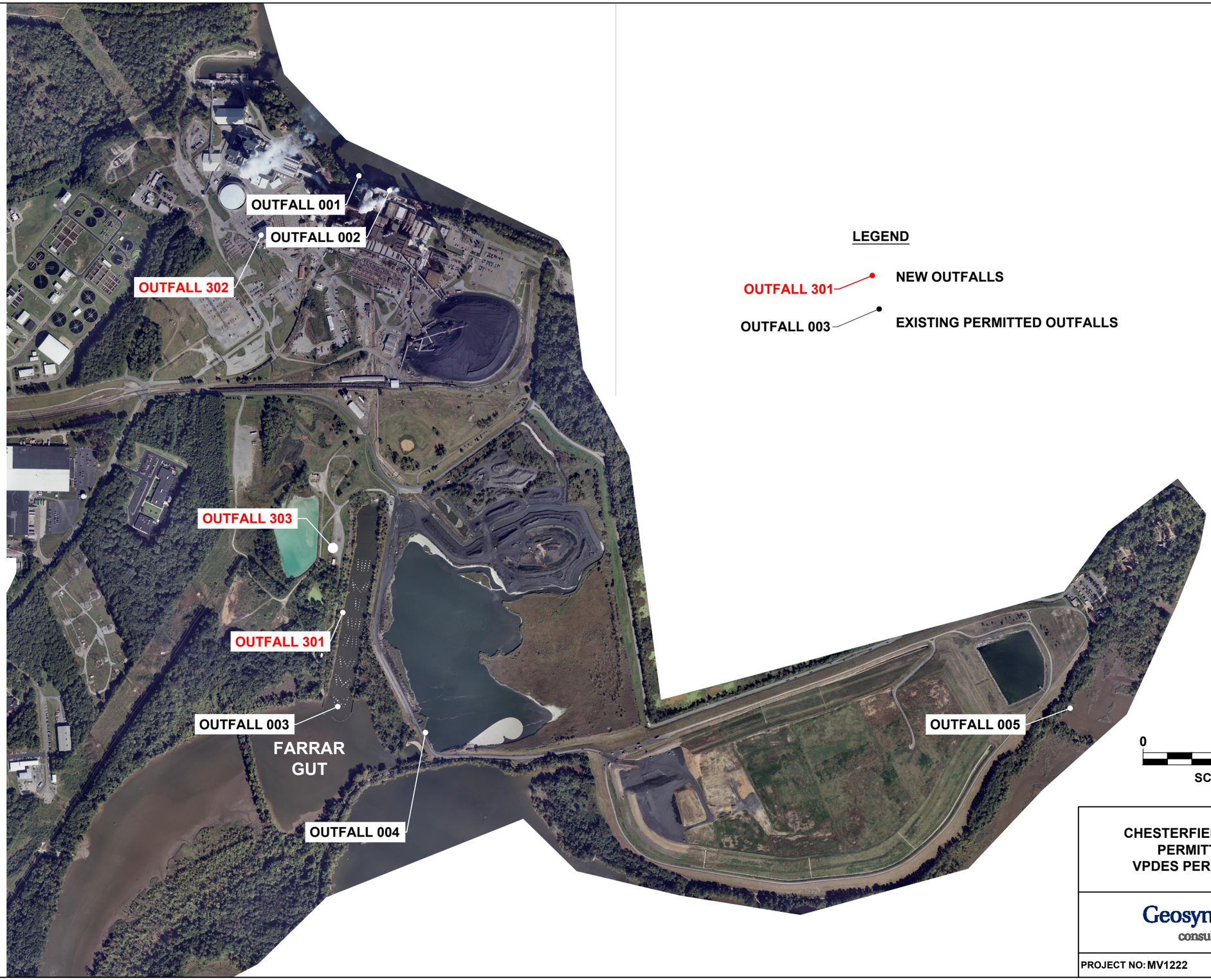
ONE LINE DIAGRAM
WATER FLOW BALANCE LINE DIAGRAM
CHESTERFIELD POWER STATION

REV	DATE	DSGN	DRWN	CHKD	DESCRIPTION
2	06-24 15	KRP	KEL	SKS	LVWWTS ADDITION
1	03-04 15		CLW	RAW	RWM	REVISED TO SHOW ENVIRONMENTAL REDLINE.
0	12-30 10		KTC	RAW	RWM	ORIGINAL ISSUE. CONVERTED TO ACAD 600 SERIES DRAWING.

DSGN | DSGN SUPV
DRWN | ENGR SUPV
CHKD | PROJ ENGR
DISPL ENGR
SCALE UNLESS OTHERWISE NOTED

DRAWING NO. CH-0-SP-STA-600
REV.
SH OF


APPROXIMATE PROPERTY BOUNDARY
CHESTERFIELD CO
HENRICO CO
James River
HENRICO CO
CHESTERFIELD CO
Hatcher Island
N
Aiken
Swamp-Dutch
Gap Cutoff
Dutch
Gap
Redwater Cr
COXENDALE RD
HENRICUS PARK RD
FARRAR
GUT
Farrar
Island
OLD STAGE RD
James
River Old
Channel
James
River Old
Channel
James River Old Channel
Redwater Cr
MIDDLECOFF D
HOGANS
HOGANS DR
NIGHTINGALE DR
CLIFFSIDE DR
RIVERS BEND CIR
SCRIMSHAW DR
0
2000'
4000'
SCALE IN FEET
WARE BOTTOM SPRING RD
10
W HUNDRED RD
OLD STAGE RD
Bermuda
Place
BERMUDA HUNDRED RD
USGS DREWRYS BLUFF (VA) QUADRANGLE
1" = 2000'
APPROXIMATE PROPERTY BOUNDARY
Geosyntec
consultants
FIGURE
2
PROJECT NO: MV1222
JUNE 2015
L:\CHESTERFIELD-DOMINION\MV1222\FIGURES\FIGURE 2 QUAD



N

LEGEND

OUTFALL 301 — NEW OUTFALLS

OUTFALL 003 — EXISTING PERMITTED OUTFALLS

0 800' 1600'

SCALE IN FEET

CHESTERFIELD POWER STATION
PERMITTED OUTFALLS
VPDES PERMIT NO. VA0004146

Geosyntec consultants

PROJECT NO: MV1222 | JULY 2015

FIGURE 3

L:\CHESTERFIELD-DOMINION\MV1222\FIGURES\FIGURE 3 OUTFALLS-REV1

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 301
BOTTOM ASH

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2	16.5	-	-	-	-	1	mg/L	lb/day	-	-	-
b. Chemical Oxygen Demand *(COD)*	6.1	50.4	-	-	-	-	1	mg/L	lb/day	-	-	-
c. Total Organic Carbon *(TOC)*	1.5	12.4	-	-	-	-	1	mg/L	lb/day	-	-	-
d. Total Suspended Solids *(TSS)*	110	908.8	-	-	-	-	1	mg/L	lb/day	-	-	-
e. Ammonia *(as N)*	0.65	5.4	-	-	-	-	1	mg/L	lb/day	-	-	-
f. Flow	VALUE 0.99 MGD		VALUE -		VALUE -					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE 33.3		VALUE -		VALUE -		1	°C		VALUE -		-
i. pH	MINIMUM 8.06	MAXIMUM 8.06	MINIMUM -	MAXIMUM -	Below Detection Limit		1	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x		0.19	1.6	-	-	-	-	1	mg/L	lb/day	-	-	-
b. Chlorine, Total Residual	x		0.04	0.3	-	-	-	-	1	mg/L	lb/day	-	-	-
c. Color		x	Not Tested	Not Tested										
d. Fecal Coliform		x	7	N/A	-	-	-	-	1	MPN/100 mL	N/A	-	-	-
e. Fluoride (16984-48-8)	x		0.16	1.3	-	-	-	-	1	mg/L	lb/day	-	-	-
f. Nitrate-Nitrite *(as N)*	x		0.29	2.4	-	-	-	-	1	mg/L	lb/day	-	-	-

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		1.7	14.0	-	-	-	-	1	mg/L	lb/day	-	-	-
h. Oil and Grease	x		1.5	12.4	-	-	-	-	1	mg/L	lb/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	x		0.081	0.7	-	-	-	-	1	mg/L	lb/day	-	-	-
j. Radioactivity					-	-	-	-	1	pCi/L	N/A	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	0.875	N/A	-	-	-	-	1	pCi/L	N/A	-	-	-
(4) Radium 226, Total		x	0.508	N/A	-	-	-	-	1	pCi/L	N/A	-	-	-
k. Sulfate (*as SO4*) (14808-79-8)	x		28	231.3	-	-	-	-	1	mg/L	lb/day	-	-	-
l. Sulfide (*as S*)	x		0.41	3.4	-	-	-	-	1	mg/L	lb/day	-	-	-
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		0.92	7.6	-	-	-	-	1	mg/L	lb/day	-	-	-
p. Barium, Total (7440-39-3)	x		0.11	0.9	-	-	-	-	1	mg/L	lb/day	-	-	-
q. Boron, Total (7440-42-8)	x		0.1	0.8	-	-	-	-	1	mg/L	lb/day	-	-	-
r. Cobalt, Total (7440-48-4)	x		0.00097	0.0	-	-	-	-	1	mg/L	lb/day	-	-	-
s. Iron, Total (7439-89-6)	x		0.29	2.4	-	-	-	-	1	mg/L	lb/day	-	-	-
t. Magnesium, Total (7439-95-4)	x		3.5	28.9	-	-	-	-	1	mg/L	lb/day	-	-	-
u. Molybdenum, Total (7439-98-7)	x		0.0081	0.1	-	-	-	-	1	mg/L	lb/day	-	-	-
v. Manganese, Total (7439-96-5)	x		0.017	0.1	-	-	-	-	1	mg/L	lb/day	-	-	-
w. Tin, Total (7440-31-5)		x	Not Tested	Not Tested										
x. Titanium, Total (7440-32-6)		x	Not Tested	Not Tested										

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - BOTTOM ASH

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		0.0011	0.0091	-	-	-	-	1	mg/L	lb/day	-	-	-
2M. Arsenic, Total (7440-38-2)	x	x		0.0072	0.0595	-	-	-	-	1	mg/L	lb/day	-	-	-
3M. Beryllium, Total (7440-41-7)	x	x		0.00084	0.0069	-	-	-	-	1	mg/L	lb/day	-	-	-
4M. Cadmium, Total (7440-43-9)	x	x		0.00024	0.0020	-	-	-	-	1	mg/L	lb/day	-	-	-
5M. Chromium, Total (7440-47-3)	x	x		0.00130	0.0107	-	-	-	-	1	mg/L	lb/day	-	-	-
6M. Copper, Total (7440-50-8)	x	x		0.0029	0.0240	-	-	-	-	1	mg/L	lb/day	-	-	-
7M. Lead, Total (7439-92-1)	x	x		0.00051	0.0042	-	-	-	-	1	mg/L	lb/day	-	-	-
8M. Mercury, Total (7439-97-6)	x	x		0.000045	0.0004	-	-	-	-	1	mg/L	lb/day	-	-	-
9M. Nickel, Total (7440-02-0)	x	x		0.003	0.0248	-	-	-	-	1	mg/L	lb/day	-	-	-
10M. Selenium, Total (7782-49-2)	x	x		0.0016	0.0132	-	-	-	-	1	mg/L	lb/day	-	-	-
11M. Silver, Total (7440-22-4)	x	x		0.000047	0.0004	-	-	-	-	1	mg/L	lb/day	-	-	-
12M. Thallium, Total (7440-28-0)	x	x		0.000097	0.0008	-	-	-	-	1	mg/L	lb/day	-	-	-
13M. Zinc, Total (7440-66-6)	x	x		0.02	0.1652	-	-	-	-	1	mg/L	lb/day	-	-	-
14M. Cyanide, Total (57-12-5)			x	Not Tested	Not Tested										
15M. Phenols, Total			x	Not Tested	Not Tested										
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

Below Detection Limit

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		2.60	0.0215	-	-	-	-	1	µg/L	lb/day	-	-	-
2V. Acrylonitrile (107-13-1)	x	x		0.55	0.0045	-	-	-	-	1	µg/L	lb/day	-	-	-
3V. Benzene (71-43-2)	x	x		0.11	0.0009	-	-	-	-	1	µg/L	lb/day	-	-	-
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										
5V. Bromoform (75-25-2)	x	x		0.19	0.0016	-	-	-	-	1	µg/L	lb/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
7V. Chlorobenzene (108-90-7)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
8V. Chlorodi-bromomethane (124-48-1)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
9V. Chloroethane (75-00-3)	x	x		0.21	0.0017	-	-	-	-	1	µg/L	lb/day	-	-	-
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		0.25	0.0021	-	-	-	-	1	µg/L	lb/day	-	-	-
11V. Chloroform (67-66-3)	x	x		0.17	0.0014	-	-	-	-	1	µg/L	lb/day	-	-	-
12V. Dichloro-bromomethane (75-27-4)	x	x		0.13	0.0011	-	-	-	-	1	µg/L	lb/day	-	-	-
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required										
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		0.12	0.0010	-	-	-	-	1	µg/L	lb/day	-	-	-
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		0.21	0.0017	-	-	-	-	1	µg/L	lb/day	-	-	-
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		0.30	0.0025	-	-	-	-	1	µg/L	lb/day	-	-	-
17V. 1,2-Dichloro-propane (78-87-5)	x	x		0.10	0.0008	-	-	-	-	1	µg/L	lb/day	-	-	-
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		0.50	0.0041	-	-	-	-	1	µg/L	lb/day	-	-	-
19V. Ethylbenzene (100-41-4)	x	x		0.23	0.0019	-	-	-	-	1	µg/L	lb/day	-	-	-
20V. Methyl Bromide (74-83-9)	x	x		0.31	0.0026	-	-	-	-	1	µg/L	lb/day	-	-	-
21V. Methyl Chloride (74-87-3)	x	x		0.28	0.0023	-	-	-	-	1	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					d. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		0.2	0.0017	-	-	-	-	1	µg/L	lb/day	-	-	-
24V. Tetrachloro-ethylene (127-18-4)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
25V. Toluene (108-88-3)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		0.17	0.0014	-	-	-	-	1	µg/L	lb/day	-	-	-
27V. 1,1,1-Trichloro-ethane (71-55-6)	x	x		0.29	0.0024	-	-	-	-	1	µg/L	lb/day	-	-	-
28V. 1,1,2-Trichloro-ethane (79-00-5)	x	x		0.2	0.0017	-	-	-	-	1	µg/L	lb/day	-	-	-
29V Trichloro-ethylene (79-01-6)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required										
31V. Vinyl Chloride (75-01-4)	x	x		0.23	0.0019	-	-	-	-	1	µg/L	lb/day	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		1.6	0.0132	-	-	-	-	1	µg/L	lb/day	-	-	-
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		0.32	0.0026	-	-	-	-	1	µg/L	lb/day	-	-	-
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		0.81	0.0067	-	-	-	-	1	µg/L	lb/day	-	-	-
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		2.1	0.0174	-	-	-	-	1	µg/L	lb/day	-	-	-
5A. 2,4-Dinitro-phenol (51-28-5)	x	x		5.8	0.0479	-	-	-	-	1	µg/L	lb/day	-	-	-
6A. 2-Nitrophenol (88-75-5)	x	x		1.6	0.0132	-	-	-	-	1	µg/L	lb/day	-	-	-
7A. 4-Nitrophenol (100-02-7)	x	x		6.2	0.0512	-	-	-	-	1	µg/L	lb/day	-	-	-
8A. P-Chloro-M-Cresol (59-50-7)	x	x		0.72	0.0059	-	-	-	-	1	µg/L	lb/day	-	-	-
9A. Pentachloro-phenol (87-86-5)	x	x		0.63	0.0052	-	-	-	-	1	µg/L	lb/day	-	-	-
10A. Phenol (108-95-2)	x	x		0.55	0.0045	-	-	-	-	1	µg/L	lb/day	-	-	-
11A. 2,4,6-Trichloro-phenol (88-05-2)	x	x		1.7	0.0140	-	-	-	-	1	µg/L	lb/day	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
2B. Acenaphtylene (208-96-8)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
3B. Anthracene (120-12-7)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
4B. Benzidine (92-87-5)	x	x		33	0.2726	-	-	-	-	1	µg/L	lb/day	-	-	-
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		0.13	0.0011	-	-	-	-	1	µg/L	lb/day	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		0.52	0.0043	-	-	-	-	1	µg/L	lb/day	-	-	-
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		0.55	0.0045	-	-	-	-	1	µg/L	lb/day	-	-	-
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		0.24	0.0020	-	-	-	-	1	µg/L	lb/day	-	-	-
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		0.19	0.0016	-	-	-	-	1	µg/L	lb/day	-	-	-
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		12	0.0991	-	-	-	-	1	µg/L	lb/day	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		0.6	0.0050	-	-	-	-	1	µg/L	lb/day	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		1.4	0.0116	-	-	-	-	1	µg/L	lb/day	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	x	x		0.14	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
17B. 4-Chloro- phenyl Phenyl Ether (7005-72-3)	x	x		0.48	0.0040	-	-	-	-	1	µg/L	lb/day	-	-	-
18B. Chrysene (218-01-9)	x	x		0.13	0.0011	-	-	-	-	1	µg/L	lb/day	-	-	-
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		0.11	0.0009	-	-	-	-	1	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		0.21	0.0017	-	-	-	-	1	µg/L	lb/day	-	-	-
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		1.1	0.0091	-	-	-	-	1	µg/L	lb/day	-	-	-
24B. Diethyl Phthalate (84-66-2)	x	x		1.4	0.0116	-	-	-	-	1	µg/L	lb/day	-	-	-
25B. Dimethyl Phthalate (131-11-3)	x	x		0.73	0.0060	-	-	-	-	1	µg/L	lb/day	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		1.2	0.0099	-	-	-	-	1	µg/L	lb/day	-	-	-
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		0.51	0.0042	-	-	-	-	1	µg/L	lb/day	-	-	-
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		0.76	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		2	0.0165	-	-	-	-	1	µg/L	lb/day	-	-	-
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		0.63	0.0052	-	-	-	-	1	µg/L	lb/day	-	-	-
31B. Fluoranthene (206-44-0)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
32B. Fluorene (86-73-7)	x	x		0.21	0.0017	-	-	-	-	1	µg/L	lb/day	-	-	-
33B. Hexachloro-benzene (118-74-1)	x	x		0.17	0.0014	-	-	-	-	1	µg/L	lb/day	-	-	-
34B. Hexachloro-butadiene (87-68-3)	x	x		0.16	0.0013	-	-	-	-	1	µg/L	lb/day	-	-	-
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		0.6	0.0050	-	-	-	-	1	µg/L	lb/day	-	-	-
36B Hexachloro-ethane (67-72-1)	x	x		0.6	0.0050	-	-	-	-	1	µg/L	lb/day	-	-	-
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		0.19	0.0016	-	-	-	-	1	µg/L	lb/day	-	-	-
38B. Isophorone (78-59-1)	x	x		0.61	0.0050	-	-	-	-	1	µg/L	lb/day	-	-	-
39B. Naphthalene (91-20-3)	x	x		0.13	0.0011	-	-	-	-	1	µg/L	lb/day	-	-	-
40B. Nitrobenzene (98-95-3)	x	x		0.8	0.0066	-	-	-	-	1	µg/L	lb/day	-	-	-
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		0.7	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		0.29	0.0024	-	-	-	-	1	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		0.81	0.0067	-	-	-	-	1	µg/L	lb/day	-	-	-
44B. Phenanthrene (85-01-8)	x	x		0.41	0.0034	-	-	-	-	1	µg/L	lb/day	-	-	-
45B. Pyrene (129-00-0)	x	x		0.15	0.0012	-	-	-	-	1	µg/L	lb/day	-	-	-
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		0.68	0.0056	-	-	-	-	1	µg/L	lb/day	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.0008	0.0000066	-	-	-	-	1	µg/L	lb/day	-	-	-
2P. α-BHC (319-84-6)	x	x		0.00063	0.0000052	-	-	-	-	1	µg/L	lb/day	-	-	-
3P. β-BHC (319-85-7)	x	x		0.00096	0.0000079	-	-	-	-	1	µg/L	lb/day	-	-	-
4P. γ-BHC (58-89-9)	x	x		0.00077	0.0000064	-	-	-	-	1	µg/L	lb/day	-	-	-
5P. δ-BHC (319-86-8)	x	x		0.00037	0.0000031	-	-	-	-	1	µg/L	lb/day	-	-	-
6P. Chlordane (57-74-9)	x	x		0.0016	0.0000132	-	-	-	-	1	µg/L	lb/day	-	-	-
7P. 4,4'-DDT (50-29-3)	x	x		0.00071	0.0000059	-	-	-	-	1	µg/L	lb/day	-	-	-
8P. 4,4'-DDE (72-55-9)	x	x		0.00076	0.0000063	-	-	-	-	1	µg/L	lb/day	-	-	-
9P. 4,4'-DDD (72-54-8)	x	x		0.00064	0.0000053	-	-	-	-	1	µg/L	lb/day	-	-	-
10P. Dieldrin (60-57-1)	x	x		0.00079	0.0000065	-	-	-	-	1	µg/L	lb/day	-	-	-
11P. α-Enosulfan (115-29-7)	x	x		0.0009	0.0000074	-	-	-	-	1	µg/L	lb/day	-	-	-
12P. β-Endosulfan (115-29-7)	x	x		0.0015	0.0000124	-	-	-	-	1	µg/L	lb/day	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.00055	0.0000045	-	-	-	-	1	µg/L	lb/day	-	-	-
14P. Endrin (72-20-8)	x	x		0.00092	0.0000076	-	-	-	-	1	µg/L	lb/day	-	-	-
15P. Endrin Aldehyde (7421-93-4)	x	x		0.00087	0.0000072	-	-	-	-	1	µg/L	lb/day	-	-	-
16P. Heptachlor (76-44-8)	x	x		0.00095	0.0000078	-	-	-	-	1	µg/L	lb/day	-	-	-

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - BOTTOM ASH

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.00093	0.0000077	-	-	-	-	1	µg/L	lb/day	-	-	-
18P. PCB-1242 (53469-21-9)	x	x		0.0018	0.0000149	-	-	-	-	1	µg/L	lb/day	-	-	-
19P. PCB-1254 (11097-69-1)	x	x		0.0013	0.0000107	-	-	-	-	1	µg/L	lb/day	-	-	-
20P. PCB-1221 (11104-28-2)	x	x		0.0024	0.0000198	-	-	-	-	1	µg/L	lb/day	-	-	-
21P. PCB-1232 (11141-16-5)	x	x		0.0028	0.0000231	-	-	-	-	1	µg/L	lb/day	-	-	-
22P. PCB-1248 (12672-29-6)	x	x		0.0022	0.0000182	-	-	-	-	1	µg/L	lb/day	-	-	-
23P. PCB-1260 (11096-82-5)	x	x		0.00013	0.0000011	-	-	-	-	1	µg/L	lb/day	-	-	-
24P. PCB-1016 (12674-11-2)	x	x		0.0024	0.0000198	-	-	-	-	1	µg/L	lb/day	-	-	-
25P. Toxaphene (8001-35-2)	x	x		0.018	0.0001487	-	-	-	-	1	µg/L	lb/day	-	-	-

Below Detection Limit

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 301
COAL PILE RUNOFF

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.2	44.1	-	-	1.6	32.0	2	mg/L	lb/day	-	-	-
b. Chemical Oxygen Demand *(COD)*	120	2403.5	-	-	62	1241.8	2	mg/L	lb/day	-	-	-
c. Total Organic Carbon *(TOC)*	4	80.1	-	-	2.8	56.1	2	mg/L	lb/day	-	-	-
d. Total Suspended Solids *(TSS)*	160	3204.6	-	-	95.5	1912.8	2	mg/L	lb/day	-	-	-
e. Ammonia *(as N)*	0.99	19.8	-	-	0.84	16.8	2	mg/L	lb/day	-	-	-
f. Flow	VALUE 2.4 MGD		VALUE -		VALUE -					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE 26.7		VALUE -		VALUE -		2	°C		VALUE -		-
i. pH	MINIMUM 2.52	MAXIMUM 3.36	MINIMUM -	MAXIMUM -	Below Detection Limit		2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x		1.2	24.0	-	-	0.6	13.0	2	mg/L	lb/day	-	-	-
b. Chlorine, Total Residual	x		0.44	8.8	-	-	0.2	4.5	2	mg/L	lb/day	-	-	-
c. Color		x	Not Tested	Not Tested										
d. Fecal Coliform		x	38	N/A	-	-	-	-	2	MPN/100 mL	N/A	-	-	-
e. Fluoride (16984-48-8)	x		0.18	3.6	-	-	0.14	2.8	2	mg/L	lb/day	-	-	-
f. Nitrate-Nitrite *(as N)*	x		0.64	12.8	-	-	0.24	4.8	2	mg/L	lb/day	-	-	-

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)* *		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		1.7	34.0	-	-	0.85	17.0	2	mg/L	lb/day	-	-	-
h. Oil and Grease	x		1.5	30.0	-	-	0.75	15.0	2	mg/L	lb/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	x		0.45	9.0	-	-	0.24	4.8	2	mg/L	lb/day	-	-	-
j. Radioactivity					-	-	-	-	2	mg/L	lb/day	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	1.413	N/A	-	-	0.86	N/A	2	pCi/L	lb/day	-	-	-
(4) Radium 226, Total		x	0.707	N/A	-	-	0.41	N/A	2	pCi/L	lb/day	-	-	-
k. Sulfate (*as SO4*) (14808-79-8)	x		1000	20029.0	-	-	615	12317.8	2	mg/L	lb/day	-	-	-
l. Sulfide (*as S*)	x		0.47	9.4	-	-	0.22	4.4	2	mg/L	lb/day	-	-	-
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		44	881.3	-	-	23.3	466.7	2	mg/L	lb/day	-	-	-
p. Barium, Total (7440-39-3)	x		0.084	1.7	-	-	0.0555	1.1	2	mg/L	lb/day	-	-	-
q. Boron, Total (7440-42-8)	x		0.97	19.4	-	-	0.5195	10.4	2	mg/L	lb/day	-	-	-
r. Cobalt, Total (7440-48-4)	x		0.3	6.0	-	-	0.1615	3.2	2	mg/L	lb/day	-	-	-
s. Iron, Total (7439-89-6)	x		120	2403.5	-	-	62.5	1251.8	2	mg/L	lb/day	-	-	-
t. Magnesium, Total (7439-95-4)	x		27	540.8	-	-	17.05	341.5	2	mg/L	lb/day	-	-	-
u. Molybdenum, Total (7439-98-7)	x		0.013	0.3	-	-	0.00645	0.1	2	mg/L	lb/day	-	-	-
v. Manganese, Total (7439-96-5)	x		2.7	54.1	-	-	1.465	29.3	2	mg/L	lb/day	-	-	-
w. Tin, Total (7440-31-5)		x	Not Tested	Not Tested										
x. Titanium, Total (7440-32-6)		x	Not Tested	Not Tested										

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - COAL PILE RUNOFF

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)* *					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		0.00058	0.0116	-	-	0.000425	0.00851	2	mg/L	lb/day	-	-	-
2M. Arsenic, Total (7440-38-2)	x	x		0.04900	0.9814	-	-	0.049	0.98142	2	mg/L	lb/day	-	-	-
3M. Beryllium, Total (7440-41-7)	x	x		0.02100	0.4206	-	-	0.021	0.42061	2	mg/L	lb/day	-	-	-
4M. Cadmium, Total (7440-43-9)	x	x		0.00630	0.1262	-	-	0.00352	0.07050	2	mg/L	lb/day	-	-	-
5M. Chromium, Total (7440-47-3)	x	x		0.03900	0.7811	-	-	0.02025	0.40559	2	mg/L	lb/day	-	-	-
6M. Copper, Total (7440-50-8)	x	x		0.380000	7.6110	-	-	0.38	7.61101	2	mg/L	lb/day	-	-	-
7M. Lead, Total (7439-92-1)	x	x		0.00400	0.0801	-	-	0.0028	0.05608	2	mg/L	lb/day	-	-	-
8M. Mercury, Total (7439-97-6)	x	x		0.000085	0.0017	-	-	0.00005025	0.00101	2	mg/L	lb/day	-	-	-
9M. Nickel, Total (7440-02-0)	x	x		0.540000	10.8156	-	-	0.295	5.90855	2	mg/L	lb/day	-	-	-
10M. Selenium, Total (7782-49-2)	x	x		0.0230	0.4607	-	-	0.0128	0.25637	2	mg/L	lb/day	-	-	-
11M. Silver, Total (7440-22-4)	x	x		0.000047	0.0009	-	-	0.0000235	0.00047	2	mg/L	lb/day	-	-	-
12M. Thallium, Total (7440-28-0)	x	x		0.001100	0.0220	-	-	0.0011	0.02203	2	mg/L	lb/day	-	-	-
13M. Zinc, Total (7440-66-6)	x	x		1.80	36.0521	-	-	0.97	19.42810	2	mg/L	lb/day	-	-	-
14M. Cyanide, Total (57-12-5)	x	x		0.0025	0.0009	-	-	0.00125	0.02504	2	mg/L	lb/day	-	-	-
15M. Phenols, Total		x		Not Tested	Not Tested										
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

Below Detection Limit

COINTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		2.60	0.0521	-	-	1.3	26.03766	2	µg/L	lb/day	-	-	-
2V. Acrylonitrile (107-13-1)	x	x		0.55	0.0110	-	-	0.275	5.50797	2	µg/L	lb/day	-	-	-
3V. Benzene (71-43-2)	x	x		0.11	0.0022	-	-	0.055	1.10159	2	µg/L	lb/day	-	-	-
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										
5V. Bromoform (75-25-2)	x	x		0.19	0.0038	-	-	0.095	1.90275	2	µg/L	lb/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
7V. Chlorobenzene (108-90-7)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
8V. Chlorodi-bromomethane (124-48-1)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
9V. Chloroethane (75-00-3)	x	x		0.21	0.0042	-	-	0.105	2.10304	2	µg/L	lb/day	-	-	-
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		0.25	0.0050	-	-	0.125	2.50362	2	µg/L	lb/day	-	-	-
11V. Chloroform (67-66-3)	x	x		0.17	0.0034	-	-	0.085	1.70246	2	µg/L	lb/day	-	-	-
12V. Dichloro-bromomethane (75-27-4)	x	x		0.13	0.0026	-	-	0.065	1.30188	2	µg/L	lb/day	-	-	-
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required										
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		0.12	0.0024	-	-	0.06	1.20174	2	µg/L	lb/day	-	-	-
15V. 1,2-Dichloro-ethane (107-06-2	x	x		0.21	0.0042	-	-	0.105	2.10304	2	µg/L	lb/day	-	-	-
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		0.30	0.0060	-	-	0.15	3.00435	2	µg/L	lb/day	-	-	-
17V. 1,2-Dichloro-propane (78-87-5)	x	x		0.10	0.0019	-	-	0.0475	0.95138	2	µg/L	lb/day	-	-	-
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		0.50	0.0100	-	-	0.25	5.00724	2	µg/L	lb/day	-	-	-
19V. Ethylbenzene (100-41-4)	x	x		0.23	0.0046	-	-	0.115	2.30333	2	µg/L	lb/day	-	-	-
20V. Methyl Bromide (74-83-9)	x	x		0.31	0.0062	-	-	0.155	3.10449	2	µg/L	lb/day	-	-	-
21V. Methyl Chloride (74-87-3)	x	x		0.28	0.0056	-	-	0.14	2.80406	2	µg/L	lb/day	-	-	-

Below Detection Limit

COINTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)* *					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		0.2	0.0040	-	-	0.1	2.00290	2	µg/L	lb/day	-	-	-
24V. Tetrachloro-ethylene (127-18-4)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
25V. Toluene (108-88-3)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		0.17	0.0034	-	-	0.085	1.70246	2	µg/L	lb/day	-	-	-
27V. 1,1,1-Trichloro-ethane (71-55-6)	x	x		0.29	0.0058	-	-	0.145	2.90420	2	µg/L	lb/day	-	-	-
28V. 1,1,2-Trichloro-ethane (79-00-5)	x	x		0.2	0.0040	-	-	0.1	2.00290	2	µg/L	lb/day	-	-	-
29V Trichloro-ethylene (79-01-6)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required										
31V. Vinyl Chloride (75-01-4)	x	x		0.23	0.0046	-	-	0.115	2.30333	2	µg/L	lb/day	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		1.6	0.0320	-	-	0.8	16.02318	2	µg/L	lb/day	-	-	-
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		0.32	0.0064	-	-	0.16	3.20464	2	µg/L	lb/day	-	-	-
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		0.81	0.0162	-	-	0.405	8.11173	2	µg/L	lb/day	-	-	-
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		2.1	0.0421	-	-	1.05	21.03042	2	µg/L	lb/day	-	-	-
5A. 2,4-Dinitro-phenol (51-28-5)	x	x		5.8	0.1162	-	-	2.9	58.08401	2	µg/L	lb/day	-	-	-
6A. 2-Nitrophenol (88-75-5)	x	x		1.6	0.0320	-	-	0.8	16.02318	2	µg/L	lb/day	-	-	-
7A. 4-Nitrophenol (100-02-7)	x	x		6.2	0.1242	-	-	3.1	62.08981	2	µg/L	lb/day	-	-	-
8A. P-Chloro-M-Cresol (59-50-7)	x	x		0.72	0.0144	-	-	0.36	7.21043	2	µg/L	lb/day	-	-	-
9A. Pentachloro-phenol (87-86-5)	x	x		0.63	0.0126	-	-	0.315	6.30913	2	µg/L	lb/day	-	-	-
10A. Phenol (108-95-2)	x	x		0.55	0.0110	-	-	0.275	5.50797	2	µg/L	lb/day	-	-	-
11A. 2,4,6-Trichloro-phenol (88-05-2)	x	x		1.7	0.0340	-	-	0.85	17.02463	2	µg/L	lb/day	-	-	-

Below Detection Limit

COINTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)* *					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
2B. Acenaphtylene (208-96-8)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
3B. Anthracene (120-12-7)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
4B. Benzidine (92-87-5)	x	x		33	0.6610	-	-	16.5	330.47802	2	µg/L	lb/day	-	-	-
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		0.13	0.0026	-	-	0.065	1.30188	2	µg/L	lb/day	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		0.52	0.0104	-	-	0.26	5.20753	2	µg/L	lb/day	-	-	-
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		0.55	0.0110	-	-	0.275	5.50797	2	µg/L	lb/day	-	-	-
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		0.24	0.0048	-	-	0.12	2.40348	2	µg/L	lb/day	-	-	-
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		0.19	0.0038	-	-	0.095	1.90275	2	µg/L	lb/day	-	-	-
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		12	0.2403	-	-	6	120.17382	2	µg/L	lb/day	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		0.6	0.0120	-	-	0.3	6.00869	2	µg/L	lb/day	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		1.4	0.0280	-	-	0.7	14.02028	2	µg/L	lb/day	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	x	x		0.14	0.0028	-	-	0.07	1.40203	2	µg/L	lb/day	-	-	-
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	x	x		0.48	0.0096	-	-	0.24	4.80695	2	µg/L	lb/day	-	-	-
18B. Chrysene (218-01-9)	x	x		0.13	0.0026	-	-	0.065	1.30188	2	µg/L	lb/day	-	-	-
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		0.11	0.0022	-	-	0.055	1.10159	2	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)* *					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		0.21	0.0042	-	-	0.105	2.10304	2	µg/L	lb/day	-	-	-
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		1.1	0.0220	-	-	0.55	11.01593	2	µg/L	lb/day	-	-	-
24B. Diethyl Phthalate (84-66-2)	x	x		1.4	0.0280	-	-	0.7	14.02028	2	µg/L	lb/day	-	-	-
25B. Dimethyl Phthalate (131 -11-3)	x	x		0.73	0.0146	-	-	0.365	7.31057	2	µg/L	lb/day	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		1.2	0.0240	-	-	0.6	12.01738	2	µg/L	lb/day	-	-	-
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		0.51	0.0102	-	-	0.255	5.10739	2	µg/L	lb/day	-	-	-
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		0.76	0.0152	-	-	0.38	7.61101	2	µg/L	lb/day	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		2	0.0401	-	-	1	20.02897	2	µg/L	lb/day	-	-	-
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		0.63	0.0126	-	-	0.315	6.30913	2	µg/L	lb/day	-	-	-
31B. Fluoranthene (206-44-0)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
32B. Fluorene (86-73-7)	x	x		0.21	0.0042	-	-	0.105	2.10304	2	µg/L	lb/day	-	-	-
33B. Hexachloro-benzene (118-74-1)	x	x		0.17	0.0034	-	-	0.085	1.70246	2	µg/L	lb/day	-	-	-
34B. Hexachloro-butadiene (87-68-3)	x	x		0.16	0.0032	-	-	0.08	1.60232	2	µg/L	lb/day	-	-	-
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		0.6	0.0120	-	-	0.3	6.00869	2	µg/L	lb/day	-	-	-
36B Hexachloro-ethane (67-72-1)	x	x		0.6	0.0120	-	-	0.3	6.00869	2	µg/L	lb/day	-	-	-
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		0.19	0.0038	-	-	0.095	1.90275	2	µg/L	lb/day	-	-	-
38B. Isophorone (78-59-1)	x	x		0.61	0.0122	-	-	0.305	6.10884	2	µg/L	lb/day	-	-	-
39B. Naphthalene (91-20-3)	x	x		0.13	0.0026	-	-	0.065	1.30188	2	µg/L	lb/day	-	-	-
40B. Nitrobenzene (98-95-3)	x	x		0.8	0.0160	-	-	0.4	8.01159	2	µg/L	lb/day	-	-	-
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		0.7	0.0140	-	-	0.35	7.01014	2	µg/L	lb/day	-	-	-
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		0.29	0.0058	-	-	0.145	2.90420	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		0.81	0.0162	-	-	0.405	8.11173	2	µg/L	lb/day	-	-	-
44B. Phenanthrene (85-01-8)	x	x		0.41	0.0082	-	-	0.205	4.10594	2	µg/L	lb/day	-	-	-
45B. Pyrene (129-00-0)	x	x		0.15	0.0030	-	-	0.075	1.50217	2	µg/L	lb/day	-	-	-
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		0.68	0.0136	-	-	0.34	6.80985	2	µg/L	lb/day	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.0008	0.0000160	-	-	0.0004	0.00801	2	µg/L	lb/day	-	-	-
2P. α-BHC (319-84-6)	x	x		0.00063	0.0000126	-	-	0.000315	0.00631	2	µg/L	lb/day	-	-	-
3P. β-BHC (319-85-7)	x	x		0.00094	0.0000188	-	-	0.00047	0.00941	2	µg/L	lb/day	-	-	-
4P. γ-BHC (58-89-9)	x	x		0.00077	0.0000154	-	-	0.000385	0.00771	2	µg/L	lb/day	-	-	-
5P. δ-BHC (319-86-8)	x	x		0.00037	0.0000074	-	-	0.000185	0.00371	2	µg/L	lb/day	-	-	-
6P. Chlordane (57-74-9)	x	x		0.0016	0.0000320	-	-	0.0008	0.01602	2	µg/L	lb/day	-	-	-
7P. 4,4'-DDT (50-29-3)	x	x		0.00071	0.0000142	-	-	0.000355	0.00711	2	µg/L	lb/day	-	-	-
8P. 4,4'-DDE (72-55-9)	x	x		0.00076	0.0000152	-	-	0.00038	0.00761	2	µg/L	lb/day	-	-	-
9P. 4,4'-DDD (72-54-8)	x	x		0.00064	0.0000128	-	-	0.00032	0.00641	2	µg/L	lb/day	-	-	-
10P. Dieldrin (60-57-1)	x	x		0.00079	0.0000158	-	-	0.000395	0.00791	2	µg/L	lb/day	-	-	-
11P. α-Enosulfan (115-29-7)	x	x		0.00089	0.0000178	-	-	0.000445	0.00891	2	µg/L	lb/day	-	-	-
12P. β-Endosulfan (115-29-7)	x	x		0.0013	0.0000260	-	-	0.00089	0.01783	2	µg/L	lb/day	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.00055	0.0000110	-	-	0.000275	0.00551	2	µg/L	lb/day	-	-	-
14P. Endrin (72-20-8)	x	x		0.00092	0.0000184	-	-	0.00046	0.00921	2	µg/L	lb/day	-	-	-
15P. Endrin Aldehyde (7421-93-4)	x	x		0.00087	0.0000174	-	-	0.000435	0.00871	2	µg/L	lb/day	-	-	-
16P. Heptachlor (76-44-8)	x	x		0.00095	0.0000190	-	-	0.000475	0.00951	2	µg/L	lb/day	-	-	-

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - COAL PILE RUNOFF

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)* *					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.00093	0.0000186	-	-	0.000465	0.00931	2	µg/L	lb/day	-	-	-
18P. PCB-1242 (53469-21-9)	x	x		0.0018	0.0000361	-	-	0.0009	0.01803	2	µg/L	lb/day	-	-	-
19P. PCB-1254 (11097-69-1)	x	x		0.0013	0.0000260	-	-	0.00065	0.01302	2	µg/L	lb/day	-	-	-
20P. PCB-1221 (11104-28-2)	x	x		0.0024	0.0000481	-	-	0.0012	0.02403	2	µg/L	lb/day	-	-	-
21P. PCB-1232 (11141-16-5)	x	x		0.0028	0.0000561	-	-	0.0014	0.02804	2	µg/L	lb/day	-	-	-
22P. PCB-1248 (12672-29-6)	x	x		0.0022	0.0000441	-	-	0.0011	0.02203	2	µg/L	lb/day	-	-	-
23P. PCB-1260 (11096-82-5)	x	x		0.00013	0.0000026	-	-	0.000065	0.00130	2	µg/L	lb/day	-	-	-
24P. PCB-1016 (12674-11-2)	x	x		0.0024	0.0000481	-	-	0.0012	0.02403	2	µg/L	lb/day	-	-	-
25P. Toxaphene (8001-35-2)	x	x		0.018	0.0003605	-	-	0.009	0.18026	2	µg/L	lb/day	-	-	-

Below Detection Limit

* When computing average and a concentration is BDL, one-half of the concentration is used.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 301
FGD YARD SUMPS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2	83.5	-	-	1	41.7	2	mg/L	lb/day	-	-	-
b. Chemical Oxygen Demand *(COD)*	210	8762.7	-	-	195	8136.8	2	mg/L	lb/day	-	-	-
c. Total Organic Carbon *(TOC)*	9.9	413.1	-	-	9.55	398.5	2	mg/L	lb/day	-	-	-
d. Total Suspended Solids *(TSS)*	20	834.5	-	-	10	417.3	2	mg/L	lb/day	-	-	-
e. Ammonia *(as N)*	2.1	87.6	-	-	1.6	66.8	2	mg/L	lb/day	-	-	-
f. Flow	VALUE 5.0 MGD		VALUE -		VALUE 2.8 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE 22.2		VALUE -		VALUE -		2	°C		VALUE -		-
i. pH	MINIMUM 8.19	MAXIMUM 8.75	MINIMUM -	MAXIMUM -	Below Detection Limit		2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x		260	10849.0	-	-	163	6801.5	2	mg/L	lb/day	-	-	-
b. Chlorine, Total Residual	x		0.49	20.4	-	-	0.795	33.2	2	mg/L	lb/day	-	-	-
c. Color		x	Not Tested	Not Tested										
d. Fecal Coliform		x	263	N/A	-	-	-	-	2	MPN/100 mL	N/A	-	-	-
e. Fluoride (16984-48-8)	x		4.5	187.8	-	-	3	125.2	2	mg/L	lb/day	-	-	-
f. Nitrate-Nitrite *(as N)*	x		55	2295.0	-	-	17.855	745.0	2	mg/L	lb/day	-	-	-

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		8.4	350.5	-	-	4.2	175.3	2	mg/L	lb/day	-	-	-
h. Oil and Grease	x		1.5	62.6	-	-	0.75	31.3	2	mg/L	lb/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	x		0.26	10.8	-	-	0.21	-	2	mg/L	lb/day	-	-	-
j. Radioactivity					-	-	-	-	2	mg/L	lb/day	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested			Not Tested	Not Tested						
(2) Beta, Total		x	Not Tested	Not Tested			Not Tested	Not Tested						
(3) Radium, Total		x	2.7	N/A	-	-	2.65	N/A	2	pCi/L	lb/day	-	-	-
(4) Radium 226, Total		x	2.3	N/A	-	-	2.11	N/A	2	pCi/L	lb/day	-	-	-
k. Sulfate (*as SO4*) (14808-79-8)	x		1000	41727.0	-	-	650	27122.6	2	mg/L	lb/day	-	-	-
l. Sulfide (*as S*)	x		1.3	54.2	-	-	0.75	31.3	2	mg/L	lb/day	-	-	-
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		0.53	22.1	-	-	0.285	11.9	2	mg/L	lb/day	-	-	-
p. Barium, Total (7440-39-3)	x		0.28	11.7	-	-	0.21	8.8	2	mg/L	lb/day	-	-	-
q. Boron, Total (7440-42-8)	x		120	5007.2	-	-	81	3379.9	2	mg/L	lb/day	-	-	-
r. Cobalt, Total (7440-48-4)	x		0.0074	0.3	-	-	0.0059	0.2	2	mg/L	lb/day	-	-	-
s. Iron, Total (7439-89-6)	x		0.84	35.1	-	-	0.55	22.9	2	mg/L	lb/day	-	-	-
t. Magnesium, Total (7439-95-4)	x		340	14187.2	-	-	245	10223.1	2	mg/L	lb/day	-	-	-
u. Molybdenum, Total (7439-98-7)	x		0.052	2.2	-	-	0.02665	1.1	2	mg/L	lb/day	-	-	-
v. Manganese, Total (7439-96-5)	x		0.3	12.5	-	-	0.3	12.5	2	mg/L	lb/day	-	-	-
w. Tin, Total (7440-31-5)		x	Not Tested	Not Tested										
x. Titanium, Total (7440-32-6)		x	Not Tested	Not Tested										

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - FGD YARD SUMPS

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		0.01100	0.4590	-	-	0.0078	0.3	2	mg/L	lb/day	-	-	-
2M. Arsenic, Total (7440-38-2)	x	x		0.06000	2.5036	-	-	0.045	1.9	2	mg/L	lb/day	-	-	-
3M. Beryllium, Total (7440-41-7)	x	x		0.00360	0.1502	-	-	0.0018	0.1	2	mg/L	lb/day	-	-	-
4M. Cadmium, Total (7440-43-9)	x	x		0.00230	0.0960	-	-	0.002	0.1	2	mg/L	lb/day	-	-	-
5M. Chromium, Total (7440-47-3)	x	x		0.02300	0.9597	-	-	0.0115	0.5	2	mg/L	lb/day	-	-	-
6M. Copper, Total (7440-50-8)	x	x		0.015000	0.6259	-	-	0.0123	0.5	2	mg/L	lb/day	-	-	-
7M. Lead, Total (7439-92-1)	x	x		0.00180	0.0751	-	-	0.0010425	0.0	2	mg/L	lb/day	-	-	-
8M. Mercury, Total (7439-97-6)	x	x		0.000100	0.0042	-	-	0.00005775	0.0	2	mg/L	lb/day	-	-	-
9M. Nickel, Total (7440-02-0)	x	x		0.053000	2.2115	-	-	0.041	1.7	2	mg/L	lb/day	-	-	-
10M. Selenium, Total (7782-49-2)	x	x		0.0310	1.2935	-	-	0.0197	0.8	2	mg/L	lb/day	-	-	-
11M. Silver, Total (7440-22-4)	x	x		0.000470	0.0020	-	-	0.000235	0.0	2	mg/L	lb/day	-	-	-
12M. Thallium, Total (7440-28-0)	x	x		0.001700	0.0709	-	-	0.00135	0.1	2	mg/L	lb/day	-	-	-
13M. Zinc, Total (7440-66-6)	x	x		0.04	1.7108	-	-	0.0325	1.4	2	mg/L	lb/day	-	-	-
14M. Cyanide, Total (57-12-5)	x	x		0.0057	0.0020	-	-	0.00425	0.2	2	mg/L	lb/day	-	-	-
15M. Phenols, Total			x	Not Tested											
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

Below Detection Limit

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		2.60	0.1085	-	-	1.3	54.2	2	µg/L	lb/day	-	-	-
2V. Acrylonitrile (107-13-1)	x	x		0.55	0.0229	-	-	0.275	11.5	2	µg/L	lb/day	-	-	-
3V. Benzene (71-43-2)	x	x		0.11	0.0046	-	-	0.055	2.3	2	µg/L	lb/day	-	-	-
4V. Bis (*Chloro-methyl*) Ether (542-88-1)	x		x	Not Required	Not Required										
5V. Bromoform (75-25-2)	x	x		0.19	0.0079	-	-	0.095	4.0	2	µg/L	lb/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	x	x		0.14	0.0058	-	-	0.07	2.9	2	µg/L	lb/day	-	-	-
7V. Chlorobenzene (108-90-7)	x	x		0.14	0.0058	-	-	0.07	2.9	2	µg/L	lb/day	-	-	-
8V. Chlorodi-bromomethane (124-48-1)	x	x		0.77	0.0321	-	-	0.57	23.8	2	µg/L	lb/day	-	-	-
9V. Chloroethane (75-00-3)	x	x		0.21	0.0088	-	-	0.105	4.4	2	µg/L	lb/day	-	-	-
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		0.25	0.0104	-	-	0.125	5.2	2	µg/L	lb/day	-	-	-
11V. Chloroform (67-66-3)	x	x		19.00	0.7928	-	-	14.15	590.4	2	µg/L	lb/day	-	-	-
12V. Dichloro-bromomethane (75-27-4)	x	x		2.50	0.1043	-	-	1.9	79.3	2	µg/L	lb/day	-	-	-
13V. Dichloro-difluoromethane (75-71-8)	x	x		Not Required	Not Required										
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		0.12	0.0050	-	-	0.06	2.5	2	µg/L	lb/day	-	-	-
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		0.21	0.0088	-	-	0.105	4.4	2	µg/L	lb/day	-	-	-
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		0.30	0.0125	-	-	0.15	6.3	2	µg/L	lb/day	-	-	-
17V. 1,2-Dichloro-propane (78-87-5)	x	x		0.10	0.0040	-	-	0.0475	2.0	2	µg/L	lb/day	-	-	-
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		0.50	0.0209	-	-	0.25	10.4	2	µg/L	lb/day	-	-	-
19V. Ethylbenzene (100-41-4)	x	x		0.23	0.0096	-	-	0.115	4.8	2	µg/L	lb/day	-	-	-
20V. Methyl Bromide (74-83-9)	x	x		0.31	0.0129	-	-	0.155	6.5	2	µg/L	lb/day	-	-	-
21V. Methyl Chloride (74-87-3)	x	x		0.28	0.0117	-	-	0.14	5.8	2	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		0.2	0.0083	-	-	0.1	4.2	2	µg/L	lb/day	-	-	-
24V. Tetrachloro-ethylene (127-18-4)	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
25V. Toluene (108-88-3)	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		0.17	0.0071	-	-	0.085	3.5	2	µg/L	lb/day	-	-	-
27V. 1,1,1-Trichloro-ethane (71-55-6)	x	x		0.29	0.0121	-	-	0.145	6.1	2	µg/L	lb/day	-	-	-
28V. 1,1,2-Trichloro-ethane (79-00-5)	x	x		0.2	0.0083	-	-	0.1	4.2	2	µg/L	lb/day	-	-	-
29V Trichloro-ethylene (79-01-6)	x	x		0.14	0.0058	-	-	0.07	2.9	2	µg/L	lb/day	-	-	-
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required										
31V. Vinyl Chloride (75-01-4)	x	x		0.23	0.0096	-	-	0.115	4.8	2	µg/L	lb/day	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		1.6	0.0668	-	-	0.8	33.4	2	µg/L	lb/day	-	-	-
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		0.32	0.0134	-	-	0.16	6.7	2	µg/L	lb/day	-	-	-
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		0.81	0.0338	-	-	0.405	16.9	2	µg/L	lb/day	-	-	-
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		2.1	0.0876	-	-	1.05	43.8	2	µg/L	lb/day	-	-	-
5A. 2,4-Dinitro-phenol (51-28-5)	x	x		5.8	0.2420	-	-	2.9	121.0	2	µg/L	lb/day	-	-	-
6A. 2-Nitrophenol (88-75-5)	x	x		1.6	0.0668	-	-	0.8	33.4	2	µg/L	lb/day	-	-	-
7A. 4-Nitrophenol (100-02-7)	x	x		6.2	0.2587	-	-	3.1	129.4	2	µg/L	lb/day	-	-	-
8A. P-Chloro-M-Cresol (59-50-7)	x	x		0.72	0.0300	-	-	0.36	15.0	2	µg/L	lb/day	-	-	-
9A. Pentachloro-phenol (87-86-5)	x	x		0.63	0.0263	-	-	0.315	13.1	2	µg/L	lb/day	-	-	-
10A. Phenol (108-95-2)	x	x		0.55	0.0229	-	-	0.275	11.5	2	µg/L	lb/day	-	-	-
11A. 2,4,6-Trichloro-phenol (88-05-2)	x	x		1.7	0.0709	-	-	0.85	35.5	2	µg/L	lb/day	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		0.14	0.0058	-	-	0.07	2.9	2	µg/L	lb/day	-	-	-
2B. Acenaphtylene (208-96-8)	x	x		0.14	0.0058	-	-	0.07	2.9	2	µg/L	lb/day	-	-	-
3B. Anthracene (120-12-7)	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
4B. Benzidine (92-87-5)	x	x		33	1.3770	-	-	16.5	688.5	2	µg/L	lb/day	-	-	-
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		0.14	0.0058	-	-	0.07	2.9	2	µg/L	lb/day	-	-	-
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		0.13	0.0054	-	-	0.065	2.7	2	µg/L	lb/day	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		0.14	0.0058	-	-	0.07	2.9	2	µg/L	lb/day	-	-	-
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		0.52	0.0217	-	-	0.26	10.8	2	µg/L	lb/day	-	-	-
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		0.55	0.0229	-	-	0.275	11.5	2	µg/L	lb/day	-	-	-
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		0.24	0.0100	-	-	0.12	5.0	2	µg/L	lb/day	-	-	-
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		0.19	0.0079	-	-	0.095	4.0	2	µg/L	lb/day	-	-	-
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		12	0.5007	-	-	6	250.4	2	µg/L	lb/day	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		0.6	0.0250	-	-	0.3	12.5	2	µg/L	lb/day	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		1.4	0.0584	-	-	0.7	29.2	2	µg/L	lb/day	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	x	x		0.14	0.0058	-	-	0.07	2.9	2	µg/L	lb/day	-	-	-
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	x	x		0.48	0.0200	-	-	0.24	10.0	2	µg/L	lb/day	-	-	-
18B. Chrysene (218-01-9)	x	x		0.13	0.0054	-	-	0.065	2.7	2	µg/L	lb/day	-	-	-
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		0.11	0.0046	-	-	0.055	2.3	2	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		0.21	0.0088	-	-	0.105	4.4	2	µg/L	lb/day	-	-	-
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		1.1	0.0459	-	-	0.55	22.9	2	µg/L	lb/day	-	-	-
24B. Diethyl Phthalate (84-66-2)	x	x		1.4	0.0584	-	-	0.7	29.2	2	µg/L	lb/day	-	-	-
25B. Dimethyl Phthalate (131 -11-3)	x	x		0.73	0.0305	-	-	0.365	15.2	2	µg/L	lb/day	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		1.2	0.0501	-	-	0.6	25.0	2	µg/L	lb/day	-	-	-
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		0.51	0.0213	-	-	0.255	10.6	2	µg/L	lb/day	-	-	-
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		0.76	0.0317	-	-	0.38	15.9	2	µg/L	lb/day	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		2	0.0835	-	-	1	41.7	2	µg/L	lb/day	-	-	-
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		0.63	0.0263	-	-	0.315	13.1	2	µg/L	lb/day	-	-	-
31B. Fluoranthene (206-44-0)	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
32B. Fluorene (86-73-7)	x	x		0.21	0.0088	-	-	0.105	4.4	2	µg/L	lb/day	-	-	-
33B. Hexachloro-benzene (118-74-1)	x	x		0.17	0.0071	-	-	0.085	3.5	2	µg/L	lb/day	-	-	-
34B. Hexachloro-butadiene (87-68-3)	x	x		0.16	0.0067	-	-	0.08	3.3	2	µg/L	lb/day	-	-	-
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		0.6	0.0250	-	-	0.3	12.5	2	µg/L	lb/day	-	-	-
36B Hexachloro-ethane (67-72-1)	x	x		0.6	0.0250	-	-	0.3	12.5	2	µg/L	lb/day	-	-	-
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		0.19	0.0079	-	-	0.095	4.0	2	µg/L	lb/day	-	-	-
38B. Isophorone (78-59-1)	x	x		0.61	0.0255	-	-	0.305	12.7	2	µg/L	lb/day	-	-	-
39B. Naphthalene (91-20-3)	x	x		0.13	0.0054	-	-	0.065	2.7	2	µg/L	lb/day	-	-	-
40B. Nitrobenzene (98-95-3)	x	x		0.8	0.0334	-	-	0.4	16.7	2	µg/L	lb/day	-	-	-
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		0.7	0.0292	-	-	0.35	14.6	2	µg/L	lb/day	-	-	-
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		0.29	0.0121	-	-	0.145	6.1	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		0.81	0.0338	-	-	0.405	16.9	2	µg/L	lb/day	-	-	-
44B. Phenanthrene (85-01-8)	x	x		0.41	0.0171	-	-	0.205	8.6	2	µg/L	lb/day	-	-	-
	x	x		0.15	0.0063	-	-	0.075	3.1	2	µg/L	lb/day	-	-	-
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		0.68	0.0284	-	-	0.34	14.2	2	µg/L	lb/day	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.0045	0.0001878	-	-	0.0035	0.14604	2	µg/L	lb/day	-	-	-
2P. α-BHC (319-84-6)	x	x		0.0014	0.0000584	-	-	0.001025	0.04277	2	µg/L	lb/day	-	-	-
3P. β-BHC (319-85-7)	x	x		0.012	0.0005007	-	-	0.00855	0.35677	2	µg/L	lb/day	-	-	-
4P. γ-BHC (58-89-9)	x	x		0.00079	0.0000330	-	-	0.000395	0.01648	2	µg/L	lb/day	-	-	-
5P. δ-BHC (319-86-8)	x	x		0.00037	0.0000154	-	-	0.000185	0.00772	2	µg/L	lb/day	-	-	-
6P. Chlordane (57-74-9)	x	x		0.0016	0.0000668	-	-	0.0008	0.03338	2	µg/L	lb/day	-	-	-
7P. 4,4'-DDT (50-29-3)	x	x		0.00071	0.0000296	-	-	0.000355	0.01481	2	µg/L	lb/day	-	-	-
8P. 4,4'-DDE (72-55-9)	x	x		0.00076	0.0000317	-	-	0.00058	0.02420	2	µg/L	lb/day	-	-	-
9P. 4,4'-DDD (72-54-8)	x	x		0.00064	0.0000267	-	-	0.00032	0.01335	2	µg/L	lb/day	-	-	-
10P. Dieldrin (60-57-1)	x	x		0.0032	0.0001335	-	-	0.00255	0.10640	2	µg/L	lb/day	-	-	-
11P. α-Enosulfan (115-29-7)	x	x		0.0012	0.0000501	-	-	0.000825	0.03442	2	µg/L	lb/day	-	-	-
12P. β-Endosulfan (115-29-7)	x	x		0.019	0.0007928	-	-	0.0175	0.73022	2	µg/L	lb/day	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.0012	0.0000501	-	-	0.0013	0.05425	2	µg/L	lb/day	-	-	-
14P. Endrin (72-20-8)	x	x		0.0033	0.0001377	-	-	0.00235	0.09806	2	µg/L	lb/day	-	-	-
15P. Endrin Aldehyde (7421-93-4)	x	x		0.00087	0.0000363	-	-	0.000435	0.018151	2	µg/L	lb/day	-	-	-
16P. Heptachlor (76-44-8)	x	x		0.0018	0.0000751	-	-	0.0014	0.05842	2	µg/L	lb/day	-	-	-

Below Detection Limit

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - FGD YARD SUMPS

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.003	0.0001252	-	-	0.0027	0.11266	2	µg/L	lb/day	-	-	-
18P. PCB-1242 (53469-21-9)	x	x		0.0018	0.0000751	-	-	0.0009	0.03755	2	µg/L	lb/day	-	-	-
19P. PCB-1254 (11097-69-1)	x	x		0.0013	0.0000542	-	-	0.00065	0.02712	2	µg/L	lb/day	-	-	-
20P. PCB-1221 (11104-28-2)	x	x		0.0024	0.0001001	-	-	0.0012	0.05007	2	µg/L	lb/day	-	-	-
21P. PCB-1232 (11141-16-5)	x	x		0.0028	0.0001168	-	-	0.0014	0.05842	2	µg/L	lb/day	-	-	-
22P. PCB-1248 (12672-29-6)	x	x		0.0022	0.0000918	-	-	0.0011	0.04590	2	µg/L	lb/day	-	-	-
23P. PCB-1260 (11096-82-5)	x	x		0.00013	0.0000054	-	-	0.000065	0.00271	2	µg/L	lb/day	-	-	-
24P. PCB-1016 (12674-11-2)	x	x		0.0024	0.0001001	-	-	0.0012	0.05007	2	µg/L	lb/day	-	-	-
25P. Toxaphene (8001-35-2)	x	x		0.018	0.0007511	-	-	0.009	0.37554	2	µg/L	lb/day	-	-	-

Below Detection Limit

* When computing average and a concentration is BDL, one-half of the concentration is used.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INSTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* [redacted]

OUTFALL NO. 301 MASTER SUMP

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.9	183.9	-	-	1.63	103.6	3	mg/L	lb/day	-	-	-
b. Chemical Oxygen Demand *(COD)*	30	1902.8	-	-	16.17	1025.4	3	mg/L	lb/day	-	-	-
c. Total Organic Carbon *(TOC)*	2.5	158.6	-	-	2.18	138.5	3	mg/L	lb/day	-	-	-
d. Total Suspended Solids *(TSS)*	89	5644.8	-	-	59.33	3763.2	3	mg/L	lb/day	-	-	-
e. Ammonia *(as N)*	1.1	69.8	-	-	0.54	34.5	3	mg/L	lb/day	-	-	-
f. Flow	VALUE 7.6 MGD		VALUE -		VALUE 6.3 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE 33.4		VALUE -		VALUE -		3	°C		VALUE -		-
i. pH	MINIMUM 7.54	MAXIMUM 8.68	MINIMUM -	MAXIMUM -	Below Detection Limit		3	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x		0.61	38.7	-	-	0.267	16.9	3	mg/L	lb/day	-	-	-
b. Chlorine, Total Residual	x		0.25	15.9	-	-	0.107	6.8	3	mg/L	lb/day	-	-	-
c. Color		x	Not Tested	N/A										
d. Fecal Coliform		x	174	N/A	-	-	-	-	3	MPN/100 mL	N/A	-	-	-
e. Fluoride (16984-48-8)	x		0.22	14.0	-	-	0.16	10.1	3	mg/L	lb/day	-	-	-
f. Nitrate-Nitrite *(as N)*	x		0.29	18.4	-	-	0.125	7.9	3	mg/L	lb/day	-	-	-

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		2.8	177.6	-	-	1.4	88.8	3	mg/L	lb/day	-	-	-
h. Oil and Grease	x		1.5	95.1	-	-	0.77	48.6	3	mg/L	lb/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	x		0.13	8.2	-	-	0.063	4.0	3	mg/L	lb/day	-	-	-
j. Radioactivity														
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	0.727	N/A	-	-	0.48	30.4	3	pCi/L	lb/day	-	-	-
(4) Radium 226, Total		x	0.261	N/A	-	-	0.13	8.2	3	pCi/L	lb/day	-	-	-
k. Sulfate (*as SO4*) (14808-79-8)	x		29	1839.3	-	-	27.67	1755.0	3	mg/L	lb/day	-	-	-
l. Sulfide (*as S*)	x		0.41	26.0	-	-	0.205	13.0	3	mg/L	lb/day	-	-	-
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		2.9	183.9	-	-	1.07	68.1	3	mg/L	lb/day	-	-	-
p. Barium, Total (7440-39-3)	x		0.35	22.2	-	-	0.16	10.1	3	mg/L	lb/day	-	-	-
q. Boron, Total (7440-42-8)	x		0.085	5.4	-	-	0.057	3.6	3	mg/L	lb/day	-	-	-
r. Cobalt, Total (7440-48-4)	x		0.00071	0.0	-	-	0.00139	0.1	3	mg/L	lb/day	-	-	-
s. Iron, Total (7439-89-6)	x		1.9	120.5	-	-	0.80	50.5	3	mg/L	lb/day	-	-	-
t. Magnesium, Total (7439-95-4)	x		40	2537.0	-	-	3.2	203.0	3	mg/L	lb/day	-	-	-
u. Molybdenum, Total (7439-98-7)	x		0.0058	0.4	-	-	0.0041	0.3	3	mg/L	lb/day	-	-	-
v. Manganese, Total (7439-96-5)	x		0.085	5.4	-	-	0.035	2.2	3	mg/L	lb/day	-	-	-
w. Tin, Total (7440-31-5)		x	Not Tested	Not Tested										
x. Titanium, Total (7440-32-6)		x	Not Tested	Not Tested										

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - MASTER SUMP

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		0.00063	0.0400	-	-	0.000403333	0.0256	3	mg/L	lb/day	-	-	-
2M. Arsenic, Total (7440-38-2)	x	x		0.00270	0.1712	-	-	0.00068	0.0431	3	mg/L	lb/day	-	-	-
3M. Beryllium, Total (7440-41-7)	x	x		0.00110	0.0698	-	-	0.0000325	0.0021	3	mg/L	lb/day	-	-	-
4M. Cadmium, Total (7440-43-9)	x	x		0.00230	0.1459	-	-	0.000173667	0.0110	3	mg/L	lb/day	-	-	-
5M. Chromium, Total (7440-47-3)	x	x		0.00400	0.2537	-	-	0.000525	0.0333	3	mg/L	lb/day	-	-	-
6M. Copper, Total (7440-50-8)	x	x		0.032000	2.0296	-	-	0.015933333	1.0106	3	mg/L	lb/day	-	-	-
7M. Lead, Total (7439-92-1)	x	x		0.00430	0.2727	-	-	0.000505	0.0320	3	mg/L	lb/day	-	-	-
8M. Mercury, Total (7439-97-6)	x	x		0.000054	0.0034	-	-	2.83333E-05	0.0018	3	mg/L	lb/day	-	-	-
9M. Nickel, Total (7440-02-0)	x	x		0.006700	0.4249	-	-	0.003633333	0.2304	3	mg/L	lb/day	-	-	-
10M. Selenium, Total (7782-49-2)	x	x		0.0021	0.1332	-	-	0.001313333	0.0833	3	mg/L	lb/day	-	-	-
11M. Silver, Total (7440-22-4)	x	x		0.000470	0.0030	-	-	0.000235	0.0149	3	mg/L	lb/day	-	-	-
12M. Thallium, Total (7440-28-0)	x	x		0.000360	0.0228	-	-	0.000203333	0.0129	3	mg/L	lb/day	-	-	-
13M. Zinc, Total (7440-66-6)	x	x		0.03	1.7759	-	-	0.0065	0.4123	3	mg/L	lb/day	-	-	-
14M. Cyanide, Total (57-12-5)	x	x		0.0057	0.0030	-	-	0.002266667	0.1438	3	mg/L	lb/day	-	-	-
15M. Phenols, Total			x	Not Tested	Not Tested										
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

Below Detection Limit

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		2.60	0.1649	-	-	1.3	82.4526	3	µg/L	lb/day	-	-	-
2V. Acrylonitrile (107-13-1)	x	x		1.40	0.0888	-	-	0.65	41.2263	3	µg/L	lb/day	-	-	-
3V. Benzene (71-43-2)	x	x		0.11	0.0070	-	-	0.055	3.4884	3	µg/L	lb/day	-	-	-
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										
5V. Bromoform (75-25-2)	x	x		0.19	0.0121	-	-	0.095	6.0254	3	µg/L	lb/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	x	x		0.14	0.0089	-	-	0.07	4.4398	3	µg/L	lb/day	-	-	-
7V. Chlorobenzene (108-90-7)	x	x		0.14	0.0089	-	-	0.07	4.4398	3	µg/L	lb/day	-	-	-
8V. Chlorodi-bromomethane (124-48-1)	x	x		0.45	0.0285	-	-	0.23	14.5878	3	µg/L	lb/day	-	-	-
9V. Chloroethane (75-00-3)	x	x		0.21	0.0133	-	-	0.105	6.6596	3	µg/L	lb/day	-	-	-
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		0.25	0.0159	-	-	0.125	7.9281	3	µg/L	lb/day	-	-	-
11V. Chloroform (67-66-3)	x	x		13.00	0.8245	-	-	8.1	513.7431	3	µg/L	lb/day	-	-	-
12V. Dichloro-bromomethane (75-27-4)	x	x		2.60	0.1649	-	-	1.42	90.0636	3	µg/L	lb/day	-	-	-
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required										
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		0.12	0.0076	-	-	0.06	3.8055	3	µg/L	lb/day	-	-	-
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		0.21	0.0133	-	-	0.105	6.6596	3	µg/L	lb/day	-	-	-
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		0.30	0.0190	-	-	0.15	9.5138	3	µg/L	lb/day	-	-	-
17V. 1,2-Dichloro-propane (78-87-5)	x	x		0.10	0.0060	-	-	0.0475	3.0127	3	µg/L	lb/day	-	-	-
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		0.50	0.0317	-	-	0.25	15.8563	3	µg/L	lb/day	-	-	-
19V. Ethylbenzene (100-41-4)	x	x		0.23	0.0146	-	-	0.115	7.2939	3	µg/L	lb/day	-	-	-
20V. Methyl Bromide (74-83-9)	x	x		0.31	0.0197	-	-	0.155	9.8309	3	µg/L	lb/day	-	-	-
21V. Methyl Chloride (74-87-3)	x	x		0.28	0.0178	-	-	0.14	8.8795	3	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		0.18	0.0114	-	-	0.08	5.0740	3	µg/L	lb/day	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		0.2	0.0127	-	-	0.1	6.3425	3	µg/L	lb/day	-	-	-
24V. Tetrachloro-ethylene (127-18-4)	x	x		0.15	0.0095	-	-	0.075	4.7569	3	µg/L	lb/day	-	-	-
25V. Toluene (108-88-3)	x	x		0.15	0.0095	-	-	0.075	4.7569	3	µg/L	lb/day	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		0.17	0.0108	-	-	0.085	5.3911	3	µg/L	lb/day	-	-	-
27V. 1,1,1-Trichloro-ethane (71-55-6)	x	x		0.29	0.0184	-	-	0.145	9.1966	3	µg/L	lb/day	-	-	-
28V. 1,1,2-Trichloro-ethane (79-00-5)	x	x		0.2	0.0127	-	-	0.1	6.3425	3	µg/L	lb/day	-	-	-
29V Trichloro-ethylene (79-01-6)	x	x		0.14	0.0089	-	-	0.07	4.4398	3	µg/L	lb/day	-	-	-
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required										
31V. Vinyl Chloride (75-01-4)	x	x		0.23	0.0146	-	-	0.115	7.2939	3	µg/L	lb/day	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		1.6	0.1015	-	-	0.8	50.7401	3	µg/L	lb/day	-	-	-
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		0.32	0.0203	-	-	0.16	10.1480	3	µg/L	lb/day	-	-	-
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		0.81	0.0514	-	-	0.405	25.6872	3	µg/L	lb/day	-	-	-
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		2.1	0.1332	-	-	1.05	66.5963	3	µg/L	lb/day	-	-	-
5A. 2,4-Dinitro- phenol (51-28-5)	x	x		5.8	0.3679	-	-	2.9	183.9327	3	µg/L	lb/day	-	-	-
6A. 2-Nitrophenol (88-75-5)	x	x		1.6	0.1015	-	-	0.8	50.7401	3	µg/L	lb/day	-	-	-
7A. 4-Nitrophenol (100-02-7)	x	x		6.2	0.3932	-	-	3.1	196.6177	3	µg/L	lb/day	-	-	-
8A. P-Chloro-M- Cresol (59-50-7)	x	x		0.72	0.0457	-	-	0.36	22.8330	3	µg/L	lb/day	-	-	-
9A. Pentachloro-phenol (87-86-5)	x	x		0.63	0.0400	-	-	0.315	19.9789	3	µg/L	lb/day	-	-	-
10A. Phenol (108-95-2)	x	x		0.55	0.0349	-	-	0.275	17.4419	3	µg/L	lb/day	-	-	-
11A. 2,4,6-Trichloro-phenol (88-05-2)	x	x		1.7	0.1078	-	-	0.85	53.9113	3	µg/L	lb/day	-	-	-

Below Detection Limit

COINTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		0.14	0.0089	-	-	0.07	4.4398	3	µg/L	lb/day	-	-	-
2B. Acenaphtylene (208-96-8)	x	x		0.14	0.0089	-	-	0.07	4.4398	3	µg/L	lb/day	-	-	-
3B. Anthracene (120-12-7)	x	x		0.15	0.0095	-	-	0.075	4.7569	3	µg/L	lb/day	-	-	-
4B. Benzidine (92-87-5)	x	x		33	2.0930	-	-	16.5	1046.5137	3	µg/L	lb/day	-	-	-
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		0.14	0.0089	-	-	0.07	4.4398	3	µg/L	lb/day	-	-	-
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		0.13	0.0082	-	-	0.065	4.1226	3	µg/L	lb/day	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		0.15	0.0095	-	-	0.075	4.7569	3	µg/L	lb/day	-	-	-
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		0.14	0.0089	-	-	0.07	4.4398	3	µg/L	lb/day	-	-	-
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		0.52	0.0330	-	-	0.26	16.4905	3	µg/L	lb/day	-	-	-
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		0.55	0.0349	-	-	0.275	17.4419	3	µg/L	lb/day	-	-	-
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		0.24	0.0152	-	-	0.12	7.6110	3	µg/L	lb/day	-	-	-
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		0.19	0.0121	-	-	0.095	6.0254	3	µg/L	lb/day	-	-	-
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		12	0.7611	-	-	6	380.5504	3	µg/L	lb/day	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		0.6	0.0381	-	-	0.3	19.0275	3	µg/L	lb/day	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		1.4	0.0888	-	-	0.7	44.3976	3	µg/L	lb/day	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	x	x		0.14	0.0089	-	-	0.07	4.4398	3	µg/L	lb/day	-	-	-
17B. 4-Chloro- phenyl Phenyl Ether (7005-72-3)	x	x		0.48	0.0304	-	-	0.24	15.2220	3	µg/L	lb/day	-	-	-
18B. Chrysene (218-01-9)	x	x		0.13	0.0082	-	-	0.065	4.1226	3	µg/L	lb/day	-	-	-
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		0.15	0.0095	-	-	0.075	4.7569	3	µg/L	lb/day	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		0.15	0.0095	-	-	0.075	4.7569	3	µg/L	lb/day	-	-	-
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		0.11	0.0070	-	-	0.055	3.4884	3	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED ON PAGE V-7

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		0.21	0.0133	-	-	0.105	6.6596	3	µg/L	lb/day	-	-	-
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		1.1	0.0698	-	-	0.55	34.8838	3	µg/L	lb/day	-	-	-
24B. Diethyl Phthalate (84-66-2)	x	x		1.4	0.0888	-	-	0.7	44.3976	3	µg/L	lb/day	-	-	-
25B. Dimethyl Phthalate (131 -11-3)	x	x		0.73	0.0463	-	-	0.365	23.1502	3	µg/L	lb/day	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		1.2	0.0761	-	-	0.6	38.0550	3	µg/L	lb/day	-	-	-
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		0.51	0.0323	-	-	0.255	16.1734	3	µg/L	lb/day	-	-	-
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		0.76	0.0482	-	-	0.38	24.1015	3	µg/L	lb/day	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		2	0.1269	-	-	1	63.4251	3	µg/L	lb/day	-	-	-
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		0.63	0.0400	-	-	0.315	19.9789	3	µg/L	lb/day	-	-	-
31B. Fluoranthene (206-44-0)	x	x		0.15	0.0095	-	-	0.075	4.7569	3	µg/L	lb/day	-	-	-
32B. Fluorene (86-73-7)	x	x		0.21	0.0133	-	-	0.105	6.6596	3	µg/L	lb/day	-	-	-
33B. Hexachloro-benzene (118-74-1)	x	x		0.17	0.0108	-	-	0.085	5.3911	3	µg/L	lb/day	-	-	-
34B. Hexachloro-butadiene (87-68-3)	x	x		0.16	0.0101	-	-	0.08	5.0740	3	µg/L	lb/day	-	-	-
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		0.6	0.0381	-	-	0.3	19.0275	3	µg/L	lb/day	-	-	-
36B Hexachloro-ethane (67-72-1)	x	x		0.6	0.0381	-	-	0.3	19.0275	3	µg/L	lb/day	-	-	-
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		0.19	0.0121	-	-	0.095	6.0254	3	µg/L	lb/day	-	-	-
38B. Isophorone (78-59-1)	x	x		0.61	0.0387	-	-	0.305	19.3446	3	µg/L	lb/day	-	-	-
39B. Naphthalene (91-20-3)	x	x		0.13	0.0082	-	-	0.065	4.1226	3	µg/L	lb/day	-	-	-
40B. Nitrobenzene (98-95-3)	x	x		0.8	0.0507	-	-	0.4	25.3700	3	µg/L	lb/day	-	-	-
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		0.7	0.0444	-	-	0.35	22.1988	3	µg/L	lb/day	-	-	-
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		0.29	0.0184	-	-	0.145	9.1966	3	µg/L	lb/day	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		0.81	0.0514	-	-	0.405	25.6872	3	µg/L	lb/day	-	-	-
44B. Phenanthrene (85-01-8)	x	x		0.41	0.0260	-	-	0.205	13.0021	3	µg/L	lb/day	-	-	-
45B. Pyrene (129-00-0)	x	x		0.15	0.0095	-	-	0.075	4.7569	3	µg/L	lb/day	-	-	-
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		0.68	0.0431	-	-	0.34	21.5645	3	µg/L	lb/day	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.00079	0.0000501	-	-	0.000395	0.0251	3	µg/L	lb/day	-	-	-
2P. α-BHC (319-84-6)	x	x		0.0014	0.0000888	-	-	0.00079	0.0501	3	µg/L	lb/day	-	-	-
3P. β-BHC (319-85-7)	x	x		0.00095	0.0000603	-	-	0.000475	0.0301	3	µg/L	lb/day	-	-	-
4P. γ-BHC (58-89-9)	x	x		0.00079	0.0000501	-	-	0.000395	0.0251	3	µg/L	lb/day	-	-	-
5P. δ-BHC (319-86-8)	x	x		0.00037	0.0000235	-	-	0.000185	0.0117	3	µg/L	lb/day	-	-	-
6P. Chlordane (57-74-9)	x	x		0.0016	0.0001015	-	-	0.0008	0.0507	3	µg/L	lb/day	-	-	-
7P. 4,4'-DDT (50-29-3)	x	x		0.00071	0.0000450	-	-	0.000355	0.0225	3	µg/L	lb/day	-	-	-
8P. 4,4'-DDE (72-55-9)	x	x		0.00076	0.0000482	-	-	0.00038	0.0241	3	µg/L	lb/day	-	-	-
9P. 4,4'-DDD (72-54-8)	x	x		0.00064	0.0000406	-	-	0.00032	0.0203	3	µg/L	lb/day	-	-	-
10P. Dieldrin (60-57-1)	x	x		0.00078	0.0000495	-	-	0.00039	0.0247	3	µg/L	lb/day	-	-	-
11P. α-Enosulfan (115-29-7)	x	x		0.0009	0.0000571	-	-	0.00045	0.0285	3	µg/L	lb/day	-	-	-
12P. β-Endosulfan (115-29-7)	x	x		0.0016	0.0001015	-	-	-	-	3	µg/L	lb/day	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.00054	0.0000342	-	-	0.00027	0.0171	3	µg/L	lb/day	-	-	-
14P. Endrin (72-20-8)	x	x		0.00091	0.0000577	-	-	0.000455	0.0289	3	µg/L	lb/day	-	-	-
15P. Endrin Aldehyde (7421-93-4)	x	x		0.00087	0.0000552	-	-	0.000435	0.0276	3	µg/L	lb/day	-	-	-
16P. Heptachlor (76-44-8)	x	x		0.00094	0.0000596	-	-	0.00047	0.0298	3	µg/L	lb/day	-	-	-

Below Detection Limit

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - MASTER SUMP

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.00092	0.0000584	-	-	0.00046	0.0292	3	µg/L	lb/day	-	-	-
18P. PCB-1242 (53469-21-9)	x	x		0.0018	0.0001142	-	-	0.0009	0.0571	3	µg/L	lb/day	-	-	-
19P. PCB-1254 (11097-69-1)	x	x		0.0013	0.0000825	-	-	0.00065	0.0412	3	µg/L	lb/day	-	-	-
20P. PCB-1221 (11104-28-2)	x	x		0.0024	0.0001522	-	-	0.0012	0.0761	3	µg/L	lb/day	-	-	-
21P. PCB-1232 (11141-16-5)	x	x		0.0028	0.0001776	-	-	0.0014	0.0888	3	µg/L	lb/day	-	-	-
22P. PCB-1248 (12672-29-6)	x	x		0.0022	0.0001395	-	-	0.0011	0.0698	3	µg/L	lb/day	-	-	-
23P. PCB-1260 (11096-82-5)	x	x		0.00013	0.0000082	-	-	0.000065	0.0041	3	µg/L	lb/day	-	-	-
24P. PCB-1016 (12674-11-2)	x	x		0.0024	0.0001522	-	-	0.0012	0.0761	3	µg/L	lb/day	-	-	-
25P. Toxaphene (8001-35-2)	x	x		0.018	0.0011417	-	-	0.009	0.5708	3	µg/L	lb/day	-	-	-

Below Detection Limit

* When computing average and a concentration is BDL, one-half of the concentration is used.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* [redacted] OUTFALL NO. 301 SIERRA DITCH

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	6.2	40.9	-	-	3.6	23.7	2	mg/L	lb/day	-	-	-
b. Chemical Oxygen Demand *(COD)*	130	857.1	-	-	67.35	444.0	2	mg/L	lb/day	-	-	-
c. Total Organic Carbon *(TOC)*	7.3	48.1	-	-	4.55	30.0	2	mg/L	lb/day	-	-	-
d. Total Suspended Solids *(TSS)*	49	323.1	-	-	28.45	187.6	2	mg/L	lb/day	-	-	-
e. Ammonia *(as N)*	0.4	2.6	-	-	0.295	1.9	2	mg/L	lb/day	-	-	-
f. Flow	VALUE 0.79 MGD		VALUE -		VALUE 0.79 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE 18.5		VALUE -		VALUE -		2	°C		VALUE -		-
i. pH	MINIMUM 6.69	MAXIMUM 9.12	MINIMUM -	MAXIMUM -	Below Detection Limit		2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x		0.52	3.4	-	-	0.385	2.5	2	mg/L	lb/day	-	-	-
b. Chlorine, Total Residual	x		0.04	0.3	-	-	0.025	0.2	2	mg/L	lb/day	-	-	-
c. Color		x	Not Tested	Not Tested										
d. Fecal Coliform		x	>4840	N/A	-	-	-	-	2	MPN/100 mL	N/A	-	-	-
e. Fluoride (16984-48-8)	x		0.53	3.5	-	-	0.2855	1.9	2	mg/L	lb/day	-	-	-
f. Nitrate-Nitrite *(as N)*	x		0.54	3.6	-	-	0.145	1.0	2	mg/L	lb/day	-	-	-

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		1.7	11.2	-	-	0.85	5.6	2	mg/L	lb/day	-	-	-
h. Oil and Grease	x		1.5	9.9	-	-	0.0725	0.5	2	mg/L	lb/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	x		0.2	1.3	-	-	0.1125	0.7	2	mg/L	lb/day	-	-	-
j. Radioactivity														
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	0.669	N/A	-	-	0.57	N/A	2	pCi/L	lb/day	-	-	-
(4) Radium 226, Total		x	0.348	N/A	-	-	0.33	N/A	2	pCi/L	lb/day	-	-	-
k. Sulfate (*as SO4*) (14808-79-8)	x		120	791.1	-	-	70.5	464.8	2	mg/L	lb/day	-	-	-
l. Sulfide (*as S*)	x		1.5	9.9	-	-	0.8525	5.6	2	mg/L	lb/day	-	-	-
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		0.98	6.5	-	-	0.58	3.8	2	mg/L	lb/day	-	-	-
p. Barium, Total (7440-39-3)	x		0.1	0.7	-	-	0.067	0.4	2	mg/L	lb/day	-	-	-
q. Boron, Total (7440-42-8)	x		0.49	3.2	-	-	0.34	2.2	2	mg/L	lb/day	-	-	-
r. Cobalt, Total (7440-48-4)	x		0.0012	0.0	-	-	0.000945	0.0	2	mg/L	lb/day	-	-	-
s. Iron, Total (7439-89-6)	x		1.4	9.2	-	-	1.3	8.6	2	mg/L	lb/day	-	-	-
t. Magnesium, Total (7439-95-4)	x		15	98.9	-	-	8.8	58.0	2	mg/L	lb/day	-	-	-
u. Molybdenum, Total (7439-98-7)	x		0.014	0.1	-	-	0.0096	0.1	2	mg/L	lb/day	-	-	-
v. Manganese, Total (7439-96-5)	x		1.3	8.6	-	-	0.715	4.7	2	mg/L	lb/day	-	-	-
w. Tin, Total (7440-31-5)		x	Not Tested	Not Tested										
x. Titanium, Total (7440-32-6)		x	Not Tested	Not Tested										

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - SIERRA DITCH

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		0.00049	0.0032	-	-	0.000395	0.0026	2	mg/L	lb/day	-	-	-
2M. Arsenic, Total (7440-38-2)	x	x		0.03400	0.2242	-	-	0.01935	0.1276	2	mg/L	lb/day	-	-	-
3M. Beryllium, Total (7440-41-7)	x	x		0.00010	0.0006	-	-	0.000066	0.0004	2	mg/L	lb/day	-	-	-
4M. Cadmium, Total (7440-43-9)	x	x		0.00011	0.0007	-	-	0.0000735	0.00048	2	mg/L	lb/day	-	-	-
5M. Chromium, Total (7440-47-3)	x	x		0.00160	0.0105	-	-	0.001095	0.0072	2	mg/L	lb/day	-	-	-
6M. Copper, Total (7440-50-8)	x	x		0.034000	0.2242	-	-	0.001	0.0066	2	mg/L	lb/day	-	-	-
7M. Lead, Total (7439-92-1)	x	x		0.00320	0.0211	-	-	0.00043	0.0028	2	mg/L	lb/day	-	-	-
8M. Mercury, Total (7439-97-6)	x	x		0.000030	0.0002	-	-	0.000015	0.000099	2	mg/L	lb/day	-	-	-
9M. Nickel, Total (7440-02-0)	x	x		0.014000	0.0923	-	-	0.01025	0.0676	2	mg/L	lb/day	-	-	-
10M. Selenium, Total (7782-49-2)	x	x		0.0007	0.0044	-	-	0.00059	0.0039	2	mg/L	lb/day	-	-	-
11M. Silver, Total (7440-22-4)	x	x		0.000470	0.0003	-	-	0.000235	0.0015	2	mg/L	lb/day	-	-	-
12M. Thallium, Total (7440-28-0)	x	x		0.000170	0.0011	-	-	0.0001285	0.0008	2	mg/L	lb/day	-	-	-
13M. Zinc, Total (7440-66-6)	x	x		0.09	0.6197	-	-	0.055	0.3626	2	mg/L	lb/day	-	-	-
14M. Cyanide, Total (57-12-5)	x	x		0.0025	0.0003	-	-	0.00125	0.0082	2	mg/L	lb/day	-	-	-
15M. Phenols, Total			x	Not Tested	Not Tested										
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P- Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

Below Detection Limit

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		2.60	0.0171	-	-	1.3	8.5707	2	µg/L	lb/day	-	-	-
2V. Acrylonitrile (107-13-1)	x	x		0.55	0.0036	-	-	0.275	1.8130	2	µg/L	lb/day	-	-	-
3V. Benzene (71-43-2)	x	x		0.11	0.0007	-	-	0.055	0.3626	2	µg/L	lb/day	-	-	-
4V. Bis (*Chloro- methyl*) Ether (542-88-1)			x	Not Required	Not Required										
5V. Bromoform (75-25-2)	x	x		0.19	0.0013	-	-	0.095	0.6263	2	µg/L	lb/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
7V. Chlorobenzene (108-90-7)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
8V. Chlorodi-bromomethane (124-48-1)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
9V. Chloroethane (75-00-3)	x	x		0.21	0.0014	-	-	0.105	0.6923	2	µg/L	lb/day	-	-	-
10V. 2-Chloro- ethylvinyl Ether (110-75-8)	x	x		0.25	0.0016	-	-	0.125	0.8241	2	µg/L	lb/day	-	-	-
11V. Chloroform (67-66-3)	x	x		0.18	0.0012	-	-	0.13	0.8571	2	µg/L	lb/day	-	-	-
12V. Dichloro-bromomethane (75-27-4)	x	x		0.13	0.0009	-	-	0.065	0.4285	2	µg/L	lb/day	-	-	-
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required										
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		0.12	0.0008	-	-	0.06	0.3956	2	µg/L	lb/day	-	-	-
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		0.21	0.0014	-	-	0.105	0.6923	2	µg/L	lb/day	-	-	-
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		0.30	0.0020	-	-	0.15	0.9889	2	µg/L	lb/day	-	-	-
17V. 1,2-Dichloro-propane (78-87-5)	x	x		0.10	0.0006	-	-	0.0475	0.3132	2	µg/L	lb/day	-	-	-
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		0.50	0.0033	-	-	0.25	1.6482	2	µg/L	lb/day	-	-	-
19V. Ethylbenzene (100-41-4)	x	x		0.23	0.0015	-	-	0.115	0.7582	2	µg/L	lb/day	-	-	-
20V. Methyl Bromide (74-83-9)	x	x		0.31	0.0020	-	-	0.155	1.0219	2	µg/L	lb/day	-	-	-
21V. Methyl Chloride (74-87-3)	x	x		0.28	0.0018	-	-	0.14	0.9230	2	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		0.28	0.0018	-	-	0.14	0.9230	2	µg/L	lb/day	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		0.2	0.0013	-	-	0.1	0.6593	2	µg/L	lb/day	-	-	-
24V. Tetrachloro-ethylene (127-18-4)	x	x		0.15	0.0010	-	-	0.075	0.4945	2	µg/L	lb/day	-	-	-
25V. Toluene (108-88-3)	x	x		0.15	0.0010	-	-	0.075	0.4945	2	µg/L	lb/day	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		0.17	0.0011	-	-	0.085	0.5604	2	µg/L	lb/day	-	-	-
27V. 1,1,1-Trichloro-ethane (71-55-6)	x	x		0.29	0.0019	-	-	0.145	0.9560	2	µg/L	lb/day	-	-	-
28V. 1,1,2-Trichloro-ethane (79-00-5)	x	x		0.2	0.0013	-	-	0.1	0.6593	2	µg/L	lb/day	-	-	-
29V Trichloro- ethylene (79-01-6)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required										
31V. Vinyl Chloride (75-01-4)	x	x		0.23	0.0015	-	-	0.115	0.7582	2	µg/L	lb/day	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		1.6	0.0105	-	-	0.8	5.2743	2	µg/L	lb/day	-	-	-
2A. 2,4-Dichloro- phenol (120-83-2)	x	x		0.32	0.0021	-	-	0.16	1.0549	2	µg/L	lb/day	-	-	-
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		0.81	0.0053	-	-	0.405	2.6701	2	µg/L	lb/day	-	-	-
4A. 4,6-Dinitro-O- Cresol (534-52-1)	x	x		2.1	0.0138	-	-	1.05	6.9225	2	µg/L	lb/day	-	-	-
5A. 2,4-Dinitro- phenol (51-28-5)	x	x		5.8	0.0382	-	-	2.9	19.1193	2	µg/L	lb/day	-	-	-
6A. 2-Nitrophenol (88-75-5)	x	x		1.6	0.0105	-	-	0.8	5.2743	2	µg/L	lb/day	-	-	-
7A. 4-Nitrophenol (100-02-7)	x	x		6.2	0.0409	-	-	3.1	20.4379	2	µg/L	lb/day	-	-	-
8A. P-Chloro-M- Cresol (59-50-7)	x	x		0.72	0.0047	-	-	0.36	2.3734	2	µg/L	lb/day	-	-	-
9A. Pentachloro- phenol (87-86-5)	x	x		0.63	0.0042	-	-	0.315	2.0768	2	µg/L	lb/day	-	-	-
10A. Phenol (108-95-2)	x	x		0.55	0.0036	-	-	0.275	1.8130	2	µg/L	lb/day	-	-	-
11A. 2,4,6-Trichloro-phenol (88-05-2)	x	x		1.7	0.0112	-	-	0.85	5.6039	2	µg/L	lb/day	-	-	-

Below Detection Limit

COINTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
2B. Acenaphtylene (208-96-8)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
3B. Anthracene (120-12-7)	x	x		0.15	0.0010	-	-	0.075	0.4945	2	µg/L	lb/day	-	-	-
4B. Benzidine (92-87-5)	x	x		33	0.2176	-	-	16.5	108.7823	2	µg/L	lb/day	-	-	-
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		0.13	0.0009	-	-	0.065	0.4285	2	µg/L	lb/day	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		0.15	0.0010	-	-	0.075	0.4945	2	µg/L	lb/day	-	-	-
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		0.52	0.0034	-	-	0.26	1.7141	2	µg/L	lb/day	-	-	-
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		0.55	0.0036	-	-	0.275	1.8130	2	µg/L	lb/day	-	-	-
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		0.24	0.0016	-	-	0.12	0.7911	2	µg/L	lb/day	-	-	-
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		0.19	0.0013	-	-	0.095	0.6263	2	µg/L	lb/day	-	-	-
13B. Bis (*2-Ethyl- hexyl*) Phthalate (117-81-7)	x	x		12	0.0791	-	-	6	39.5572	2	µg/L	lb/day	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		0.6	0.0040	-	-	0.3	1.9779	2	µg/L	lb/day	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		1.4	0.0092	-	-	0.7	4.6150	2	µg/L	lb/day	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	x	x		0.14	0.0009	-	-	0.07	0.4615	2	µg/L	lb/day	-	-	-
17B. 4-Chloro- phenyl Phenyl Ether (7005-72-3)	x	x		0.48	0.0032	-	-	0.24	1.5823	2	µg/L	lb/day	-	-	-
18B. Chrysene (218-01-9)	x	x		0.13	0.0009	-	-	0.065	0.4285	2	µg/L	lb/day	-	-	-
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		0.15	0.0010	-	-	0.075	0.4945	2	µg/L	lb/day	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		0.15	0.0010	-	-	0.075	0.4945	2	µg/L	lb/day	-	-	-
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		0.11	0.0007	-	-	0.055	0.3626	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED ON PAGE V-7

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		0.21	0.0014	-	-	0.105	0.6923	2	µg/L	lb/day	-	-	-
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		1.1	0.0073	-	-	0.55	3.6261	2	µg/L	lb/day	-	-	-
24B. Diethyl Phthalate (84-66-2)	x	x		1.4	0.0092	-	-	0.7	4.6150	2	µg/L	lb/day	-	-	-
25B. Dimethyl Phthalate (131 -11-3)	x	x		0.73	0.0048	-	-	0.365	2.4064	2	µg/L	lb/day	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		1.2	0.0079	-	-	0.6	3.9557	2	µg/L	lb/day	-	-	-
27B. 2,4-Dinitro- toluene (121-14-2)	x	x		0.51	0.0034	-	-	0.255	1.6812	2	µg/L	lb/day	-	-	-
28B. 2,6-Dinitro- toluene (606-20-2)	x	x		0.76	0.0050	-	-	0.38	2.5053	2	µg/L	lb/day	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		2	0.0132	-	-	1	6.5929	2	µg/L	lb/day	-	-	-
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		0.63	0.0042	-	-	0.315	2.0768	2	µg/L	lb/day	-	-	-
31B. Fluoranthene (206-44-0)	x	x		0.15	0.0010	-	-	0.075	0.4945	2	µg/L	lb/day	-	-	-
32B. Fluorene (86-73-7)	x	x		0.21	0.0014	-	-	0.105	0.6923	2	µg/L	lb/day	-	-	-
33B. Hexachloro-benzene (118-74-1)	x	x		0.17	0.0011	-	-	0.085	0.5604	2	µg/L	lb/day	-	-	-
34B. Hexachloro-butadiene (87-68-3)	x	x		0.16	0.0011	-	-	0.08	0.5274	2	µg/L	lb/day	-	-	-
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		0.6	0.0040	-	-	0.3	1.9779	2	µg/L	lb/day	-	-	-
36B Hexachloro- ethane (67-72-1)	x	x		0.6	0.0040	-	-	0.3	1.9779	2	µg/L	lb/day	-	-	-
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		0.19	0.0013	-	-	0.095	0.6263	2	µg/L	lb/day	-	-	-
38B. Isophorone (78-59-1)	x	x		0.61	0.0040	-	-	0.305	2.0108	2	µg/L	lb/day	-	-	-
39B. Naphthalene (91-20-3)	x	x		0.13	0.0009	-	-	0.065	0.4285	2	µg/L	lb/day	-	-	-
40B. Nitrobenzene (98-95-3)	x	x		0.8	0.0053	-	-	0.4	2.6371	2	µg/L	lb/day	-	-	-
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		0.7	0.0046	-	-	0.35	2.3075	2	µg/L	lb/day	-	-	-
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		0.29	0.0019	-	-	0.145	0.9560	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		0.81	0.0053	-	-	0.405	2.6701	2	µg/L	lb/day	-	-	-
44B. Phenanthrene (85-01-8)	x	x		0.41	0.0027	-	-	0.205	1.3515	2	µg/L	lb/day	-	-	-
45B. Pyrene (129-00-0)	x	x		0.15	0.0010	-	-	0.075	0.4945	2	µg/L	lb/day	-	-	-
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		0.68	0.0045	-	-	0.34	2.2416	2	µg/L	lb/day	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.00079	0.0000052	-	-	0.000395	0.0026	2	µg/L	lb/day	-	-	-
2P. α-BHC (319-84-6)	x	x		0.0021	0.0000138	-	-	0.0016	0.0105	2	µg/L	lb/day	-	-	-
3P. β-BHC (319-85-7)	x	x		0.00095	0.0000063	-	-	0.000475	0.0031	2	µg/L	lb/day	-	-	-
4P. γ-BHC (58-89-9)	x	x		0.00079	0.0000052	-	-	0.000395	0.0026	2	µg/L	lb/day	-	-	-
5P. δ-BHC (319-86-8)	x	x		0.0025	0.0000165	-	-	0.00134	0.0088	2	µg/L	lb/day	-	-	-
6P. Chlordane (57-74-9)	x	x		0.0016	0.0000105	-	-	0.0008	0.0053	2	µg/L	lb/day	-	-	-
7P. 4,4′-DDT (50-29-3)	x	x		0.0011	0.0000073	-	-	0.00073	0.0048	2	µg/L	lb/day	-	-	-
8P. 4,4′-DDE (72-55-9)	x	x		0.00076	0.0000050	-	-	0.00038	0.0025	2	µg/L	lb/day	-	-	-
9P. 4,4′-DDD (72-54-8)	x	x		0.0044	0.0000290	-	-	0.00236	0.0156	2	µg/L	lb/day	-	-	-
10P. Dieldrin (60-57-1)	x	x		0.004	0.0000264	-	-	0.002195	0.0145	2	µg/L	lb/day	-	-	-
11P. α-Enosulfan (115-29-7)	x	x		0.0009	0.0000059	-	-	0.00045	0.0030	2	µg/L	lb/day	-	-	-
12P. β-Endosulfan (115-29-7)	x	x		0.0039	0.0000257	-	-	0.00218	0.0144	2	µg/L	lb/day	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.00054	0.0000036	-	-	0.00027	0.0018	2	µg/L	lb/day	-	-	-
14P. Endrin (72-20-8)	x	x		0.00091	0.0000060	-	-	0.000455	0.0030	2	µg/L	lb/day	-	-	-
15P. Endrin Aldehyde (7421-93-4)	x	x		0.00087	0.0000057	-	-	0.000435	0.0029	2	µg/L	lb/day	-	-	-
16P. Heptachlor (76-44-8)	x	x		0.00094	0.0000062	-	-	0.00047	0.0031	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUE ON PAGE V-9

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - SIERRA DITCH

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.00092	0.0000061	-	-	0.00046	0.0030	2	µg/L	lb/day	-	-	-
18P. PCB-1242 (53469-21-9)	x	x		0.0018	0.0000119	-	-	0.0009	0.0059	2	µg/L	lb/day	-	-	-
19P. PCB-1254 (11097-69-1)	x	x		0.0013	0.0000086	-	-	0.00065	0.0043	2	µg/L	lb/day	-	-	-
20P. PCB-1221 (11104-28-2)	x	x		0.0024	0.0000158	-	-	0.0012	0.0079	2	µg/L	lb/day	-	-	-
21P. PCB-1232 (11141-16-5)	x	x		0.0028	0.0000185	-	-	0.0014	0.0092	2	µg/L	lb/day	-	-	-
22P. PCB-1248 (12672-29-6)	x	x		0.0022	0.0000145	-	-	0.0011	0.0073	2	µg/L	lb/day	-	-	-
23P. PCB-1260 (11096-82-5)	x	x		0.00013	0.0000009	-	-	0.000065	0.0004	2	µg/L	lb/day	-	-	-
24P. PCB-1016 (12674-11-2)	x	x		0.0024	0.0000158	-	-	0.0012	0.0079	2	µg/L	lb/day	-	-	-
25P. Toxaphene (8001-35-2)	x	x		0.018	0.0001187	-	-	0.009	0.0593	2	µg/L	lb/day	-	-	-

Below Detection Limit

* When computing average and a concentration is BDL, one-half of the concentration is used.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* [redacted] OUTFALL NO. 301 UAP TOE DRAIN

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2	6.7	-	-	1	3.3	2	mg/L	lb/day	-	-	-
b. Chemical Oxygen Demand *(COD)*	16	53.4	-	-	13.5	45.1	2	mg/L	lb/day	-	-	-
c. Total Organic Carbon *(TOC)*	3.4	11.3	-	-	3.2	10.7	2	mg/L	lb/day	-	-	-
d. Total Suspended Solids *(TSS)*	7.8	26.0	-	-	6	20.0	2	mg/L	lb/day	-	-	-
e. Ammonia *(as N)*	2.3	7.7	-	-	2.15	7.2	2	mg/L	lb/day	-	-	-
f. Flow	VALUE 0.4 MGD		VALUE -		VALUE 0.2 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE 19.2		VALUE -		VALUE -		2	°C		VALUE -		-
i. pH	MINIMUM 6.43	MAXIMUM 6.54	MINIMUM -	MAXIMUM -	Below Detection Limit		2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x		0.52	1.7	-	-	0.515	1.7	2	mg/L	lb/day	-	-	-
b. Chlorine, Total Residual	x		0.02	0.1	-	-	0.01	0.03	2	mg/L	lb/day	-	-	-
c. Color		x	Not Tested	Not Tested										
d. Fecal Coliform		x	2	N/A	-	-	-	-	2	MPN/100 mL	N/A	-	-	-
e. Fluoride (16984-48-8)	x		0.19	0.6	-	-	0.17	0.57	2	mg/L	lb/day	-	-	-
f. Nitrate-Nitrite *(as N)*	x		0.77	2.6	-	-	0.37	1.24	2	mg/L	lb/day	-	-	-

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		3.4	11.3	-	-	1.7	5.67	2	mg/L	lb/day	-	-	-
h. Oil and Grease	x		1.5	5.0	-	-	0.08	0.27	2	mg/L	lb/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	x		0.075	0.3	-	-	0.05	0.17	2	mg/L	lb/day	-	-	-
j. Radioactivity					-	-	-	-	2	mg/L	lb/day	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	0.932	N/A	-	-	0.49	N/A	2	pCi/L	lb/day	-	-	-
(4) Radium 226, Total		x	0.487	N/A	-	-	0.31	N/A	2	pCi/L	lb/day	-	-	-
k. Sulfate (*as SO4*) (14808-79-8)	x		57	190.3	-	-	57	190.28	2	mg/L	lb/day	-	-	-
l. Sulfide (*as S*)	x		0.41	1.4	-	-	0.205	0.68	2	mg/L	lb/day	-	-	-
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		0.0088	0.0	-	-	0.00595	0.02	2	mg/L	lb/day	-	-	-
p. Barium, Total (7440-39-3)	x		0.065	0.2	-	-	0.0595	0.20	2	mg/L	lb/day	-	-	-
q. Boron, Total (7440-42-8)	x		0.5	1.7	-	-	0.495	1.65	2	mg/L	lb/day	-	-	-
r. Cobalt, Total (7440-48-4)	x		0.0014	0.0	-	-	0.00125	0.0042	2	mg/L	lb/day	-	-	-
s. Iron, Total (7439-89-6)	x		4.4	14.7	-	-	3.85	12.85	2	mg/L	lb/day	-	-	-
t. Magnesium, Total (7439-95-4)	x		16	53.4	-	-	14.5	48.40	2	mg/L	lb/day	-	-	-
u. Molybdenum, Total (7439-98-7)	x		0.0031	0.0	-	-	0.003	0.010	2	mg/L	lb/day	-	-	-
v. Manganese, Total (7439-96-5)	x		1	3.3	-	-	0.945	3.15	2	mg/L	lb/day	-	-	-
w. Tin, Total (7440-31-5)		x	Not Tested	Not Tested										
x. Titanium, Total (7440-32-6)		x	Not Tested	Not Tested										

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - UAP TOE DRAIN

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		0.00012	0.0004	-	-	0.00007	0.00023	2	mg/L	lb/day	-	-	-
2M. Arsenic, Total (7440-38-2)	x	x		0.00130	0.0043	-	-	0.00081	0.00270	2	mg/L	lb/day	-	-	-
3M. Beryllium, Total (7440-41-7)	x	x		0.000036	0.0001	-	-	0.000018	0.00006	2	mg/L	lb/day	-	-	-
4M. Cadmium, Total (7440-43-9)	x	x		0.00009	0.0003	-	-	0.000075	0.00025	2	mg/L	lb/day	-	-	-
5M. Chromium, Total (7440-47-3)	x	x		0.00023	0.0008	-	-	0.000115	0.00038	2	mg/L	lb/day	-	-	-
6M. Copper, Total (7440-50-8)	x	x		0.000580	0.0019	-	-	0.000425	0.00142	2	mg/L	lb/day	-	-	-
7M. Lead, Total (7439-92-1)	x	x		0.00007	0.0002	-	-	0.00004925	0.00016	2	mg/L	lb/day	-	-	-
8M. Mercury, Total (7439-97-6)	x	x		0.000056	0.0002	-	-	0.00003575	0.00012	2	mg/L	lb/day	-	-	-
9M. Nickel, Total (7440-02-0)	x	x		0.000750	0.0025	-	-	0.0005	0.00167	2	mg/L	lb/day	-	-	-
10M. Selenium, Total (7782-49-2)	x	x		0.0003	0.0011	-	-	0.0001325	0.00044	2	mg/L	lb/day	-	-	-
11M. Silver, Total (7440-22-4)	x	x		0.000470	0.0002	-	-	0.000235	0.00078	2	mg/L	lb/day	-	-	-
12M. Thallium, Total (7440-28-0)	x	x		0.000063	0.0002	-	-	0.0000555	0.00019	2	mg/L	lb/day	-	-	-
13M. Zinc, Total (7440-66-6)	x	x		0.03	0.0835	-	-	0.0093	0.03104	2	mg/L	lb/day	-	-	-
14M. Cyanide, Total (57-12-5)	x	x		0.0025	0.0002	-	-	0.00125	0.00417	2	mg/L	lb/day	-	-	-
15M. Phenols, Total			x	Not Tested	Not Tested										
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

Below Detection Limit

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		2.60	0.0087	-	-	1.3	4.33961	2	µg/L	lb/day	-	-	-
2V. Acrylonitrile (107-13-1)	x	x		0.55	0.0018	-	-	0.275	0.91799	2	µg/L	lb/day	-	-	-
3V. Benzene (71-43-2)	x	x		0.11	0.0004	-	-	0.055	0.18360	2	µg/L	lb/day	-	-	-
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										
5V. Bromoform (75-25-2)	x	x		0.19	0.0006	-	-	0.095	0.31713	2	µg/L	lb/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
7V. Chlorobenzene (108-90-7)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
8V. Chlorodi-bromomethane (124-48-1)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
9V. Chloroethane (75-00-3)	x	x		0.21	0.0007	-	-	0.105	0.35051	2	µg/L	lb/day	-	-	-
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		0.25	0.0008	-	-	0.125	0.41727	2	µg/L	lb/day	-	-	-
11V. Chloroform (67-66-3)	x	x		0.17	0.0006	-	-	0.085	0.28374	2	µg/L	lb/day	-	-	-
12V. Dichloro-bromomethane (75-27-4)	x	x		0.13	0.0004	-	-	0.065	0.21698	2	µg/L	lb/day	-	-	-
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required										
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		0.12	0.0004	-	-	0.06	0.20029	2	µg/L	lb/day	-	-	-
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		0.21	0.0007	-	-	0.105	0.35051	2	µg/L	lb/day	-	-	-
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		0.30	0.0010	-	-	0.15	0.50072	2	µg/L	lb/day	-	-	-
17V. 1,2-Dichloro-propane (78-87-5)	x	x		0.10	0.0003	-	-	0.0475	0.15856	2	µg/L	lb/day	-	-	-
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		0.50	0.0017	-	-	0.25	0.83454	2	µg/L	lb/day	-	-	-
19V. Ethylbenzene (100-41-4)	x	x		0.23	0.0008	-	-	0.115	0.38389	2	µg/L	lb/day	-	-	-
20V. Methyl Bromide (74-83-9)	x	x		0.31	0.0010	-	-	0.155	0.51742	2	µg/L	lb/day	-	-	-
21V. Methyl Chloride (74-87-3)	x	x		0.28	0.0009	-	-	0.14	0.46734	2	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		0.28	0.0009	-	-	0.14	0.46734	2	µg/L	lb/day	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		0.2	0.0007	-	-	0.1	0.33382	2	µg/L	lb/day	-	-	-
24V. Tetrachloro-ethylene (127-18-4)	x	x		0.15	0.0005	-	-	0.075	0.25036	2	µg/L	lb/day	-	-	-
25V. Toluene (108-88-3)	x	x		0.15	0.0005	-	-	0.075	0.25036	2	µg/L	lb/day	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		0.17	0.0006	-	-	0.085	0.28374	2	µg/L	lb/day	-	-	-
27V. 1,1,1-Trichloro-ethane (71-55-6)	x	x		0.29	0.0010	-	-	0.145	0.48403	2	µg/L	lb/day	-	-	-
28V. 1,1,2-Trichloro-ethane (79-00-5)	x	x		0.2	0.0007	-	-	0.1	0.33382	2	µg/L	lb/day	-	-	-
29V Trichloro- ethylene (79-01-6)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required										
31V. Vinyl Chloride (75-01-4)	x	x		0.23	0.0008	-	-	0.115	0.38389	2	µg/L	lb/day	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		1.6	0.0053	-	-	0.8	2.67053	2	µg/L	lb/day	-	-	-
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		0.32	0.0011	-	-	0.16	0.53411	2	µg/L	lb/day	-	-	-
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		0.81	0.0027	-	-	0.405	1.35196	2	µg/L	lb/day	-	-	-
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		2.1	0.0070	-	-	1.05	3.50507	2	µg/L	lb/day	-	-	-
5A. 2,4-Dinitro- phenol (51-28-5)	x	x		5.8	0.0194	-	-	2.9	9.68067	2	µg/L	lb/day	-	-	-
6A. 2-Nitrophenol (88-75-5)	x	x		1.6	0.0053	-	-	0.8	2.67053	2	µg/L	lb/day	-	-	-
7A. 4-Nitrophenol (100-02-7)	x	x		6.2	0.0207	-	-	3.1	10.34830	2	µg/L	lb/day	-	-	-
8A. P-Chloro-M- Cresol (59-50-7)	x	x		0.72	0.0024	-	-	0.36	1.20174	2	µg/L	lb/day	-	-	-
9A. Pentachloro-phenol (87-86-5)	x	x		0.63	0.0021	-	-	0.315	1.05152	2	µg/L	lb/day	-	-	-
10A. Phenol (108-95-2)	x	x		0.55	0.0018	-	-	0.275	0.91799	2	µg/L	lb/day	-	-	-
11A. 2,4,6-Trichloro-phenol (88-05-2)	x	x		1.7	0.0057	-	-	0.85	2.83744	2	µg/L	lb/day	-	-	-

Below Detection Limit

COINTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
2B. Acenaphtylene (208-96-8)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
3B. Anthracene (120-12-7)	x	x		0.15	0.0005	-	-	0.075	0.25036	2	µg/L	lb/day	-	-	-
4B. Benzidine (92-87-5)	x	x		33	0.1102	-	-	16.5	55.07967	2	µg/L	lb/day	-	-	-
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		0.13	0.0004	-	-	0.065	0.21698	2	µg/L	lb/day	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		0.15	0.0005	-	-	0.075	0.25036	2	µg/L	lb/day	-	-	-
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		0.52	0.0017	-	-	0.26	0.86792	2	µg/L	lb/day	-	-	-
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		0.55	0.0018	-	-	0.275	0.91799	2	µg/L	lb/day	-	-	-
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		0.24	0.0008	-	-	0.12	0.40058	2	µg/L	lb/day	-	-	-
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		0.19	0.0006	-	-	0.095	0.31713	2	µg/L	lb/day	-	-	-
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		12	0.0401	-	-	6	20.02897	2	µg/L	lb/day	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		0.6	0.0020	-	-	0.3	1.00145	2	µg/L	lb/day	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		1.4	0.0047	-	-	0.7	2.33671	2	µg/L	lb/day	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	x	x		0.14	0.0005	-	-	0.07	0.23367	2	µg/L	lb/day	-	-	-
17B. 4-Chloro- phenyl Phenyl Ether (7005-72-3)	x	x		0.48	0.0016	-	-	0.24	0.80116	2	µg/L	lb/day	-	-	-
18B. Chrysene (218-01-9)	x	x		0.13	0.0004	-	-	0.065	0.21698	2	µg/L	lb/day	-	-	-
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		0.15	0.0005	-	-	0.075	0.25036	2	µg/L	lb/day	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		0.15	0.0005	-	-	0.075	0.25036	2	µg/L	lb/day	-	-	-
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		0.11	0.0004	-	-	0.055	0.18360	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED ON PAGE V-7

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		0.21	0.0007	-	-	0.105	0.35051	2	µg/L	lb/day	-	-	-
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		1.1	0.0037	-	-	0.55	1.83599	2	µg/L	lb/day	-	-	-
24B. Diethyl Phthalate (84-66-2)	x	x		1.4	0.0047	-	-	0.7	2.33671	2	µg/L	lb/day	-	-	-
25B. Dimethyl Phthalate (131 - 11-3)	x	x		0.73	0.0024	-	-	0.365	1.21843	2	µg/L	lb/day	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		1.2	0.0040	-	-	0.6	2.00290	2	µg/L	lb/day	-	-	-
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		0.51	0.0017	-	-	0.255	0.85123	2	µg/L	lb/day	-	-	-
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		0.76	0.0025	-	-	0.38	1.26850	2	µg/L	lb/day	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		2	0.0067	-	-	1	3.33816	2	µg/L	lb/day	-	-	-
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		0.63	0.0021	-	-	0.315	1.05152	2	µg/L	lb/day	-	-	-
31B. Fluoranthene (206-44-0)	x	x		0.15	0.0005	-	-	0.075	0.25036	2	µg/L	lb/day	-	-	-
32B. Fluorene (86-73-7)	x	x		0.21	0.0007	-	-	0.105	0.35051	2	µg/L	lb/day	-	-	-
33B. Hexachloro-benzene (118-74-1)	x	x		0.17	0.0006	-	-	0.085	0.28374	2	µg/L	lb/day	-	-	-
34B. Hexachloro-butadiene (87-68-3)	x	x		0.16	0.0005	-	-	0.08	0.26705	2	µg/L	lb/day	-	-	-
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		0.6	0.0020	-	-	0.3	1.00145	2	µg/L	lb/day	-	-	-
36B Hexachloro-ethane (67-72-1)	x	x		0.6	0.0020	-	-	0.3	1.00145	2	µg/L	lb/day	-	-	-
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		0.19	0.0006	-	-	0.095	0.31713	2	µg/L	lb/day	-	-	-
38B. Isophorone (78-59-1)	x	x		0.61	0.0020	-	-	0.305	1.01814	2	µg/L	lb/day	-	-	-
39B. Naphthalene (91-20-3)	x	x		0.13	0.0004	-	-	0.065	0.21698	2	µg/L	lb/day	-	-	-
40B. Nitrobenzene (98-95-3)	x	x		0.8	0.0027	-	-	0.4	1.33526	2	µg/L	lb/day	-	-	-
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		0.7	0.0023	-	-	0.35	1.16836	2	µg/L	lb/day	-	-	-
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		0.29	0.0010	-	-	0.145	0.48403	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		0.81	0.0027	-	-	0.405	1.35196	2	µg/L	lb/day	-	-	-
44B. Phenanthrene (85-01-8)	x	x		0.41	0.0014	-	-	0.205	0.68432	2	µg/L	lb/day	-	-	-
45B. Pyrene (129-00-0)	x	x		0.15	0.0005	-	-	0.075	0.25036	2	µg/L	lb/day	-	-	-
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		0.68	0.0023	-	-	0.34	1.13498	2	µg/L	lb/day	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.00079	0.0000026	-	-	0.000395	0.00132	2	µg/L	lb/day	-	-	-
2P. α-BHC (319-84-6)	x	x		0.00063	0.0000021	-	-	0.000315	0.00105	2	µg/L	lb/day	-	-	-
3P. β-BHC (319-85-7)	x	x		0.00095	0.0000032	-	-	0.000475	0.00159	2	µg/L	lb/day	-	-	-
4P. γ-BHC (58-89-9)	x	x		0.00079	0.0000026	-	-	0.000395	0.00132	2	µg/L	lb/day	-	-	-
5P. δ-BHC (319-86-8)	x	x		0.00037	0.0000012	-	-	0.000185	0.00062	2	µg/L	lb/day	-	-	-
6P. Chlordane (57-74-9)	x	x		0.0016	0.0000053	-	-	0.0008	0.00267	2	µg/L	lb/day	-	-	-
7P. 4,4'-DDT (50-29-3)	x	x		0.00071	0.0000024	-	-	0.000355	0.00119	2	µg/L	lb/day	-	-	-
8P. 4,4'-DDE (72-55-9)	x	x		0.00076	0.0000025	-	-	0.00038	0.00127	2	µg/L	lb/day	-	-	-
9P. 4,4'-DDD (72-54-8)	x	x		0.00064	0.0000021	-	-	0.00032	0.00107	2	µg/L	lb/day	-	-	-
10P. Dieldrin (60-57-1)	x	x		0.00079	0.0000026	-	-	0.000395	0.00132	2	µg/L	lb/day	-	-	-
11P. α-Enosulfan (115-29-7)	x	x		0.0009	0.0000030	-	-	0.00045	0.00150	2	µg/L	lb/day	-	-	-
12P. β-Endosulfan (115-29-7)	x	x		0.0026	0.0000087	-	-	0.0021	0.00701	2	µg/L	lb/day	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.0024	0.0000080	-	-	0.0013	0.00434	2	µg/L	lb/day	-	-	-
14P. Endrin (72-20-8)	x	x		0.00091	0.0000030	-	-	0.000455	0.00152	2	µg/L	lb/day	-	-	-
15P. Endrin Aldehyde (7421-93-4)	x	x		0.00087	0.0000029	-	-	0.000435	0.00145	2	µg/L	lb/day	-	-	-
16P. Heptachlor (76-44-8)	x	x		0.00094	0.0000031	-	-	0.00047	0.00157	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUE ON PAGE V-9

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301 - UAP TOE DRAIN

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.00092	0.0000031	-	-	0.00046	0.00154	2	µg/L	lb/day	-	-	-
18P. PCB-1242 (53469-21-9)	x	x		0.0018	0.0000060	-	-	0.0009	0.00300	2	µg/L	lb/day	-	-	-
19P. PCB-1254 (11097-69-1)	x	x		0.0013	0.0000043	-	-	0.00065	0.00217	2	µg/L	lb/day	-	-	-
20P. PCB-1221 (11104-28-2)	x	x		0.0024	0.0000080	-	-	0.0012	0.00401	2	µg/L	lb/day	-	-	-
21P. PCB-1232 (11141-16-5)	x	x		0.0028	0.0000093	-	-	0.0014	0.00467	2	µg/L	lb/day	-	-	-
22P. PCB-1248 (12672-29-6)	x	x		0.0022	0.0000073	-	-	0.0011	0.00367	2	µg/L	lb/day	-	-	-
23P. PCB-1260 (11096-82-5)			x	Not Tested	Not Tested										
24P. PCB-1016 (12674-11-2)	x	x		0.0024	0.0000080	-	-	0.0012	0.00401	2	µg/L	lb/day	-	-	-
25P. Toxaphene (8001-35-2)	x	x		0.018	0.0000601	-	-	0.009	0.03004	2	µg/L	lb/day	-	-	-

Below Detection Limit

* When computing average and a concentration is BDL, one-half of the concentration is used.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INSTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* — OUTFALL NO. 302

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2	7.2	-	-	1	3.6	2	mg/L	lb/day	-	-	-
b. Chemical Oxygen Demand *(COD)*	300	1076.6	-	-	300	1076.6	2	mg/L	lb/day	-	-	-
c. Total Organic Carbon *(TOC)*	36	129.2	-	-	23.5	84.3	2	mg/L	lb/day	-	-	-
d. Total Suspended Solids *(TSS)*	3.3	11.8	-	-	2.95	10.6	2	mg/L	lb/day	-	-	-
e. Ammonia *(as N)*	4.3	15.4	-	-	3.7	13.3	2	mg/L	lb/day	-	-	-
f. Flow	VALUE 2.4 MGD		VALUE -		VALUE 0.11 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE 38.8		VALUE -		VALUE -		2	°C		VALUE -		-
i. pH	MINIMUM 7.33	MAXIMUM 8.44	MINIMUM -	MAXIMUM -	Below Detection Limit		2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x		150	538.3	-	-	150	538.3	2	mg/L	lb/day	-	-	-
b. Chlorine, Total Residual	x		0.24	0.9	-	-	0.16	0.6	2	mg/L	lb/day	-	-	-
c. Color		x	Not Tested	Not Tested										
d. Fecal Coliform		x	9	N/A	-	-	-	-	2	MPN/100 mL	N/A	-	-	-
e. Fluoride (16984-48-8)	x		3.2	11.5	-	-	2.95	10.6	2	mg/L	lb/day	-	-	-
f. Nitrate-Nitrite *(as N)*	x		35	125.6	-	-	16.4	58.9	2	mg/L	lb/day	-	-	-

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		9.5	34.1	-	-	4.75	17.0	2	mg/L	lb/day	-	-	-
h. Oil and Grease	x		1.5	5.4	-	-	0.08	0.3	2	mg/L	lb/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	x		0.61	2.2	-	-	0.32	1.1	2	mg/L	lb/day	-	-	-
j. Radioactivity					-	-	-	-	2	mg/L	lb/day	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	6.26	N/A	-	-	5.8	N/A	2	pCi/L	lb/day	-	-	-
(4) Radium 226, Total		x	6.26	N/A	-	-	5.8	N/A	2	pCi/L	lb/day	-	-	-
k. Sulfate (*as SO4*) (14808-79-8)	x		660	2368.4	-	-	635	2278.7	2	mg/L	lb/day	-	-	-
l. Sulfide (*as S*)	x		0.47	1.7	-	-	2.1525	7.7	2	mg/L	lb/day	-	-	-
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		0.24	0.9	-	-	0.012	0.043	2	mg/L	lb/day	-	-	-
p. Barium, Total (7440-39-3)	x		0.5	1.8	-	-	0.485	1.7	2	mg/L	lb/day	-	-	-
q. Boron, Total (7440-42-8)	x		230	825.4	-	-	215	771.5	2	mg/L	lb/day	-	-	-
r. Cobalt, Total (7440-48-4)	x		0.021	0.1	-	-	0.016	0.06	2	mg/L	lb/day	-	-	-
s. Iron, Total (7439-89-6)	x		1.3	4.7	-	-	0.795	2.9	2	mg/L	lb/day	-	-	-
t. Magnesium, Total (7439-95-4)	x		670	2404.3	-	-	605	2171.1	2	mg/L	lb/day	-	-	-
u. Molybdenum, Total (7439-98-7)	x		0.081	0.3	-	-	0.0675	0.24	2	mg/L	lb/day	-	-	-
v. Manganese, Total (7439-96-5)	x		1.3	4.7	-	-	0.755	2.7	2	mg/L	lb/day	-	-	-
w. Tin, Total (7440-31-5)		x	Not Tested	Not Tested										
x. Titanium, Total (7440-32-6)		x	Not Tested	Not Tested										

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	302

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and fo ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		0.03500	0.1256	-	-	0.0235	0.084	2	mg/L	lb/day	-	-	-
2M. Arsenic, Total (7440-38-2)	x	x		0.17000	0.6100	-	-	0.131	0.470	2	mg/L	lb/day	-	-	-
3M. Beryllium, Total (7440-41-7)	x	x		0.00360	0.0129	-	-	0.00018	0.001	2	mg/L	lb/day	-	-	-
4M. Cadmium, Total (7440-43-9)	x	x		0.01100	0.0395	-	-	0.0069	0.025	2	mg/L	lb/day	-	-	-
5M. Chromium, Total (7440-47-3)	x	x		0.02300	0.0825	-	-	0.006325	0.023	2	mg/L	lb/day	-	-	-
6M. Copper, Total (7440-50-8)	x	x		0.027000	0.0969	-	-	0.021	0.075	2	mg/L	lb/day	-	-	-
7M. Lead, Total (7439-92-1)	x	x		0.00580	0.0208	-	-	0.0031425	0.011	2	mg/L	lb/day	-	-	-
8M. Mercury, Total (7439-97-6)	x	x		0.000220	0.0008	-	-	0.0001275	0.000	2	mg/L	lb/day	-	-	-
9M. Nickel, Total (7440-02-0)	x	x		0.180000	0.6459	-	-	0.126	0.452	2	mg/L	lb/day	-	-	-
10M. Selenium, Total (7782-49-2)	x	x		0.0440	0.1579	-	-	0.025	0.090	2	mg/L	lb/day	-	-	-
11M. Silver, Total (7440-22-4)	x	x		0.000470	0.0002	-	-	0.000235	0.001	2	mg/L	lb/day	-	-	-
12M. Thallium, Total (7440-28-0)	x	x		0.003800	0.0136	-	-	0.0033	0.012	2	mg/L	lb/day	-	-	-
13M. Zinc, Total (7440-66-6)	x	x		0.06	0.2189	-	-	0.035	0.126	2	mg/L	lb/day	-	-	-
14M. Cyanide, Total (57-12-5)	x	x		0.0025	0.0002	-	-	0.00125	0.004	2	mg/L	lb/day	-	-	-
15M. Phenols, Total			x	Not Tested	Not Tested										
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

Below Detection Limit

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		2.60	0.0093	-	-	1.3	4.665	2	µg/L	lb/day	-	-	-
2V. Acrylonitrile (107-13-1)	x	x		0.55	0.0020	-	-	0.275	0.987	2	µg/L	lb/day	-	-	-
3V. Benzene (71-43-2)	x	x		0.23	0.0008	-	-	0.18	0.646	2	µg/L	lb/day	-	-	-
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										
5V. Bromoform (75-25-2)	x	x		0.19	0.0007	-	-	0.095	0.341	2	µg/L	lb/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
7V. Chlorobenzene (108-90-7)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
8V. Chlorodi-bromomethane (124-48-1)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
9V. Chloroethane (75-00-3)	x	x		0.21	0.0008	-	-	0.105	0.377	2	µg/L	lb/day	-	-	-
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		0.25	0.0009	-	-	0.125	0.449	2	µg/L	lb/day	-	-	-
11V. Chloroform (67-66-3)	x	x		3.80	0.0136	-	-	3	10.766	2	µg/L	lb/day	-	-	-
12V. Dichloro-bromomethane (75-27-4)	x	x		0.49	0.0018	-	-	0.38	1.364	2	µg/L	lb/day	-	-	-
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required										
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		0.12	0.0004	-	-	0.06	0.215	2	µg/L	lb/day	-	-	-
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		0.21	0.0008	-	-	0.105	0.377	2	µg/L	lb/day	-	-	-
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		0.30	0.0011	-	-	0.15	0.538	2	µg/L	lb/day	-	-	-
17V. 1,2-Dichloro-propane (78-87-5)	x	x		0.10	0.0003	-	-	0.0475	0.170	2	µg/L	lb/day	-	-	-
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		0.50	0.0018	-	-	0.25	0.897	2	µg/L	lb/day	-	-	-
19V. Ethylbenzene (100-41-4)	x	x		0.23	0.0008	-	-	0.115	0.413	2	µg/L	lb/day	-	-	-
20V. Methyl Bromide (74-83-9)	x	x		0.31	0.0011	-	-	0.155	0.556	2	µg/L	lb/day	-	-	-
21V. Methyl Chloride (74-87-3)	x	x		0.28	0.0010	-	-	0.14	0.502	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					d. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		0.2	0.0007	-	-	0.1	0.359	2	µg/L	lb/day	-	-	-
24V. Tetrachloro-ethylene (127-18-4)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
25V. Toluene (108-88-3)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		0.17	0.0006	-	-	0.085	0.305	2	µg/L	lb/day	-	-	-
27V. 1,1,1-Trichloro-ethane (71-55-6)	x	x		0.29	0.0010	-	-	0.145	0.520	2	µg/L	lb/day	-	-	-
28V. 1,1,2-Trichloro-ethane (79-00-5)	x	x		0.2	0.0007	-	-	0.1	0.359	2	µg/L	lb/day	-	-	-
29V Trichloro-ethylene (79-01-6)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required										
31V. Vinyl Chloride (75-01-4)	x	x		0.23	0.0008	-	-	0.115	0.413	2	µg/L	lb/day	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		1.6	0.0057	-	-	0.8	2.871	2	µg/L	lb/day	-	-	-
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		0.32	0.0011	-	-	0.16	0.574	2	µg/L	lb/day	-	-	-
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		0.81	0.0029	-	-	0.405	1.453	2	µg/L	lb/day	-	-	-
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		2.1	0.0075	-	-	1.05	3.768	2	µg/L	lb/day	-	-	-
5A. 2,4-Dinitro-phenol (51-28-5)	x	x		5.8	0.0208	-	-	2.9	10.407	2	µg/L	lb/day	-	-	-
6A. 2-Nitrophenol (88-75-5)	x	x		1.6	0.0057	-	-	0.8	2.871	2	µg/L	lb/day	-	-	-
7A. 4-Nitrophenol (100-02-7)	x	x		6.2	0.0222	-	-	3.1	11.124	2	µg/L	lb/day	-	-	-
8A. P-Chloro-M-Cresol (59-50-7)	x	x		0.72	0.0026	-	-	0.36	1.292	2	µg/L	lb/day	-	-	-
9A. Pentachloro-phenol (87-86-5)	x	x		0.63	0.0023	-	-	0.315	1.130	2	µg/L	lb/day	-	-	-
10A. Phenol (108-95-2)	x	x		0.55	0.0020	-	-	0.275	0.987	2	µg/L	lb/day	-	-	-
11A. 2,4,6-Trichloro-phenol (88-05-2)	x	x		1.7	0.0061	-	-	0.85	3.050	2	µg/L	lb/day	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
2B. Acenaphtylene (208-96-8)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
3B. Anthracene (120-12-7)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
4B. Benzidine (92-87-5)	x	x		33	0.1184	-	-	16.5	59.211	2	µg/L	lb/day	-	-	-
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		0.13	0.0005	-	-	0.065	0.233	2	µg/L	lb/day	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		0.52	0.0019	-	-	0.26	0.933	2	µg/L	lb/day	-	-	-
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		0.55	0.0020	-	-	0.275	0.987	2	µg/L	lb/day	-	-	-
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		0.24	0.0009	-	-	0.12	0.431	2	µg/L	lb/day	-	-	-
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		0.19	0.0007	-	-	0.095	0.341	2	µg/L	lb/day	-	-	-
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		12	0.0431	-	-	6	21.531	2	µg/L	lb/day	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		0.6	0.0022	-	-	0.3	1.077	2	µg/L	lb/day	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		1.4	0.0050	-	-	0.7	2.512	2	µg/L	lb/day	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	x	x		0.14	0.0005	-	-	0.07	0.251	2	µg/L	lb/day	-	-	-
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	x	x		0.48	0.0017	-	-	0.24	0.861	2	µg/L	lb/day	-	-	-
18B. Chrysene (218-01-9)	x	x		0.13	0.0005	-	-	0.065	0.233	2	µg/L	lb/day	-	-	-
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		0.11	0.0004	-	-	0.055	0.197	2	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		0.21	0.0008	-	-	0.105	0.377	2	µg/L	lb/day	-	-	-
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		1.1	0.0039	-	-	0.55	1.974	2	µg/L	lb/day	-	-	-
24B. Diethyl Phthalate (84-66-2)	x	x		1.4	0.0050	-	-	0.7	2.512	2	µg/L	lb/day	-	-	-
25B. Dimethyl Phthalate (131 -11-3)	x	x		0.73	0.0026	-	-	0.365	1.310	2	µg/L	lb/day	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		1.2	0.0043	-	-	0.6	2.153	2	µg/L	lb/day	-	-	-
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		0.51	0.0018	-	-	0.255	0.915	2	µg/L	lb/day	-	-	-
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		0.76	0.0027	-	-	0.38	1.364	2	µg/L	lb/day	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		2	0.0072	-	-	1	3.589	2	µg/L	lb/day	-	-	-
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		0.63	0.0023	-	-	0.315	1.130	2	µg/L	lb/day	-	-	-
31B. Fluoranthene (206-44-0)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
32B. Fluorene (86-73-7)	x	x		0.21	0.0008	-	-	0.105	0.377	2	µg/L	lb/day	-	-	-
33B. Hexachloro-benzene (118-74-1)	x	x		0.17	0.0006	-	-	0.085	0.305	2	µg/L	lb/day	-	-	-
34B. Hexachloro-butadiene (87-68-3)	x	x		0.16	0.0006	-	-	0.08	0.287	2	µg/L	lb/day	-	-	-
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		0.6	0.0022	-	-	0.3	1.077	2	µg/L	lb/day	-	-	-
36B Hexachloro-ethane (67-72-1)	x	x		0.6	0.0022	-	-	0.3	1.077	2	µg/L	lb/day	-	-	-
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		0.19	0.0007	-	-	0.095	0.341	2	µg/L	lb/day	-	-	-
38B. Isophorone (78-59-1)	x	x		0.61	0.0022	-	-	0.305	1.094	2	µg/L	lb/day	-	-	-
39B. Naphthalene (91-20-3)	x	x		0.13	0.0005	-	-	0.065	0.233	2	µg/L	lb/day	-	-	-
40B. Nitrobenzene (98-95-3)	x	x		0.8	0.0029	-	-	0.4	1.435	2	µg/L	lb/day	-	-	-
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		0.7	0.0025	-	-	0.35	1.256	2	µg/L	lb/day	-	-	-
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		0.29	0.0010	-	-	0.145	0.520	2	µg/L	lb/day	-	-	-

Below Detection Limit

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		0.81	0.0029	-	-	0.405	1.453	2	µg/L	lb/day	-	-	-
44B. Phenanthrene (85-01-8)	x	x		0.41	0.0015	-	-	0.205	0.736	2	µg/L	lb/day	-	-	-
45B. Pyrene (129-00-0)	x	x		0.15	0.0005	-	-	0.075	0.269	2	µg/L	lb/day	-	-	-
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		0.68	0.0024	-	-	0.34	1.220	2	µg/L	lb/day	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.0023	0.0000083	-	-	0.00205	0.0074	2	µg/L	lb/day	-	-	-
2P. α-BHC (319-84-6)	x	x		0.00067	0.0000024	-	-	0.0004925	0.0018	2	µg/L	lb/day	-	-	-
3P. β-BHC (319-85-7)	x	x		0.012	0.0000431	-	-	0.00965	0.0346	2	µg/L	lb/day	-	-	-
4P. γ-BHC (58-89-9)	x	x		0.0017	0.0000061	-	-	0.00104	0.0037	2	µg/L	lb/day	-	-	-
5P. δ-BHC (319-86-8)	x	x		0.00037	0.0000013	-	-	0.000185	0.001	2	µg/L	lb/day	-	-	-
6P. Chlordane (57-74-9)	x	x		0.0016	0.0000057	-	-	0.0008	0.003	2	µg/L	lb/day	-	-	-
7P. 4,4'-DDT (50-29-3)	x	x		0.00075	0.0000027	-	-	0.000845	0.0030	2	µg/L	lb/day	-	-	-
8P. 4,4'-DDE (72-55-9)	x	x		0.00093	0.0000033	-	-	0.000855	0.0031	2	µg/L	lb/day	-	-	-
9P. 4,4'-DDD (72-54-8)	x	x		0.00064	0.0000023	-	-	0.00032	0.001	2	µg/L	lb/day	-	-	-
10P. Dieldrin (60-57-1)	x	x		0.001	0.0000036	-	-	0.000695	0.0025	2	µg/L	lb/day	-	-	-
11P. α-Enosulfan (115-29-7)	x	x		0.0018	0.0000065	-	-	0.0016	0.0057	2	µg/L	lb/day	-	-	-
12P. β-Endosulfan (115-29-7)	x	x		0.021	0.0000754	-	-	0.017	0.061	2	µg/L	lb/day	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.00067	0.0000024	-	-	0.00047	0.0017	2	µg/L	lb/day	-	-	-
14P. Endrin (72-20-8)	x	x		0.0028	0.0000100	-	-	0.0024	0.0086	2	µg/L	lb/day	-	-	-
15P. Endrin Aldehyde (7421-93-4)	x	x		0.00087	0.0000031	-	-	0.000435	0.002	2	µg/L	lb/day	-	-	-
16P. Heptachlor (76-44-8)	x	x		0.0042	0.0000151	-	-	0.0032	0.011	2	µg/L	lb/day	-	-	-

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	302

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.0045	0.0000161	-	-	0.0036	0.013	2	µg/L	lb/day	-	-	-
18P. PCB-1242 (53469-21-9)	x	x		0.0018	0.0000065	-	-	0.0009	0.003	2	µg/L	lb/day	-	-	-
19P. PCB-1254 (11097-69-1)	x	x		0.0013	0.0000047	-	-	0.00065	0.002	2	µg/L	lb/day	-	-	-
20P. PCB-1221 (11104-28-2)	x	x		0.0024	0.0000086	-	-	0.0012	0.004	2	µg/L	lb/day	-	-	-
21P. PCB-1232 (11141-16-5)	x	x		0.0028	0.0000100	-	-	0.0014	0.005	2	µg/L	lb/day	-	-	-
22P. PCB-1248 (12672-29-6)	x	x		0.0022	0.0000079	-	-	0.0011	0.004	2	µg/L	lb/day	-	-	-
23P. PCB-1260 (11096-82-5)	x	x		0.00013	0.0000005	-	-	0.000065	0.000	2	µg/L	lb/day	-	-	-
24P. PCB-1016 (12674-11-2)	x	x		0.0024	0.0000086	-	-	0.0012	0.004	2	µg/L	lb/day	-	-	-
25P. Toxaphene (8001-35-2)	x	x		0.018	0.0000646	-	-	0.009	0.032	2	µg/L	lb/day	-	-	-

Below Detection Limit

* When computing average and a concentration is BDL, one-half of the concentration is used.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 303 METALS POND

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2	83.5	-	-	-	-	1	mg/L	lb/day	-	-	-
b. Chemical Oxygen Demand *(COD)*	11	459.0	-	-	-	-	1	mg/L	lb/day	-	-	-
c. Total Organic Carbon *(TOC)*	1.7	70.9	-	-	-	-	1	mg/L	lb/day	-	-	-
d. Total Suspended Solids *(TSS)*	Not Tested	Not Tested										
e. Ammonia *(as N)*	2.6	108.5	-	-	-	-	1	mg/L	lb/day	-	-	-
f. Flow	VALUE 5.0 MGD		VALUE -		VALUE 2.7 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE 25.8		VALUE -		VALUE -		1	°C		VALUE -		-
i. pH	MINIMUM 10.97	MAXIMUM 10.97	MINIMUM -	MAXIMUM -	Below Detection Limit		1	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x		1.2	50.1	-	-	-	-	1	mg/L	lb/day	-	-	-
b. Chlorine, Total Residual	x		0	0.0	-	-	-	-	1	mg/L	lb/day	-	-	-
c. Color		x	Not Tested	Not Tested										
d. Fecal Coliform		x	11	N/A	-	-	-	-	1	MPN/100 mL	N/A	-	-	-
e. Fluoride (16984-48-8)	x		0.32	13.4	-	-	-	-	1	mg/L	lb/day	-	-	-
f. Nitrate-Nitrite *(as N)*	x		0.45	18.8	-	-	-	-	1	mg/L	lb/day	-	-	-

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		3.9	162.7	-	-	-	-	1	mg/L	lb/day	-	-	-
h. Oil and Grease	x		-		-	-	-	-	1	mg/L	lb/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	x		0.05	2.1	-	-	-	-	1	mg/L	lb/day	-	-	-
j. Radioactivity					-	-	-	-	1	mg/L	lb/day	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	0.646	N/A	-	-	-	-	1	pCi/L	lb/day	-	-	-
(4) Radium 226, Total		x	0.288	N/A	-	-	-	-	1	pCi/L	lb/day	-	-	-
k. Sulfate (*as SO4*) (14808-79-8)	x		300	12518.1	-	-	-	-	1	mg/L	lb/day	-	-	-
l. Sulfide (*as S*)	x		0.41	17.1	-	-	-	-	1	mg/L	lb/day	-	-	-
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		0.42	17.5	-	-	-	-	1	mg/L	lb/day	-	-	-
p. Barium, Total (7440-39-3)	x		0.08	3.3	-	-	-	-	1	mg/L	lb/day	-	-	-
q. Boron, Total (7440-42-8)	x		0.31	12.9	-	-	-	-	1	mg/L	lb/day	-	-	-
r. Cobalt, Total (7440-48-4)	x		0.00063	0.0	-	-	-	-	1	mg/L	lb/day	-	-	-
s. Iron, Total (7439-89-6)	x		0.18	7.5	-	-	-	-	1	mg/L	lb/day	-	-	-
t. Magnesium, Total (7439-95-4)	x		0.49	20.4	-	-	-	-	1	mg/L	lb/day	-	-	-
u. Molybdenum, Total (7439-98-7)	x		0.0027	0.1	-	-	-	-	1	mg/L	lb/day	-	-	-
v. Manganese, Total (7439-96-5)	x		0.011	0.5	-	-	-	-	1	mg/L	lb/day	-	-	-
w. Tin, Total (7440-31-5)		x	Not Tested	Not Tested										
x. Titanium, Total (7440-32-6)		x	Not Tested	Not Tested										

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	303- METALS POND

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		0.00032	0.0134	-	-	-	-	1	mg/L	lb/day	-	-	-
2M. Arsenic, Total (7440-38-2)	x	x		0.00110	0.0459	-	-	-	-	1	mg/L	lb/day	-	-	-
3M. Beryllium, Total (7440-41-7)	x	x		0.00004	0.0015	-	-	-	-	1	mg/L	lb/day	-	-	-
4M. Cadmium, Total (7440-43-9)	x	x		0.00009	0.0038	-	-	-	-	1	mg/L	lb/day	-	-	-
5M. Chromium, Total (7440-47-3)	x	x		0.00032	0.0134	-	-	-	-	1	mg/L	lb/day	-	-	-
6M. Copper, Total (7440-50-8)	x	x		0.005400	0.2253	-	-	-	-	1	mg/L	lb/day	-	-	-
7M. Lead, Total (7439-92-1)	x	x		0.00043	0.0179	-	-	-	-	1	mg/L	lb/day	-	-	-
8M. Mercury, Total (7439-97-6)	x	x		0.000067	0.0028	-	-	-	-	1	mg/L	lb/day	-	-	-
9M. Nickel, Total (7440-02-0)	x	x		0.003900	0.1627	-	-	-	-	1	mg/L	lb/day	-	-	-
10M. Selenium, Total (7782-49-2)	x	x		0.0055	0.2295	-	-	-	-	1	mg/L	lb/day	-	-	-
11M. Silver, Total (7440-22-4)	x	x		0.000470	0.0020	-	-	-	-	1	mg/L	lb/day	-	-	-
12M. Thallium, Total (7440-28-0)	x	x		0.011000	0.4590	-	-	-	-	1	mg/L	lb/day	-	-	-
13M. Zinc, Total (7440-66-6)	x	x		0.01	0.2629	-	-	-	-	1	mg/L	lb/day	-	-	-
14M. Cyanide, Total (57-12-5)	x	x		0.0025	0.0020	-	-	-	-	1	mg/L	lb/day	-	-	-
15M. Phenols, Total			x	Not Tested	Not Tested										
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

Below Detection Limit

COINTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		2.60	0.1085	-	-	-	-	1	µg/L	lb/day	-	-	-
2V. Acrylonitrile (107-13-1)	x	x		0.55	0.0229	-	-	-	-	1	µg/L	lb/day	-	-	-
3V. Benzene (71-43-2)	x	x		0.11	0.0046	-	-	-	-	1	µg/L	lb/day	-	-	-
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										
5V. Bromoform (75-25-2)	x	x		0.19	0.0079	-	-	-	-	1	µg/L	lb/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	x	x		0.14	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
7V. Chlorobenzene (108-90-7)	x	x		0.14	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
8V. Chlorodi-bromomethane (124-48-1)	x	x		0.13	0.0054	-	-	-	-	1	µg/L	lb/day	-	-	-
9V. Chloroethane (75-00-3)	x	x		0.21	0.0088	-	-	-	-	1	µg/L	lb/day	-	-	-
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		0.25	0.0104	-	-	-	-	1	µg/L	lb/day	-	-	-
11V. Chloroform (67-66-3)	x	x		0.35	0.0146	-	-	-	-	1	µg/L	lb/day	-	-	-
12V. Dichloro-bromomethane (75-27-4)	x	x		0.13	0.0054	-	-	-	-	1	µg/L	lb/day	-	-	-
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required										
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		0.12	0.0050	-	-	-	-	1	µg/L	lb/day	-	-	-
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		0.21	0.0088	-	-	-	-	1	µg/L	lb/day	-	-	-
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		0.30	0.0125	-	-	-	-	1	µg/L	lb/day	-	-	-
17V. 1,2-Dichloro-propane (78-87-5)	x	x		0.10	0.0040	-	-	-	-	1	µg/L	lb/day	-	-	-
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		0.50	0.0209	-	-	-	-	1	µg/L	lb/day	-	-	-
19V. Ethylbenzene (100-41-4)	x	x		0.23	0.0096	-	-	-	-	1	µg/L	lb/day	-	-	-
20V. Methyl Bromide (74-83-9)	x	x		0.31	0.0129	-	-	-	-	1	µg/L	lb/day	-	-	-
21V. Methyl Chloride (74-87-3)	x	x		0.28	0.0117	-	-	-	-	1	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		0.2	0.0083	-	-	-	-	1	µg/L	lb/day	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		0.2	0.0083	-	-	-	-	1	µg/L	lb/day	-	-	-
24V. Tetrachloro-ethylene (127-18-4)	x	x		0.15	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
25V. Toluene (108-88-3)	x	x		0.15	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		0.17	0.0071	-	-	-	-	1	µg/L	lb/day	-	-	-
27V. 1,1,1-Trichloro-ethane (71-55-6)	x	x		0.29	0.0121	-	-	-	-	1	µg/L	lb/day	-	-	-
28V. 1,1,2-Trichloro-ethane (79-00-5)	x	x		0.2	0.0083	-	-	-	-	1	µg/L	lb/day	-	-	-
29V Trichloro-ethylene (79-01-6)	x	x		0.14	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required										
31V. Vinyl Chloride (75-01-4)	x	x		0.23	0.0096	-	-	-	-	1	µg/L	lb/day	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		1.6	0.0668	-	-	-	-	1	µg/L	lb/day	-	-	-
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		0.32	0.0134	-	-	-	-	1	µg/L	lb/day	-	-	-
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		0.81	0.0338	-	-	-	-	1	µg/L	lb/day	-	-	-
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		2.1	0.0876	-	-	-	-	1	µg/L	lb/day	-	-	-
5A. 2,4-Dinitro-phenol (51-28-5)	x	x		5.8	0.2420	-	-	-	-	1	µg/L	lb/day	-	-	-
6A. 2-Nitrophenol (88-75-5)	x	x		1.6	0.0668	-	-	-	-	1	µg/L	lb/day	-	-	-
7A. 4-Nitrophenol (100-02-7)	x	x		6.2	0.2587	-	-	-	-	1	µg/L	lb/day	-	-	-
8A. P-Chloro-M-Cresol (59-50-7)	x	x		0.72	0.0300	-	-	-	-	1	µg/L	lb/day	-	-	-
9A. Pentachloro-phenol (87-86-5)	x	x		0.63	0.0263	-	-	-	-	1	µg/L	lb/day	-	-	-
10A. Phenol (108-95-2)	x	x		0.55	0.0229	-	-	-	-	1	µg/L	lb/day	-	-	-
11A. 2,4,6-Trichloro-phenol (88-05-2)	x	x		1.7	0.0709	-	-	-	-	1	µg/L	lb/day	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		0.14	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
2B. Acenaphtylene (208-96-8)	x	x		0.14	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
3B. Anthracene (120-12-7)	x	x		0.15	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
4B. Benzidine (92-87-5)	x	x		33	1.3770	-	-	-	-	1	µg/L	lb/day	-	-	-
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		0.14	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		0.13	0.0054	-	-	-	-	1	µg/L	lb/day	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		0.15	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		0.14	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		0.52	0.0217	-	-	-	-	1	µg/L	lb/day	-	-	-
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		0.55	0.0229	-	-	-	-	1	µg/L	lb/day	-	-	-
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		0.24	0.0100	-	-	-	-	1	µg/L	lb/day	-	-	-
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		0.19	0.0079	-	-	-	-	1	µg/L	lb/day	-	-	-
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		12	0.5007	-	-	-	-	1	µg/L	lb/day	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		0.6	0.0250	-	-	-	-	1	µg/L	lb/day	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		1.4	0.0584	-	-	-	-	1	µg/L	lb/day	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	x	x		0.14	0.0058	-	-	-	-	1	µg/L	lb/day	-	-	-
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	x	x		0.48	0.0200	-	-	-	-	1	µg/L	lb/day	-	-	-
18B. Chrysene (218-01-9)	x	x		0.13	0.0054	-	-	-	-	1	µg/L	lb/day	-	-	-
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		0.15	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		0.15	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		0.11	0.0046	-	-	-	-	1	µg/L	lb/day	-	-	-

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		0.21	0.0088	-	-	-	-	1	µg/L	lb/day	-	-	-
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		1.1	0.0459	-	-	-	-	1	µg/L	lb/day	-	-	-
24B. Diethyl Phthalate (84-66-2)	x	x		1.4	0.0584	-	-	-	-	1	µg/L	lb/day	-	-	-
25B. Dimethyl Phthalate (131 -11-3)	x	x		0.73	0.0305	-	-	-	-	1	µg/L	lb/day	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		1.2	0.0501	-	-	-	-	1	µg/L	lb/day	-	-	-
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		0.51	0.0213	-	-	-	-	1	µg/L	lb/day	-	-	-
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		0.76	0.0317	-	-	-	-	1	µg/L	lb/day	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		2	0.0835	-	-	-	-	1	µg/L	lb/day	-	-	-
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		0.63	0.0263	-	-	-	-	1	µg/L	lb/day	-	-	-
31B. Fluoranthene (206-44-0)	x	x		0.15	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
32B. Fluorene (86-73-7)	x	x		0.21	0.0088	-	-	-	-	1	µg/L	lb/day	-	-	-
33B. Hexachloro-benzene (118-74-1)	x	x		0.17	0.0071	-	-	-	-	1	µg/L	lb/day	-	-	-
34B. Hexachloro-butadiene (87-68-3)	x	x		0.16	0.0067	-	-	-	-	1	µg/L	lb/day	-	-	-
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		0.6	0.0250	-	-	-	-	1	µg/L	lb/day	-	-	-
36B Hexachloro-ethane (67-72-1)	x	x		0.6	0.0250	-	-	-	-	1	µg/L	lb/day	-	-	-
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		0.19	0.0079	-	-	-	-	1	µg/L	lb/day	-	-	-
38B. Isophorone (78-59-1)	x	x		0.61	0.0255	-	-	-	-	1	µg/L	lb/day	-	-	-
39B. Naphthalene (91-20-3)	x	x		0.13	0.0054	-	-	-	-	1	µg/L	lb/day	-	-	-
40B. Nitrobenzene (98-95-3)	x	x		0.8	0.0334	-	-	-	-	1	µg/L	lb/day	-	-	-
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		0.7	0.0292	-	-	-	-	1	µg/L	lb/day	-	-	-
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		0.29	0.0121	-	-	-	-	1	µg/L	lb/day	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		0.81	0.0338	-	-	-	-	1	µg/L	lb/day	-	-	-
44B. Phenanthrene (85-01-8)	x	x		0.41	0.0171	-	-	-	-	1	µg/L	lb/day	-	-	-
45B. Pyrene (129-00-0)	x	x		0.15	0.0063	-	-	-	-	1	µg/L	lb/day	-	-	-
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		0.68	0.0284	-	-	-	-	1	µg/L	lb/day	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.00079	0.0000330	-	-	-	-	1	µg/L	lb/day	-	-	-
2P. α-BHC (319-84-6)	x	x		0.00063	0.0000263	-	-	-	-	1	µg/L	lb/day	-	-	-
3P. β-BHC (319-85-7)	x	x		0.00095	0.0000396	-	-	-	-	1	µg/L	lb/day	-	-	-
4P. γ-BHC (58-89-9)	x	x		0.00079	0.0000330	-	-	-	-	1	µg/L	lb/day	-	-	-
5P. δ-BHC (319-86-8)	x	x		0.00037	0.0000154	-	-	-	-	1	µg/L	lb/day	-	-	-
6P. Chlordane (57-74-9)	x	x		0.0016	0.0000668	-	-	-	-	1	µg/L	lb/day	-	-	-
7P. 4,4'-DDT (50-29-3)	x	x		0.00071	0.0000296	-	-	-	-	1	µg/L	lb/day	-	-	-
8P. 4,4'-DDE (72-55-9)	x	x		0.00076	0.0000317	-	-	-	-	1	µg/L	lb/day	-	-	-
9P. 4,4'-DDD (72-54-8)	x	x		0.00064	0.0000267	-	-	-	-	1	µg/L	lb/day	-	-	-
10P. Dieldrin (60-57-1)	x	x		0.00078	0.0000325	-	-	-	-	1	µg/L	lb/day	-	-	-
11P. α-Enosulfan (115-29-7)	x	x		0.0009	0.0000376	-	-	-	-	1	µg/L	lb/day	-	-	-
12P. β-Endosulfan (115-29-7)	x	x		0.00094	0.0000392	-	-	-	-	1	µg/L	lb/day	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.00054	0.0000225	-	-	-	-	1	µg/L	lb/day	-	-	-
14P. Endrin (72-20-8)	x	x		0.00091	0.0000380	-	-	-	-	1	µg/L	lb/day	-	-	-
15P. Endrin Aldehyde (7421-93-4)	x	x		0.00087	0.0000363	-	-	-	-	1	µg/L	lb/day	-	-	-
16P. Heptachlor (76-44-8)	x	x		0.00094	0.0000392	-	-	-	-	1	µg/L	lb/day	-	-	-

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	303- METALS POND

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.00092	0.0000384	-	-	-	-	1	µg/L	lb/day	-	-	-
18P. PCB-1242 (53469-21-9)	x	x		0.0018	0.0000751	-	-	-	-	1	µg/L	lb/day	-	-	-
19P. PCB-1254 (11097-69-1)	x	x		0.0013	0.0000542	-	-	-	-	1	µg/L	lb/day	-	-	-
20P. PCB-1221 (11104-28-2)	x	x		0.0024	0.0001001	-	-	-	-	1	µg/L	lb/day	-	-	-
21P. PCB-1232 (11141-16-5)	x	x		0.0028	0.0001168	-	-	-	-	1	µg/L	lb/day	-	-	-
22P. PCB-1248 (12672-29-6)	x	x		0.0022	0.0000918	-	-	-	-	1	µg/L	lb/day	-	-	-
23P. PCB-1260 (11096-82-5)	x	x		0.00013	0.0000054	-	-	-	-	1	µg/L	lb/day	-	-	-
24P. PCB-1016 (12674-11-2)	x	x		0.0024	0.0001001	-	-	-	-	1	µg/L	lb/day	-	-	-
25P. Toxaphene (8001-35-2)	x	x		0.018	0.0007511	-	-	-	-	1	µg/L	lb/day	-	-	-

Below Detection Limit

* When computing average and a concentration is BDL, one-half of the concentration is used.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* [redacted] OUTFALL NO. 301 LEACHATE COLUMNS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (RAINWATER) b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.9	8.7	-	-	2.5	7.5	2	mg/L	lb/day	4.6	13.8	1
b. Chemical Oxygen Demand *(COD)*	12.7	38.2	-	-	8.85	26.6	2	mg/L	lb/day	10	30.0	1
c. Total Organic Carbon *(TOC)*	1.8	5.4	-	-	1.15	3.5	2	mg/L	lb/day	1.7	5.1	1
d. Total Suspended Solids *(TSS)*	18.4	55.3	-	-	11	33.0	2	mg/L	lb/day	2.2	6.6	1
e. Ammonia *(as N)*	2	6.0	-	-	1.805	5.4	2	mg/L	lb/day	0.4	1.2	1
f. Flow	VALUE 0.36 MGD		VALUE -		VALUE 0.002 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE -		VALUE -		VALUE -		2	°C		VALUE -		-
i. pH	MINIMUM 10.97	MAXIMUM 11.26	MINIMUM -	MAXIMUM -	Below Detection Limit		2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (RAINWATER) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x	x	5	15.0			2.5	7.5						
b. Chlorine, Total Residual	x	x	Not Tested	Not Tested										
c. Color		x	10	N/A	-	-	5	15.0	2	pcu		10	N/A	1
d. Fecal Coliform		x	<4	N/A	-	-	-	-	2	MPN/100 mL	N/A	<4	N/A	1
e. Fluoride (16984-48-8)		x	2.8	8.4			2.6	7.8						
f. Nitrate-Nitrite *(as N)*	x		0.4	1.2	-	-	0.05	0.2	2	mg/L	lb/day	0.33	1.0	1

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (RAINWATER)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)	x		3.08	9.3	-	-	1.91	5.7	2	mg/L	lb/day	0.89	2.7	1
h. Oil and Grease	x		5	15.0	-	-	2.5	7.5	2	mg/L	lb/day	5	15.0	1
i. Phosphorus (as P), Total (7723-14-0)	x		0.03	0.1	-	-	0.0175	0.05	2	mg/L	lb/day	0.02	0.1	1
j. Radioactivity					-	-	-	-	2	mg/L	lb/day	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	Not Tested	Not Tested										
(4) Radium 226, Total		x	Not Tested	Not Tested										
k. Sulfate (*as SO4*) (14808-79-8)		x	984	2956.3			832.5	2501.1						
l. Sulfide (*as S*)		x	0.05	0.2			0.025	0.08						
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		1.09	3.3	-	-	1.085	3.3	2	mg/L	lb/day	0.05	0.2	1
p. Barium, Total (7440-39-3)	x		0.193	0.6	-	-	0.169	0.51	2	mg/L	lb/day	0.0149	0.0	1
q. Boron, Total (7440-42-8)	x		3.76	11.3	-	-	3.5	10.5	2	mg/L	lb/day	0.06	0.2	1
r. Cobalt, Total (7440-48-4)	x		0.004	0.0	-	-	0.002	0.006	2	mg/L	lb/day	0.004	0.0	1
s. Iron, Total (7439-89-6)	x		0.01	0.0	-	-	0.0037	0.011	2	mg/L	lb/day	0.622	1.9	1
t. Magnesium, Total (7439-95-4)	x		0.105	0.3	-	-	0.08515	0.26	2	mg/L	lb/day	0.234	0.7	1
u. Molybdenum, Total (7439-98-7)	x		0.55	1.7	-	-	0.352	1.06	2	mg/L	lb/day	0.05	0.2	1
v. Manganese, Total (7439-96-5)	x		0.01	0.0	-	-	0.0010	0.003	2	mg/L	lb/day	0.0379	0.1	1
w. Tin, Total (7440-31-5)	x		0.02	0.1	-	-	0.0100	0.030	2	mg/L	lb/day	0.02	0.1	1
x. Titanium, Total (7440-32-6)	x		0.05	0.2	-	-	0.0025	0.008	2	mg/L	lb/day	0.05	0.2	1

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	303- METALS POND

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (RAINWATER)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		3.44000	0.0103	-	-	0.003365	0.01	2	µg/L	lb/day	0.11	0.0003	1
2M. Arsenic, Total (7440-38-2)	x	x		49.50000	0.1487	-	-	0.0467	0.14	2	µg/L	lb/day	0.61	0.0018	1
3M. Beryllium, Total (7440-41-7)	x	x		0.00200	0.0000	-	-	0.001	0.00000300	2	µg/L	lb/day	0.004	0.0000	1
4M. Cadmium, Total (7440-43-9)	x	x		0.00011	0.0000	-	-	0.000055	0.00000017	2	µg/L	lb/day	0.11	0.0003	1
5M. Chromium, Total (7440-47-3)	x	x		0.03550	0.0001	-	-	0.01775	0.05	2	µg/L	lb/day	0.01	0.0000	1
6M. Copper, Total (7440-50-8)	x	x		2.390000	0.0072	-	-	0.002245	0.01	2	µg/L	lb/day	1.29	0.0039	1
7M. Lead, Total (7439-92-1)	x	x		0.00016	0.0000	-	-	0.00008	0.00000024	2	µg/L	lb/day	0.16	0.0005	1
8M. Mercury, Total (7439-97-6)	x	x		0.000023	0.0000	-	-	0.0000115	0.00000003	2	µg/L	lb/day	0.023	0.0001	1
9M. Nickel, Total (7440-02-0)	x	x		4.670000	0.0140	-	-	0.004575	0.01	2	µg/L	lb/day	1.76	0.0053	1
10M. Selenium, Total (7782-49-2)	x	x		344.0000	1.0335	-	-	0.3075	0.92	2	µg/L	lb/day	0.65	0.0020	1
11M. Silver, Total (7440-22-4)	x	x		0.029000	0.0001	-	-	0.0145	0.00004	2	µg/L	lb/day	0.029	0.0001	1
12M. Thallium, Total (7440-28-0)	x	x		0.058000	0.0002	-	-	0.029	0.00009	2	µg/L	lb/day	0.058	0.0002	1
13M. Zinc, Total (7440-66-6)	x	x		5.71	0.0172	-	-	0.00472	0.01	2	µg/L	lb/day	175	0.5258	1
14M. Cyanide, Total (57-12-5)	x	x		0.01	0.00003	-	-	0.005	0.00002	2	mg/L	lb/day	0.01	0.0000	1
15M. Phenols, Total			x	0.05	0.0001	-	-	0.025	0.00008	-	µg/L	lb/day	0.05	0.0001	1
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
2V. Acrylonitrile (107-13-1)	x	x		25.00	0.0751	-	-	12.5	0.0376	2	µg/L	lb/day	25.00	0.0751	1
3V. Benzene (71-43-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										1
5V. Bromoform (75-25-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
6V. Carbon Tetrachloride (56-23-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
7V. Chlorobenzene (108-90-7)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
8V. Chlorodi-bromomethane (124-48-1)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
9V. Chloroethane (75-00-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
11V. Chloroform (67-66-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
12V. Dichloro-bromomethane (75-27-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required								5.00	0.0150	1
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
17V. 1,2-Dichloro-propane (78-87-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
19V. Ethylbenzene (100-41-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
20V. Methyl Bromide (74-83-9)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
21V. Methyl Chloride (74-87-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1

Below Detection Limit

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		20.00	0.0601	-	-	10	0.0300	2	µg/L	lb/day	20.00	0.0601	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
24V. Tetrachloro-ethylene (127-18-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
25V. Toluene (108-88-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
27V. 1,1,1-Trichloro- ethane (71-55-6)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
28V. 1,1,2-Trichloro- ethane (79-00-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
29V Trichloro-ethylene (79-01-6)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required								5.00	0.0150	1
31V. Vinyl Chloride (75-01-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
5A. 2,4-Dinitro-phenol (51-28-5)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
6A. 2-Nitrophenol (88-75-5)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
7A. 4-Nitrophenol (100-02-7)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
8A. P-Chloro-M-Cresol (59-50-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
9A. Pentachloro-phenol (87-86-5)	x	x		42.1	0.1265	-	-	21.05	0.0632	2	µg/L	lb/day	42.1	0.1265	1
10A. Phenol (108-95-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
11A. 2,4,6-Trichloro- phenol (88-05-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
2B. Acenaphtylene (208-96-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
3B. Anthracene (120-12-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
4B. Benzidine (92-87-5)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
16B. 2-Chloro-naphthalene (91-58-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
18B. Chrysene (218-01-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

Below Detection Limit

CONTINUED ON PAGE V-7

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
24B. Diethyl Phthalate (84-66-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
25B. Dimethyl Phthalate (131 -11-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
31B. Fluoranthene (206-44-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
32B. Fluorene (86-73-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
33B. Hexachloro-benzene (118-74-1)	x	x		5.26	0.0158	-	-	2.63	0.0079	2	µg/L	lb/day	5.26	0.0158	1
34B. Hexachloro-butadiene (87-68-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
36B Hexachloro-ethane (67-72-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
38B. Isophorone (78-59-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
39B. Naphthalene 91-20-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
40B. Nitrobenzene(98-95-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
44B. Phenanthrene (85-01-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
45B. Pyrene (129-00-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
2P. α-BHC (319-84-6)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
3P. β-BHC (319-85-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
4P. γ-BHC (58-89-9)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
5P. δ-BHC (319-86-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
6P. Chlordane (57-74-9)	x	x		0.213	0.0006399	-	-	0.1065	0.0003	2	µg/L	lb/day	0.213	0.0006399	1
7P. 4,4'-DDT (50-29-3)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
8P. 4,4'-DDE (72-55-9)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
9P. 4,4'-DDD (72-54-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
10P. Dieldrin (60-57-1)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
11P. α-Enosulfan (115-29-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
12P. β-Endosulfan (115-29-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
14P. Endrin (72-20-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
15P. Endrin Aldehyde (7421-93-4)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
16P. Heptachlor (76-44-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1

Below Detection Limit

CONTINUE ON PAGE V-9

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	303- METALS POND

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
18P. PCB-1242 (53469-21-9)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
19P. PCB-1254 (11097-69-1)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
20P. PCB-1221 (11104-28-2)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
21P. PCB-1232 (11141-16-5)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
22P. PCB-1248 (12672-29-6)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
23P. PCB-1260 (11096-82-5)	x	x		0.2	0.0006009	-	-	0.1	0.0003	2	µg/L	lb/day	0.2	0.0006009	1
24P. PCB-1016 (12674-11-2)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
25P. Toxaphene (8001-35-2)	x	x		1.06	0.0031846	-	-	0.53	0.0016	2	µg/L	lb/day	1.06	0.0031846	1

Below Detection Limit

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued**: Virginia Electric and Power Company

Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** Yes ☐ No ☒

3. **Provide the tax map parcel number for the land where the discharge is located.** 806664806300000

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** ~71 Acres

5. **What is the design average effluent flow of this facility?** 900 MGD

For industrial facilities, provide the max. 30-day average production level, include units:

783,718 MW

In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Yes ☐ No ☒

If "Yes", please identify the other flow tiers (in MGD) or production levels:

Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?

6. **Nature of operations generating wastewater**:

Generation of electricity by steam produced by the combustion of fossil fuels.

0 % of flow from domestic connections/sources

Number of private residences to be served by the treatment works:

100 % of flow from non-domestic connections/sources

7. **Mode of discharge**: ☒ Continuous ☐ Intermittent ☐ Seasonal

Describe frequency and duration of intermittent or seasonal discharges:

See attachment for information concerning intermittent discharges.

8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**

X Permanent stream, never dry

____ Intermittent stream, usually flowing, sometimes dry

____ Ephemeral stream, wet-weather flow, often dry

____ Effluent-dependent stream, usually or always dry without effluent flow

____ Lake or pond at or below the discharge point

____ Other:

9. **Approval Date(s)**: Received DEQ 3/10/05

O & M Manual No known approval date **Sludge/Solids Management Plan** Included with O&M Manual

Have there been any changes in your operations or procedures since the above approval dates? Yes ☐ No ☒

ATTACHMENT

Information to Supplement the Application for Renewal of the VPDES Permit for Dominion's Chesterfield Power Station

This attachment provides information to supplement the information that is contained in the required application Forms 1 and 2C. DEQ Attachment A, Water Quality Criteria Monitoring is shown as Attachment 1 to this Addendum. Please note that the majority of the information requested can be found in the VPDES Permit Renewal Application dated July 6, 2009.

FORM 1- GENERAL

Item VIII. OPERATOR INFORMATION

The Chesterfield Power Station is owned by Virginia Electric and Power Company and operated by Dominion Generation (referred to as Dominion throughout this attachment), a trade name for the combined generating assets of Virginia Electric and Power Company. The parent company of Virginia Electric and Power Company is Dominion Resources, Inc.

Item X. EXISTING ENVIRONMENTAL PERMITS:

Permit Number	Type of Permit	Effective Date
110000342530	EPA Facility Registry System ID number	NA
VAD000621177	RCRA HWG ID Number	07/13/1982
50396	Federal Air Emissions Operating Permit: • Phase II Acid Rain Permit • Coal handling permit • NSPS Permit • Title V Permit	 01/01/2008 06/13/2008 01/27/2009 01/13/2004
VA0004146	VPDES Individual Permit	12/10/2004
VAR051023	General Permit for Storm water Discharges Associated with Industrial Activity	01/01/2007
VAN040086	General Permit for Total Nitrogen and Total Phosphorous Discharges and Nutrient Trading in the Chesapeake Bay Watershed	01/01/2007
VMRC# 07-1739	Subaqueous encroachment permit	12/18/2007
Inventory Number 04145	Dam Safety Conditional O&M Certificate	01/30/2009
03-V0742 and 00-V043108	USACE Regional Dredging Permit 19	02/12/2009

FORM 2C - NPDES

Item II-A: LINE DRAWING

Steam and Evaporative Losses

A precise water balance cannot be provided as a considerable amount of water is released to the atmosphere as steam or evaporation, and we do not have estimates or measurements of these water losses, which can vary greatly with season and station operating conditions. The dashed lines on the drawing represent flows that occur on an intermittent basis. Rainfall runoff contributing to average flows of internal discharges is not available for several sources or treatment units.

Industrial Storm Water Discharges

Industrial storm water discharges from the station to the James River, Farrar Gut, and Aiken Swamp are identified for informational purposes only. These discharges are permitted under the VPDES General Storm Water Permit VAR540079.

Item II-B: WASTEWATER SOURCES TO EACH OUTFALL

Non-Process Water Discharges

There is no discharge of process water from the following points:

- Intake screen backwash
- Occasional pumping of river water from intake screen wells to permit access for maintenance
- Discharges associated with the routine testing of the fire fighting system involving the withdrawal and direct return of water from the river
- The discharge from one sump pump each in the condenser cooling water intake pump rooms for Units 7 and 8.

OUTFALL 004: Lower (Old) Ash Pond

The Old (Lower) Ash Pond is located across Coxendale Road south of the Chesterfield Power Station. Please refer to the IAP Narrative (Attachment 2) for a description of the changes to the lower ash pond.

New Low Volume Wastewater Treatment System (Outfall 301)

Please refer to the IAP Narrative (Attachment 2) and the CER (Attachment 3) regarding this new system.

Internal Outfalls

Please refer to the IAP Narrative (Attachment 2) and the CER (Attachment 3) regarding these internal outfalls.

ITEM II-C: INTERMITTENT AND/OR SEASONAL DISCHARGES

Please refer to the IAP Narrative (Attachment 2) and the CER (Attachment 3) regarding these intermittent and seasonal from the new outfalls.

ITEM IV-A: IMPROVEMENTS

Installation of the Low Volume Wastewater Treatment System

Please refer to the IAP Narrative (Attachment 2) and the CER (Attachment 3) regarding these improvements. Improvements include the following:

1. New low-volume wastewater treatment system to satisfy proposed ELG requirements.
2. Captive industrial landfill for CCR dry disposal.
3. Final closure of Lower Ash Pond in accordance with CCR Rule.
4. Final closure of Upper Ash Pond in accordance with VPDES permit and CCR Rule.

ITEMS V-A.B. & C: INTAKE AND EFFLUENT CHARACTERISTICS

Please see the original VPDES Permit Renewal Application dated July 6, 2009 for these characteristics.

ITEM V-A: REPORTING

As allowed by Form 2C instructions, and approved by DEQ permitting staff, the required data are being submitted on separate sheets as an attachment to Form 2C. The sheets contain the required information in a format which is consistent with pages V-1 to V-9 in spacing and in identification of pollutants and pollutant columns.

ITEM V-C. ANALYSIS

Please see the original VPDES Permit Renewal Application dated July 6, 2009 for these data.

ITEM V-D: POLLUTANTS LISTED IN TABLE 2C-3 THAT MAY BE DISCHARGED

Please see the original VPDES Permit Renewal Application dated July 6, 2009 for these data.

ITEM VII: BIOLOGICAL TOXICITY TESTING DATA

Whole Effluent Toxicity (WET) tests were performed on Outfalls 001, 002, 003, 004, and 005 in compliance with the Chesterfield Power Station's current VPDES Permit. Results of the tests are presented in the original VPDES Permit Renewal Application dated July 6, 2009.

Attachment 1

DEQ Appendix A Tables

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website:
http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	0.0023J	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	0.02	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	0.0039J	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved [6]	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved [6]	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	0.016J	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.0036J,B	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	<0.000031U	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	0.16	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	0.041J	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	<0.00047U	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.0036J	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	0.25	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	0.0023p	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.00036U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	<0.019U	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	<0.00064U	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	0.00093J,p	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	0.00094J,p	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	<0.031U	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	<0.018U	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	0.001J,p	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	0.0018p	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	0.021p	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	0.00067J,p	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	0.002	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.00086U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	<0.022U	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	0.0042p	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	0.0045	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	0.00067J,p	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	0.012	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	0.0017p	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<9.1U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<0.021U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	-	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.00046U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<0.031U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<0.018U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<33U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<0.52U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<0.24U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<0.19U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<12U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<1.3U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<0.14U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<0.15U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<0.21U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<1.1U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<0.72U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<1.2U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<0.51U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<0.62U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<0.2U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<0.17U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<0.16U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<0.49U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<0.59U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<0.19U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<0.61U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<0.8U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<0.69U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<0.29U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<0.8U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<0.67U	µg/L	G	1/5 YR

VOLATILES

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
107-02-8	Acrolein	624	(4)	<2.6U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<0.55U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	0.23J	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<0.19U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<0.14U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<0.14U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<0.14U	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	3.8	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	0.49J	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<0.21U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<0.12U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<0.17U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<0.095U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<0.5U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	0.69J	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<0.31U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	<0.28U	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<0.14U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<0.23U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<1.6U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<0.32U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<0.8U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<5.8U	µg/L	G	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<2.1U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	-	mg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
87-86-5	Pentachlorophenol	625	50.0	<0.63U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	<0.55U	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<1.7U	µg/L	G	1/5 YR
	MISCELLANEOUS						
776-41-7	Ammonia as NH3-N	350.1	200	4.3	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	9,600	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	0.24	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [5]	ASTM 4282-02	10.0	<0.0025U	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	-	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	-	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.043U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	-	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

7/20/15

Signature of Principal Executive Officer or Authorized Agent & Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website: http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	0.00043J,B	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	0.00069J	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	<0.000074U	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved [6]	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved [6]	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	0.0039	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.00027J	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	0.000048J,B	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	0.0019	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	0.0059	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	<0.000047U	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.011	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	0.0042J	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	<0.0008U	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.0016U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	<0.019U	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	<0.00064U	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	<0.00076U	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	<0.00071U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	<0.031U	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	<0.018U	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	<0.00079U	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	<0.0009U	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	<0.00094U	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	<0.00055U	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	<0.00092U	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.00087U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	<0.022U	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	<0.00095U	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	<0.00093U	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	<0.00063U	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	<0.00096U	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	<0.00077U	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<9.2U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<0.021U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	-	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.00046U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<0.031U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<0.018U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<33U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<0.52U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<0.52U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<0.24U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<0.19U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<12U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<0.14U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<0.15U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<0.21U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<1.1U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<0.73U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<1.2U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<0.51U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<0.63U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<0.21U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<0.17U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<0.16U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<0.49U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<0.6U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<0.19U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<0.61U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<0.8U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<0.7U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<0.29U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<0.81U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<0.68U	µg/L	G	1/5 YR

VOLATILES

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
107-02-8	Acrolein	624	(4)	<2.6U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<0.55U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<0.19U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<0.14U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<0.14U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<0.14U	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	0.35J	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	<0.13U	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<0.12U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<0.3U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<0.17U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<0.095U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<0.5U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	<0.23U	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<0.31U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	<0.28U	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<0.14U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<0.23U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<1.6U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<0.32U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<0.81U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<5.8U	µg/L	G	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<2.1U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	-	mg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
87-86-5	Pentachlorophenol	625	50.0	<0.63U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	<0.55U	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<1.7U	µg/L	G	1/5 YR
MISCELLANEOUS							
776-41-7	Ammonia as NH3-N	350.1	200	2.6	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	110	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	310B	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [8]	ASTM 4282-02	10.0	<0.0025U	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	-	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	-	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.043U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	-	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

7/20/15

Signature of Principal Executive Officer or Authorized Agent & Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website: http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL(1)	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE(2)	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	0.001J	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	0.0076	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	<0.000074U	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved (6)	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved (6)	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	0.00085J	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.00007J,B	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	<0.000031U	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	0.002	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	0.0018J	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	<0.000047U	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.000013J	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	0.0083	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	<0.0008U	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.0016U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	<0.019U	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	<0.00064U	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	<0.00076U	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	<0.00071U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	<0.031U	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	<0.018U	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	<0.00079U	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	<0.0009U	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	0.0015p	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	<0.00055U	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	<0.00092U	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.00087U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	<0.022U	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	<0.00095U	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	<0.00093U	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	<0.00063U	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	<0.00096U	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	<0.00037U	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<9.2U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<0.021U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	-	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.00046U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<0.031U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<0.018U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<33U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<0.52U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<0.24U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<0.19U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<12U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<0.14U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<0.15U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<0.21U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<1.1U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<0.73U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<1.2U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<0.76U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<0.63U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<0.21U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<0.17U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<0.16U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<0.49U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<0.6U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<0.19U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<0.61U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<0.8U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<0.7U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<0.29U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<0.81U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<0.68U	µg/L	G	1/5 YR

VOLATILES

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
107-02-8	Acrolein	624	(4)	<2.6U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<0.55U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<0.19U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<0.14U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<0.14U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<0.14U	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	<0.17U	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	<0.13U	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<0.21U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<0.3U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<0.17U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<0.095U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<0.5U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	<0.23U	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<0.31U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	<0.15U	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<0.14U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<0.23U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<1.6U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<0.32U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<0.81U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<5.8U	µg/L	G	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<2.1U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	-	mg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
87-86-5	Pentachlorophenol	625	50.0	<0.63U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	<0.55U	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<1.7U	µg/L	G	1/5 YR
	MISCELLANEOUS						
776-41-7	Ammonia as NH3-N	350.1	200	0.65	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	16	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	0.04	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [8]	ASTM 4282-02	10.0	-	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	-	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	-	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.043U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	-	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

7/20/15

Signature of Principal Executive Officer or Authorized Agent & Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website: http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	0.00038J	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	0.0081	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	0.0071	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved [6]	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved [6]	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	0.36	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.0017B	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	<0.000031U	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	0.57	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	0.013	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	<0.000047U	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.0011	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	1.7	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	<0.00081U	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.0016U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	<0.02U	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	<0.00065U	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	<0.00077U	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	<0.0007U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	<0.032U	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	<0.018U	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	<0.0008U	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	<0.00091U	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	0.0013p	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	<0.00055U	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	<0.00093U	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.00087U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	<0.022U	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	<0.00095U	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	<0.00093U	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	<0.00064U	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	<0.00097U	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	<0.00078U	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<9.6U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<0.021U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	-	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.00047U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<0.032U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<0.018U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<34U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<0.54U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<0.25U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<0.2U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<12U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<0.15U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<0.15U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<0.21U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<1.1U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<0.76U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<1.2U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<0.53U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<0.65U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<0.21U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<0.18U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<0.16U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<0.51U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<0.62U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<0.2U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<0.64U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<0.83U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<0.73U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<0.3U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<0.84U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<0.7U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
VOLATILES							
107-02-8	Acrolein	624	(4)	<2.6U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<0.55U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<0.19U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<0.14U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<0.14U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<0.14U	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	<0.17U	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	<0.13U	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<0.21U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<0.3U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<0.17U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<0.095U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<0.5U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	<0.23U	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<0.31U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	<0.28U	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	0.16J	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<0.14U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<0.23U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<1.6U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<0.33U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<0.84U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<6U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<2.2U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	-	mg/L	G	1/5 YR
87-86-5	Pentachlorophenol	625	50.0	<0.66U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	<0.58U	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<1.7U	µg/L	G	1/5 YR
MISCELLANEOUS							
776-41-7	Ammonia as NH3-N	350.1	200	0.99	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	84	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	0.44	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [6]	ASTM 4282-02	10.0	<0.0025U	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	-	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	-	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.044U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	-	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

Signature of Principal Executive Officer or Authorized Agent & Date 7/20/15

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website:
http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	0.003J	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	0.0062J	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	0.0022J	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved [6]	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved [6]	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	0.012J	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.0014J,B	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	<0.000031U	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	0.097	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	0.025J	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	<0.00047U	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.0023J	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	0.025J	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	0.0045	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.0016U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	<0.02U	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	<0.00066U	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	<0.00078U	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	<0.00073U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	<0.032U	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	<0.018U	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	0.0032	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	0.0012J,p	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	0.019p	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	0.0014p	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	0.0033	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.00089U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	<0.022U	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	0.001J,p	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	0.003	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	0.0014p	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	0.012	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	<0.00079U	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<10U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<0.021U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	-	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.00048U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<0.032U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<0.018U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<36U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<0.57U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<0.26U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<0.21U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<13U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<1.5U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<0.16U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<0.16U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<0.21U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<1.2U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<1.5U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<0.8U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<1.3U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<0.56U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<0.69U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<0.17U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<0.23U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<0.19U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<0.17U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<0.5U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<0.6U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<0.21U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<0.67U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<0.88U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<0.77U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<0.32U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<0.89U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<0.74U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
VOLATILES							
107-02-8	Acrolein	624	(4)	<2.6U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<0.55U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<0.19U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<0.14U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<0.14U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	0.77J	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	19	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	2.5	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<0.21U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<0.3U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<0.17U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<0.095U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<0.5U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	<0.23U	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<0.31U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	0.19J,B	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<0.23U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<1.7U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<0.35U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<0.89U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<6.4U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<2.3U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	-	mg/L	G	1/5 YR
87-86-5	Pentachlorophenol	625	50.0	<0.69U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	4.2	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<1.8U	µg/L	G	1/5 YR
MISCELLANEOUS							
776-41-7	Ammonia as NH3-N	350.1	200	2.1	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	14,000	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	>2.2	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [8]	ASTM 4282-02	10.0	0.0057J	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	-	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	-	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.047U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	-	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

[signature] 7/20/15

Signature of Principal Executive Officer or Authorized Agent & Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website: http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	4.49	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	4.91	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	0.261	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved [6]	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved [6]	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	2.28	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.160	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	0.023	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	3.95	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	305	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	0.029	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.058	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	162	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	<0.052U	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.206U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	-	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	<0.052U	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	<0.052U	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	<0.052U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	-	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	-	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	<0.052U	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	<0.052U	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	<0.052U	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	<0.052U	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	<0.052U	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.052U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	-	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	<0.052U	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	<0.052U	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	<0.052U	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	<0.052U	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	<0.052U	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<11.1U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<1U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	<0.052U	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.052U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<1U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<1.03U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<55.6U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<11.1U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<11.1U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<11.1U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<11.1U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<11.1U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<11.1U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<5U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<5U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<5U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<11.1U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<11.1U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<11.1U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<11.1U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<11.1U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<11.1U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<2.78U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<11.1U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<11.1U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<11.1U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<11.1U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<11.1U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<11.1U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<11.1U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<11.1U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<11.1U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<11.1U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<11.1U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
VOLATILES							
107-02-8	Acrolein	624	(4)	<50U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<25U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	<5U	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<5U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<5U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<5U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<5U	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	<5U	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	<5U	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<5U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<5U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<5U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<5U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<50U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	<5U	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<5U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	<20U	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<5U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<5U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	<5U	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<5U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<5U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<5U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<11.1U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<11.1U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<11.1U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<55.6U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<55.6U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	<0.005U	mg/L	G	1/5 YR
87-86-5	Pentachlorophenol	625	50.0	<22.2U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	<11.1U	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<11.1U	µg/L	G	1/5 YR
	MISCELLANEOUS						
776-41-7	Ammonia as NH3-N	350.1	200	3.03	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	-	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	-	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [8]	ASTM 4282-02	10.0	<0.01U	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	<1U	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	<0.05U	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.03U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	1220	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

Signature of Principal Executive Officer or Authorized Agent & Date 7/20/15

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website:
http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	0.00055J	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	0.0022	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	0.000084J,B	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved [6]	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved [6]	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	0.005	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.0001J,B	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	<0.000031U	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	0.0021	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	0.0012J	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	<0.000047U	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.00018J	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	0.01	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	<0.00081U	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.0016U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	<0.02U	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	<0.00064U	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	<0.00075U	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	<0.0007U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	<0.032U	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	<0.018U	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	<0.00064U	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	<0.0009U	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	<0.00093U	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	<0.00054U	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	<0.00091U	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.00086U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	<0.022U	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	<0.00094U	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	<0.00092U	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	<0.00063U	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	<0.00095U	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	<0.00076U	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<9.2U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<0.021U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	-	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.00046U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<0.031U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<0.018U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<33U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<0.52U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<0.24U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<0.19U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<13U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<0.14U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<0.15U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<0.21U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<1.1U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<0.73U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<1.2U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<0.51U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<0.63U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<0.21U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<0.17U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<0.16U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<0.49U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<0.6U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<0.19U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<0.61U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<0.8U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<0.7U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<0.29U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<0.81U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<0.68U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
VOLATILES							
107-02-8	Acrolein	624	(4)	<2.6U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<0.55U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<0.19U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<0.14U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<0.14U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	0.16J	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	7.2	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	1	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<0.21U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<0.3U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<0.17U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<0.095U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<0.5U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	<0.23U	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<0.31U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	<0.28U	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<0.14U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<0.23U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<1.6U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<0.32U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<0.81U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<5.8U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<2.1U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	-	mg/L	G	1/5 YR
87-86-5	Pentachlorophenol	625	50.0	<0.63U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	<0.55U	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<1.7U	µg/L	G	1/5 YR
MISCELLANEOUS							
776-41-7	Ammonia as NH3-N	350.1	200	0.15	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	36	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	0.03	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [8]	ASTM 4282-02	10.0	0.0043J	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	-	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	-	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.045U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	-	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

Signature of Principal Executive Officer or Authorized Agent & Date 7/20/15

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website:
http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	0.00046J	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	0.02	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	0.00011J	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved [6]	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved [6]	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	0.019	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.00019J,B	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	<0.000031U	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	0.011	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	0.00075J	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	<0.000047U	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.000082J	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	0.049	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	<0.00082U	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.0016U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	<0.02U	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	0.0044p	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	<0.00078U	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	0.0011J,p	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	<0.032U	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	<0.018U	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	0.004p	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	<0.0009U	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	0.0039p	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	<0.00056U	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	<0.00095U	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.00089U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	<0.31U	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	<0.00098U	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	<0.00096U	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	0.0021	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	<0.00099U	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	<0.00079U	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<9.3U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<0.021U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	-	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.00048U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<0.032U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<0.018U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<33U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<0.24U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<0.19U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<12U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<0.15U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<0.15U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<0.21U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<1.1U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<0.74U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<1.2U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<0.52U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<0.63U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<0.21U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<0.18U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<0.16U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<0.5U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<0.6U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<0.19U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<0.62U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<0.8U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<0.7U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<0.3U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<0.82U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<0.68U	µg/L	G	1/5 YR
VOLATILES							

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
107-02-8	Acrolein	624	(4)	<2.6U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<0.55U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<0.19U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<0.14U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<0.14U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<0.14U	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	0.18J	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	<0.13U	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<0.21U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<0.3U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<0.17U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<0.095U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<0.5U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	<0.23U	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<0.31U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	<0.28U	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<0.14U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<0.23U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<1.6U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<0.32U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<0.82U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<5.9U	µg/L	G	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<2.1U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	-	mg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
87-86-5	Pentachlorophenol	625	50.0	<0.64U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	<0.56U	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<1.7U	µg/L	G	1/5 YR
	MISCELLANEOUS						
776-41-7	Ammonia as NH3-N	350.1	200	0.4	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	37	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	0.04	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [8]	ASTM 4282-02	10.0	<0.0025U	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	-	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	-	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.043U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	170	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

7/20/15

Signature of Principal Executive Officer or Authorized Agent & Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

ATTACHMENT A
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY CRITERIA MONITORING

Effective January 1, 2012, all analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website:
http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
METALS							
7440-36-0	Antimony, dissolved	(3)	150	0.00014J	mg/L	G	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	260	0.00025J	mg/L	G	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	19	<0.000074U	mg/L	G	1/5 YR
16065-83-1	Chromium III, dissolved [6]	(3)	1,200	N/A	mg/L	G	1/5 YR
18540-29-9	Chromium VI, dissolved [6]	(3)	170	N/A	mg/L	G	1/5 YR
7440-50-8	Copper, dissolved	(3)	150	0.00037J	mg/L	G	1/5 YR
7439-92-1	Lead, dissolved	(3)	230	0.000067J,B	mg/L	G	1/5 YR
7439-97-6	Mercury, dissolved	(3)	12	<0.000031U	mg/L	G	1/5 YR
7440-02-0	Nickel, dissolved	(3)	330	0.00081J	mg/L	G	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	79	<0.0002U	mg/L	G	1/5 YR
7440-22-4	Silver, dissolved	(3)	40	<0.000047U	mg/L	G	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)	0.000019J	mg/L	G	1/5 YR
7440-66-6	Zinc, dissolved	(3)	1,300	0.021	mg/L	G	1/5 YR
PESTICIDES/PCBs							
309-00-2	Aldrin	608/625	0.05	<0.0008U	µg/L	G	1/5 YR
57-74-9	Chlordane	608/625	0.2	<0.0016U	µg/L	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)	<0.019U	µg/L	G	1/5 YR
72-54-8	DDD	608/625	0.1	<0.00064U	µg/L	G	1/5 YR
72-55-9	DDE	608/625	0.1	<0.00076U	µg/L	G	1/5 YR
50-29-3	DDT	608/625	0.1	<0.00071U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)	<0.031U	µg/L	G	1/5 YR
333-41-5	Diazinon	622	(4)	<0.018U	µg/L	G	1/5 YR
60-57-1	Dieldrin	608/625	0.1	<0.00079U	µg/L	G	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1	<0.0009U	µg/L	G	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608625	0.1	0.0026p	µg/L	G	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1	0.0024p	µg/L	G	1/5 YR
72-20-8	Endrin	608/625	0.1	<0.00092U	µg/L	G	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)	<0.00087U	µg/L	G	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)	<0.022U	µg/L	G	1/5 YR
76-44-8	Heptachlor	608/625	0.05	<0.00095U	µg/L	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)	<0.00093U	µg/L	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)	<0.00063U	µg/L	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)	<0.00096U	µg/L	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (syn. = Lindane)	608/625	(4)	<0.00077U	µg/L	G	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)	<9.3U	µg/L	G	1/5 YR
121-75-5	Malathion	614	(4)	<0.021U	µg/L	G	1/5 YR
72-43-5	Methoxychlor	608.2	(4)	-	µg/L	G	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)	<0.00046U	µg/L	G	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)	<0.031U	µg/L	G	1/5 YR
1336-36-3	PCB, total	608/625	7.0	<0.0025U	µg/L	G	1/5 YR
8001-35-2	Toxaphene	608/625	5.0	<0.018U	µg/L	G	1/5 YR
BASE NEUTRAL EXTRACTABLES							
83-32-9	Acenaphthene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
120-12-7	Anthracene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
92-87-5	Benzidine	625	(4)	<33U	µg/L	G	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0	<0.14U	µg/L	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0	<0.53U	µg/L	G	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)	<0.24U	µg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)	<0.19U	µg/L	G	1/5 YR
117-81-7	Bis 2-Ethylhexyl Phthalate (syn. = Di-2-Ethylhexyl Phthalate)	625	10.0	<12U	µg/L	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)	<0.15U	µg/L	G	1/5 YR
218-01-9	Chrysene	610/625	10.0	<0.13U	µg/L	G	1/5 YR
53-70-3	Dibenzo (a,h) anthracene	610/625	20.0	<0.15U	µg/L	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	602/624	10.0	<0.21U	µg/L	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)	<1.1U	µg/L	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<1.4U	µg/L	G	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)	<0.74U	µg/L	G	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0	<1.2U	µg/L	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<0.52U	µg/L	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)	<0.63U	µg/L	G	1/5 YR
206-44-0	Fluoranthene	610/625	10.0	<0.16U	µg/L	G	1/5 YR
86-73-7	Fluorene	610/625	10.0	<0.21U	µg/L	G	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)	<0.18U	µg/L	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)	<0.16U	µg/L	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)	<0.5U	µg/L	G	1/5 YR
67-72-1	Hexachloroethane	625	(4)	<0.6U	µg/L	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0	<0.19U	µg/L	G	1/5 YR
78-59-1	Isophorone	625	10.0	<0.62U	µg/L	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<0.8U	µg/L	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)	<0.7U	µg/L	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)	<0.3U	µg/L	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)	<0.82U	µg/L	G	1/5 YR
129-00-0	Pyrene	610/625	10.0	<0.15U	µg/L	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<0.68U	µg/L	G	1/5 YR

VOLATILES

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
107-02-8	Acrolein	624	(4)	<2.6U	µg/L	G	1/5 YR
107-13-1	Acrylonitrile	624	(4)	<0.55U	µg/L	G	1/5 YR
71-43-2	Benzene	602/624	10.0	<0.11U	µg/L	G	1/5 YR
75-25-2	Bromoform	624	10.0	<0.19U	µg/L	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<0.14U	µg/L	G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0	<0.14U	µg/L	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<0.14U	µg/L	G	1/5 YR
67-66-3	Chloroform	624	10.0	<0.17U	µg/L	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	<0.13U	µg/L	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<0.21U	µg/L	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<0.3U	µg/L	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)	<0.17U	µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)	<0.095U	µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)	<0.5U	µg/L	G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0	<0.23U	µg/L	G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)	<0.31U	µg/L	G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0	<0.15U	µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0	<0.15U	µg/L	G	1/5 YR
10-88-3	Toluene	602/624	10.0	<0.15U	µg/L	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)	<0.2U	µg/L	G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0	<0.14U	µg/L	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<0.23U	µg/L	G	1/5 YR
ACID EXTRACTABLES							
95-57-8	2-Chlorophenol	625	10.0	<1.6U	µg/L	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<0.32U	µg/L	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<0.82U	µg/L	G	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)	<5.9U	µg/L	G	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)	<2.1U	µg/L	G	1/5 YR
25154-52-3	Nonylphenol	ASTM D 7065-06	(4)	-	mg/L	G	1/5 YR

CASRN	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	REPORTING RESULTS	UNIT(S)	SAMPLE TYPE[2]	SAMPLE FREQUENCY
87-86-5	Pentachlorophenol	625	50.0	<0.64U	µg/L	G	1/5 YR
108-95-2	Phenol	625	10.0	<0.56U	µg/L	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<1.7U	µg/L	G	1/5 YR
MISCELLANEOUS							
776-41-7	Ammonia as NH3-N	350.1	200	2	mg/L	C	1/5 YR
16887-00-6	Chloride	(3)	(4)	6.8	mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(3)	100	0.02	mg/L	G	1/5 YR
57-12-5	Cyanide, Free [6]	ASTM 4282-02	10.0	<0.0025U	mg/L	G	1/5 YR
N/A	*E. coli* / *Enterococcus* (N/CML)	(3)	(4)	-	cfu/100 ml	G	1/5 YR
18496-25-8	Sulfide, dissolved [7]	SM 4500 S^2 B	100	-	mg/L	G	1/5 YR
60-10-5	Tributyltin	(5)	(4)	<0.043U	µg/L	G	1/5 YR
471-34-1	Hardness (mg/L as $CaCO_3$)	(3)	(4)	-	mg/L	G	1/5 YR

David Craymer VP

Name of Principal Executive Officer or Authorized Agent & Title

[signature] 7/20/15

Signature of Principal Executive Officer or Authorized Agent & Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

FOOTNOTES:

(1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

(3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from any approved method presented in 40 CFR Part 136.

(4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

(5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).

(6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(7) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(8) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

Attachment 2

IAP Narrative

Prepared for

Dominion Virginia Power
500 Coxendale Road
Chester, Virginia 23836

INTEGRATED ASH PROJECT

NARRATIVE

Chesterfield Power Station
Chester, Virginia

Prepared by

Geosyntec consultants
9211 Arboretum Parkway, Suite 200
Richmond, Virginia 23236

Project Number MV1222

July 2015

TABLE OF CONTENTS

1. INTRODUCTION 1
1.1 Overview, Purpose, and Terms of Reference 1
1.2 IAP Overview and Schedule 1
1.3 Description of Outfalls 4

2. PROJECT NARRATIVES 6
2.1 FFCP Management Facility 6
2.2 Wet-to-Dry Conversion 6
2.3 Upper Ash Pond Closure (Outfall 005) 7
2.4 Lower Ash Pond (Outfall 004) 7
2.4.1 Existing Waste Streams to the LAP 8
2.4.2 LAP Closure 10
2.5 Low Volume Wastewater Treatment System (Internal Outfall 301) 10
2.5.1 LVWWTS Components 11
2.5.2 Upstream Inputs 11

3. IAP SEQUENCE OVERVIEW 11

4. REGULATORY OVERVIEW AND EFFLUENT STANDARDS 11
4.1 Regulatory Overview 12
4.2 Decanting and Dewatering 12

APPENDICES

Appendix 1 IAP Construction Sequence Overview

Appendix 2 Dewatering Test Analytical Data

1. INTRODUCTION

1.1 Overview, Purpose, and Terms of Reference

This narrative was prepared by Geosyntec Consultants, Inc. (Geosyntec) for Dominion Virginia Power (Dominion) in support of the ongoing efforts to comply with anticipated regulatory revisions associated with the Integrated Ash Project (IAP) at the Chesterfield Power Station (the Station) located in Chester, Virginia. The IAP includes the closure of the Lower Ash Pond (LAP) and the Upper Ash Pond (UAP), construction of the Fossil Fuel Combustion Product (FFCP) Management Facility, conversion from a wet to dry ash management system, and the construction of a new low volume wastewater treatment system (LVWWTS).

The purpose of this narrative is to provide a high-level description of the IAP as part of an application for modification of the Station's Virginia Pollutant Discharge Elimination System (VPDES) permit. The narrative description will provide greater insight into the purpose of the IAP and the modifications to the Station's system of industrial outfalls.

A table of analytical data is included as an attachment to represent the proposed decanting and dewatering activity at Outfall 004 (the effluent from the Lower Ash Pond). In addition, a Concept Engineering Report (CER) is provided under separate cover and is included as an attachment to the VPDES permit modification application. The CER provides a description of the treatment technologies utilized as part of the LVWWTS to meet the discharge limits from EPA's proposed Steam Electric Effluent Limitation Guidelines (ELGs), which are expected to be finalized in the fall of 2015.

1.2 IAP Overview and Schedule

As described above, the IAP includes the closure of the LAP and the UAP, construction of the FFCP Management Facility, conversion from a wet to dry ash management system, and construction of the LVWWTS with the construction of access to the FFCP Management Facility as the first critical activity to successful completion of the IAP. The projects within the IAP are related to each other in a manner that makes project schedules interdependent and permitting timelines critical. The following table provides a brief description of each project and describes the ways in which the various IAP projects are related.

Project	Dependencies
FFCP Management Facility (Section 2.1)	The FFCP Management Facility is a captive industrial landfill for the disposal of coal combustion residuals (CCRs) generated at the Station. The landfill is located across Proctor's Creek from the Station via a private access road and bridge. • Approximately 1.5 million cubic yards of soil will be excavated as part of landfill construction, and the excavated soil will be hauled to the LAP and UAP closure construction projects for use as subgrade fill and protective cover material. • Bridge and access road are critical path items. • Construction of the first landfill cell and issuance of a Certificate-to-Operate by DEQ is needed by Fall 2017 so that the landfill can receive ash after the wet-to-dry ash conversion. • Leachate and contact storm water from the FFCP Management Facility are pumped to the LVWWTS, which discharges through internal Outfall 301 and ultimately to permitted Outfall 003.
Wet-to-Dry Ash Conversion (Section 2.2)	The wet-to-dry ash conversion will replace the current method of wet sluicing fly ash to the LAP and will consist of a dry ash management system that relies on forced air to blow fly ash into silos for deposition into haul trucks and ultimate disposal in the FFCP Management Facility. • Conversion to be implemented in Fall 2017, removing fly ash sluice water from the low volume wastewater discharges. • Includes construction of a closed loop bottom ash management system utilizing a remote flight conveyor for coarse solids handling. • Industrial discharges are pumped to the LVWWTS, which discharges through internal Outfall 301 and ultimately to permitted Outfall 003.
UAP Closure (Section 2.3)	The UAP receives ash from the LAP that has been stacked and allowed to dry over a period of time. Ash is hauled via dump truck from the LAP ash operational area to the UAP active face. The UAP is already going through closure under the VPDES program, and will continue to be closed in accordance with the CCR Rule. • Soil from the FFCP Management Facility is needed to construct the cover system for the UAP closure. • Ash deposition in the UAP is planned to cease by mid-2017. • Existing permitted Outfall 005 will be decommissioned after the completion of the UAP closure and will no longer be a VPDES

Project	Dependencies
	permitted outfall.
LAP Closure (Section 2.4)	The LAP is currently the Station's treatment facility for low volume wastewaters including both bottom and fly ash sluice water. The LAP will be closed in accordance with the CCR Rule and relevant state regulatory requirements. • Soil from the FFCP Management Facility is needed to construct the cover system for the LAP closure. • Low volume wastewater discharges will be redirected to the LVWWTS, and fly ash sluice water will be eliminated. • Existing permitted Outfall 004 will be decommissioned after LAP operations have ceased and the remaining ash has been capped, and the outfall will no longer be a permitted VPDES outfall.
LVWWTS (Section 2.5)	The LVWWTS will manage and treat the low volume wastewater discharges from the Station after the planned conversion from wet-to-dry fly ash management activities and commencement of LAP closure. The LVWWTS will be designed so that the discharge from the system will comply with the proposed ELGs. • Needs to be constructed and operable by Fall 2017 or sooner to start receiving the Station's low volume wastewater discharges once the wet-to-dry ash conversion is complete. Low volume wastewater discharges will include discharges from the Station gas-fired units (Units 7 and 8). • Receives new discharges including runoff from the closed loop bottom ash handling area and LAP toe drain discharge. • Receives leachate and contact storm water discharge from the FFCP Management Facility. • Internal Outfall 301 will be a new, active internal outfall once the LVWWTS operations begin. Internal Outfalls 302 (FGD treatment plant discharge) and 303 (Metals Pond discharge) will discharge to Internal Outfall 301.

As represented in the summary table above, the planned Station conversion outage in Fall 2017 is a critical period in which multiple Station functions will be changed. At that time, fly ash management will convert from wet sluicing of ash to dry handling. Bottom ash will continue to be processed and beneficially re-used, and the water will be sluiced to a closed loop remote flight conveyor system. Fly ash and non-recycled bottom ash will be disposed of in the new FFCP

Management Facility rather than the LAP and UAP. Station process wastewaters will be redirected from the LAP to the LVWWTS. In addition, several of the outfall modifications described herein will be implemented. The section below provides a description of the outfalls that will be modified.

1.3 Description of Outfalls

The outfalls included in this VPDES Permit Modification Application are the following:

- Outfall 004 is the existing outfall for the discharge from the LAP, which currently receives the following:
    - Fly ash sluice water (Units 3, 4, 5, and 6)
    - Bottom ash sluice water (Units 3, 4, 5 and 6)
    - Coal pile retention basin discharge;
    - Master sump effluent;
    - FGD sump effluent (including FGD treatment plant and yard sump effluent);
    - S-Ditch storm water runoff;
    - Metals pond effluent (internal Outfall 303), and;
    - Coxendale Road storm water runoff.

  The outfall is located in the southwest corner of the LAP and discharges into Farrar Gut in the same general location as existing Outfall 003 to the thermal discharge channel. This outfall will include the construction activities of decanting and dewatering of the LAP during closure construction, and it will be decommissioned once the LAP geosynthetic cap is installed. After the LAP geosynthetic cap is installed, storm water discharge will be managed through a proposed storm water management basin during cover system construction activities.

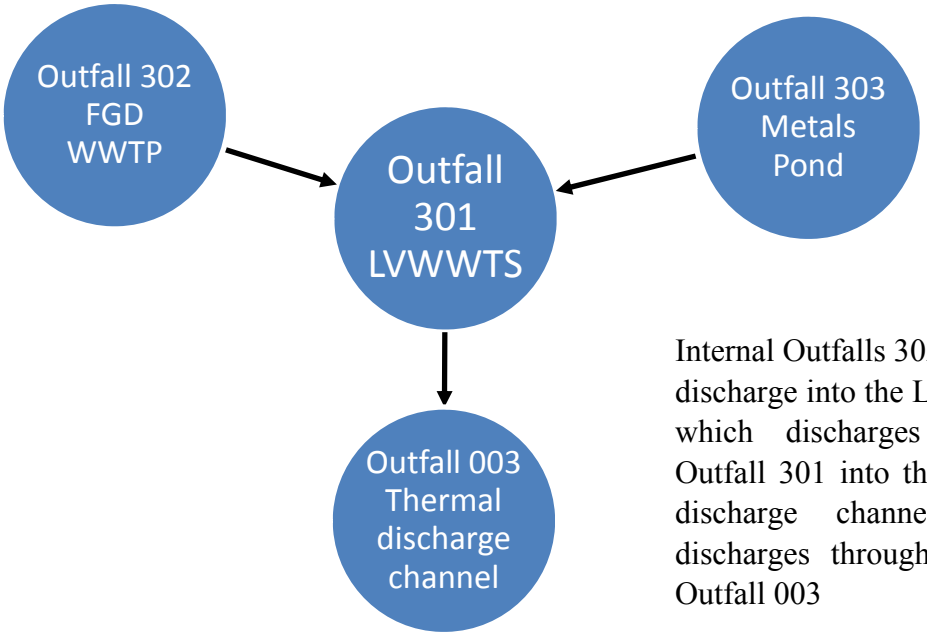
- Outfall 005 is an existing outfall located on the southeast corner of the UAP. Storm water collected in the sedimentation basin located on the eastern end of the UAP discharges through the outfall. Outfall 005 will be decommissioned following the closure of the UAP and sedimentation basin.
- Outfall 301 is a proposed new internal outfall for the discharge from the LVWWTS that will receive the following waste streams:
    - Coal pile retention basin discharge;
    - Master sump effluent;
    - FGD treatment plant (after going through internal Outfall 302);
    - FGD yard sump effluent;
    - Bottom ash handling area runoff;
    - S-Ditch storm water runoff;
    - Metals pond effluent (internal Outfall 303);

- FFCP Management Facility leachate and contact stormwater;
- UAP toe drain discharge, and;
- LAP toe drain discharge.

Internal Outfall 301 is located on the bank of the thermal discharge channel, approximately 950 feet from the cooling water discharge pipes and 750 feet before Outfall 003. Outfall 301 is located in a sampling manhole at the thermal discharge channel embankment and discharges through a diffuser to promote thorough mixing with the tidally-influenced water in the thermal discharge channel.

- Outfall 302 – Outfall 302 is the internal outfall for the discharge from the FGD wastewater treatment plant. The outfall is located within the FGD treatment plant between the discharge outlet of the effluent storage tank and the pumps that send the effluent to the FGD sump pipe for mixing with the FGD yard sumps.
- Outfall 303 is an internal outfall for the discharge from the Metals Pond. The outfall will be relocated from an existing sampling manhole to a sampling port located at the new lift station. The sampling port will be located on the discharge side of the lift station pumps.

Outfall 301 will be an internal outfall to existing Outfall 003. The relationship between the internal outfalls and Outfall 003 is shown in the following graphic:



Internal Outfalls 302 and 303 discharge into the LVWWTS which discharges through Outfall 301 into the thermal discharge channel which discharges through existing Outfall 003

2. PROJECT NARRATIVES

The following sections provide a narrative for each individual projects along with a description of the proposed modifications to the associated outfalls. Industrial discharges from the FFCP Management Facility and the wet-to-dry conversion projects are described in more detail in the LVWWTS CER.

2.1 FFCP Management Facility

The FFCP Management Facility is located on a parcel adjacent to and northwest of the Chesterfield Power Station. Site access will be via a Dominion-owned private haul road, which includes an approximately 1,385-foot long bridge over Proctor's Creek. The Facility has an approximate net disposal capacity of 9,361,000 cubic yards (CY) and consists of approximately 66 lined acres.

The Facility is to be developed in four distinct Phases. Each phase contains a 'north' and 'south' drainage area that drains to a dedicated sump located at the perimeter. The landfill will be developed starting with Phase 1, with construction planned to begin in early 2016, and progress westward to Phase 4.

The landfill will be constructed with a composite geosynthetic base liner system, including leachate collection, and will be managed with a system consisting of permeable drainage material and piping. The piping will collect leachate and direct it to a pump station which ultimately discharges it to the LVWWTS. Precipitation that contacts ash but is not collected by the leachate management system will be collected by the contact storm water system. Contact storm water will be collected in a basin and will also be discharged to the LVWWTS along with the leachate.

2.2 Wet-to-Dry Conversion

The wet-to-dry ash handling conversion is designed to manage fly ash as a dry material rather than as a sluiced material. Fly ash will be blown from the collection area into storage silos. From the storage silos, ash will be moisturized and loaded into haul trucks that will carry the ash to the FFCP Management Facility. Storm water runoff collected in around the fly ash silo storage area will be pumped into the forcemain carrying leachate and contact storm water from the FFCP Management Facility to the LVWWTS.

The wet-to-dry ash conversion also includes the construction of a closed loop bottom ash management system. Bottom ash will be conveyed from the Station to a bottom ash management area utilizing a remote flight conveyor system for separate of coarse bottom ash from water. A mechanical system will remove bottom ash solids from the water prior to the water being recirculated back to the Station. The bottom ash management area will include an

impermeable pad on which bottom ash will be stacked for management. Storm water runoff, water from the stacked bottom ash that collects on the pad, and bottom ash blowdown from occasional maintenance will be collected and discharged to the LVWWTS.

2.3 Upper Ash Pond Closure (Outfall 005)

The UAP is the current final disposal unit for fly ash that has been stacked and allowed to dry at the LAP. The pond is located to the southeast of the LAP, bounded by Henricus Park Road to the north and Farrar Gut to the south. The UAP is approximately 100 acres in plan area and is surrounded by a series of compacted berm embankments. The closure of the UAP is an ongoing activity. Closure of the UAP will consist of preparing the subgrade, installing a flexible membrane liner, installing a geocomposite drainage layer, and installing 24-inches of protective cover and vegetative support soil. Along with the cover system construction, storm water controls will be installed and the sedimentation basin will be closed and filled in. After closure of the UAP and sedimentation basin, existing Outfall 005 will be decommissioned will become part of the Station's general storm water discharge system. UAP toe drains that currently discharge through existing Outfall 005 will be rerouted to discharge to the LVWWTS.

2.4 Lower Ash Pond (Outfall 004)

The LAP currently receives sluiced fly ash and bottom ash from the Station. The LAP also receives multiple low-volume wastewater streams associated with Station operations, as well as storm water runoff. The bulk of these discharges will be rerouted to the LVWWTS for treatment before discharging through new internal Outfall 301. The future anticipated discharges are described in detail in the CER included as an attachment to the VPDES permit modification application.

The LAP discharges by gravity through an engineered riser structure located in the southwestern corner of the facility, which is also the location of existing Outfall 004. The LAP is approximately 100 acres in plan area and is contained by a series of compacted soil berms that form the east, west, and south perimeter of the pond. The berms are generally constructed to a constant elevation of 20 ft above mean sea level. To the west, the pond is bounded by a water feature commonly known as the thermal discharge channel, which receives non-contact cooling water associated with the operation of the Station. To the south, the pond is bounded by the James River. To the east, the pond is bounded by Henricus Road and the Dutch Gap Conservation Area, which is comprised of wetland and forested areas. To the north, the pond is bounded by Coxendale Road. Ground elevations and water body elevations to the west, south, and east are generally at elevation equal to mean sea level.

2.4.1 Existing Waste Streams to the LAP

The existing waste streams entering the LAP are listed in Section 1.3 for Outfall 004. The following paragraphs provide detail of each of the existing waste streams.

Generating Units (3, 4, 5, and 6) Fly Ash Sluice Water. Fly ash sluice water (including economizer ash and pyrite sluice water) from each of the Station generating units is pumped to a common discharge location at the northwest corner of the LAP. The fly ash sluice water follows a serpentine channel cut through previously deposited bottom ash and fly ash. As the sluice water travels along the channel, ash particles drop out of suspension and are deposited along the channel. The accumulated ash particles are regularly dredged from the channel and stacked alongside the channel to allow excess water to drain out by gravity and flow back into the channel. The drained fly ash and bound water are then loaded by construction equipment into dump trucks and the material is transported and deposited at the UAP for permanent storage. All material handling and hauling operations are performed within the Station's property boundary.

After leaving the serpentine channel, sluice water and any fine fly ash particles that remain in suspension enter the open water area of the LAP. This area, encompassing approximately 30 acres, is maintained at a permanent pool elevation controlled by the pond discharge riser. The fine ash particles suspended in the water continue to settle and are deposited on the floor of the basin. Every few years, the accumulated fine ash particles are dredged from the open water area of the pond by a specialty contractor. The dredged material is stacked within the limits of the serpentine channel and allowed to drain by gravity. The drained material is then loaded onto dump trucks and transported to the UAP.

Dominion is in the process of converting all wet ash handing systems to dry handling systems and, therefore, will no longer be generating fly ash sluice water once this ash management conversion is completed and in operation.

Generating Units 3, 4, and 6 Bottom Ash Sluice Water. Bottom ash sluice water from Generating Units 3, 4, and 6 is pumped to a common discharge location at the north central area of the LAP. The bottom ash sluice water is deposited into a small pit cut into the previously deposited bottom ash and fly ash. Water entering the pit is filtered through the surrounding bottom ash and fly ash material, as it drains towards the open water area of the LAP.

The bottom ash is regularly dredged from the pit and stockpiled in an adjacent area. The material, having a relatively high permeability to water, requires little time to drain by gravity. The bottom ash material generated from the Station operations has an economic value as a beneficial use. Accordingly, the bottom ash material is sold to a third party, which collects, stores, and removes the material from the LAP site. Dominion is in the process of converting the once through bottom ash sluicing operations to a closed loop dewatering system and, therefore, will no longer generate this waste stream once this ash management conversion is completed and in operation.

Generating Unit 5 Bottom Ash Sluice Water. Bottom ash sluice water from Generating Unit 5 is pumped to a discharge location, which is separate, but directly adjacent to the discharge from Generating Units 3, 4, and 6. The bottom ash sluice water and bottom ash material from Generating Unit 5 are managed in the same manner as the material associated with Generating Units 3, 4, and 6. The Generating Unit 5 bottom ash sluice water will only temporarily be generated from CPS and discharged to the LAP. Dominion is in the process of converting the once through bottom ash sluicing operations to a closed loop management system and, therefore, will no longer generate this waste stream once this ash management conversion is completed and in operation.

Coal Pile Retention Basin Discharge. The Coal Pile Retention Basin collects storm water runoff from the Station's coal pile. The storm water is temporarily retained within the basin where suspended particles are settled and effluent water is discharged by gravity through an outlet riser. The effluent water flows through an open swale, which then passes through a culvert underneath Coxendale Road, discharging into the northeastern corner of the LAP.

Master Sump Effluent. The Master Sump is a collection point for various low volume wastewater streams and site storm water and is located within the power generating area of the Station. The wastewaters entering the Master Sump are discharged via pumps into the LAP. At the LAP, the pumped discharge enters a rectangular shaped sub-basin called the Master Retention Basin that is formed from previously deposited bottom ash and fly ash. At the Master Retention Basin, oil and grease deposits are collected using floating baffles. The discharge of the basin is directed to the larger area of the LAP for discharge through existing Outfall 004.

FGD Sump Effluent. The FGD Sump Effluent comprises the combined discharge from the flue gas desulfurization (FGD) wastewater treatment plant and from three yard sumps located around the FGD treatment plant. The FGD Sump discharge enters the Master Retention Basin and is eventually directed to the larger area of the LAP for discharge through existing Outfall 004. The FGD treatment plant effluent will pass through internal Outfall 302 prior to combining with the yard sump effluent and discharging to the LVWWTS.

S-Ditch Storm Water Runoff. The S-Ditch collects storm water from a significant portion of the station footprint, including portions of the rail yard and switching stations. During small precipitation events, the storm water runoff is pumped from the S-Ditch into the LAP at the same location as the fly ash sluice water. During large precipitation events, storm water runoff is directed to the thermal discharge channel.

Metals Pond Effluent. The Metals Pond is located to the west of the LAP. The pond is used for batch treatment via pH adjustment of non-chemical metal cleaning waste generated from the washing of boiler internals, air preheaters, ESP rinses, economizers, heat exchangers, and similar in-plant equipment. After treatment, the Metals Pond effluent is discharged via an 18-inch diameter pipe at the metals pond sump structure through internal Outfall 104, as currently identified in the VPDES permit, and into the LAP for ultimate discharge through existing VPDES Outfall 004. Internal Outfall 104 is being renamed internal Outfall 303 as part of this

VPDES permit modification application, and it will be relocated to the existing metals pond sump structure. Effluent from the metals pond will discharge from internal Outfall 303 to the LVWWTS.

Coxendale Road Storm Water Runoff. Coxendale Road runs parallel to the northern perimeter of the LAP, at a relatively constant elevation of 20 to 21 ft above mean sea level. Storm water runoff from the upgradient portions of Coxendale Road, generally located north and northwest of the LAP, is collected in a road side ditch and flows through a bermed channel into an 18-inch diameter HDPE culvert that discharges to the LAP.

A discharge located at the UAP that will be directed to the LVWWTS is UAP toe drain discharge. Two manholes exist at the UAP that provide groundwater level control and capture of potential seeps at the toe of the UAP slopes. Each manhole is equipped with a small submersible pump, and the pumps currently discharge the toe drain water through a forcemain into the perimeter channels of the UAP.

2.4.2 LAP Closure

The closure of the LAP will begin with significant site preparation activities including removal of vegetation, installation of sheet pile walls to separate site preparation activities from operations, construction of temporary construction access roads, and material stockpile. After the discharges described above are redirected to the LVWWTS, decanting of free water and dewatering will commence and will be discharged through existing Outfall 004. Subgrade construction will commence followed by cover system cap construction. The LAP cover system will consist of a flexible membrane liner overlain by a geocomposite drainage layer overlain by a 24-inch thick protective cover and vegetative support layer. Closure will also consist of construction of storm water controls, access roads, and a toe drain system located along the western embankment. After the ash is capped and a storm water management basin constructed, existing Outfall 004 will be decommissioned as a regulated VPDES outfall. A land disturbance permit and Virginia Stormwater Management Program permit will be obtained from Chesterfield County to govern construction storm water runoff that will be managed through the proposed storm water management basin. Any discharge from the LAP toe drain systems, including capture of potential seeps, will be directed to the LVWWTS.

2.5 Low Volume Wastewater Treatment System (Internal Outfall 301)

The LVWWTS is designed to manage the waste streams listed in Section 1.3 for Outfall 301. Fly ash and bottom ash sluice water discharges will cease after completion of the wet-to-dry ash conversion project. Coxendale Road storm water runoff will be rerouted to a general storm water outfall. New wastewater streams to the LVWWTS include bottom ash handling area runoff, leachate and contact storm water from the FFCP Management Facility (including fly ash management area runoff), and the LAP and UAP toe drain discharges. The following sections provide a general description of the LVWWTS.

2.5.1 LVWWTS Components

All waste streams enter the LVWWTS through a splitter box that directs flow into one of two fore bays for solids and oil and grease removal. Discharge pH will be measured in the fore bay with adjustment occurring after discharge from the fore bay and prior to discharge into a storage basin. The storage basin is divided into two sides to allow for maintenance on one side while keeping the basin in operation. Discharge from the basin will be controlled by high, mid, and low level discharge pipes that combine into a discharge riser structure. The effluent discharges from the riser to a sampling manhole located on the bank of the thermal discharge channel and then to a diffuser located in the thermal discharge channel. New internal Outfall 301 is located at the sampling manhole.

2.5.2 Upstream Inputs

As part of the LVWWTS construction, existing discharge pipes for the master sump, FGD sump (Outfall 302 will be located in the FGD Treatment Plant prior to combining with the FGD yard sumps), S-Ditch lift station, and UAP toe drain discharge lines will be rerouted to the LVWWTS. The metals pond will be modified with a new lift station to allow the pumping of the metals pond discharge to the LVWWTS. The new metals pond internal Outfall 303 will be relocated from the existing sampling manhole to the new lift station. Leachate and contact storm water from the FFCP Management Facility and fly ash silos will be pumped to the LVWWTS. The existing coal pile retention basin will be decommissioned and replaced with a basin to the east of the coal pile and will provide sufficient capacity to manage a 25-year, 24-hour storm event. A lift station will pump coal pile runoff from the basin to the LVWWTS. The LAP toe drain system will collect groundwater into two manholes using perforated toe collectors along the western embankment. Water will be pumped from each manhole to the LVWWTS.

3. IAP SEQUENCE OVERVIEW

The IAP will require coordination of the projects described in Section 1.2. Each of the projects is significantly interrelated and timely completion of each project is critically important. Appendix 1 contains a graphical representation of the construction sequencing of the IAP by project. Included in the overview are milestones for permits needed for construction and operation of the FFCP Management Facility, construction of the LAP closure, construction of the UAP closure, and operation of the LVWWTS. Construction of the FFCP Management Facility, wet-to-dry conversion, and LVWWTS are anticipated to be completed and in operation around September 2017. Closure of the LAP and UAP is anticipated to be completed late 2018.

4. REGULATORY OVERVIEW AND EFFLUENT STANDARDS

Dominion is proceeding with the conversion of the Station's ash management system from a wet sluice system to dry ash handing and plans to close both the UAP and LAP by the end of 2018. The closure of the LAP requires Dominion to construct and operate a separate low volume

wastewater treatment system. This section presents the regulatory framework that requires this work.

4.1 Regulatory Overview

EPA has promulgated a new Coal Combustion Residual (CCR) rule and has proposed new ELGs for the steam-electric power generating point source category. The new CCR rule was promulgated on April 17, 2015 in 40 CFR Parts 257 and 261 and called the "Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule". These regulations govern the UAP and LAP closure process as described in this narrative. The proposed ELGs, when finalized, will establish uniform national technology-based treatment standards for different identified wastewater streams at steam-electric power generating facilities. Since the generating units at the Station are existing units, nothing in the IAP will trigger new source performance standards. Even though the FFCP Management Facility will be newly constructed, it will not meet the "new source" criteria in 40 CFR 122.29 because: (1) it is not being constructed at a site at which no other source is located; (2) it will not totally replace the process or production equipment that causes the discharge at an existing source; and (3) its processes are not substantially independent of any existing source at the same site.

4.2 Decanting and Dewatering

During LAP closure, Dominion will maintain operation of the current ash management system through approximately September 2017, and decanting of Areas 3 and 4 is expected to occur through early 2018. Therefore, Dominion intends to utilize existing VPDES Outfall 004 as a discharge point as currently permitted through mid-2018, and will maintain water quality to ensure compliance with the current VPDES permit discharge limitations.

After September 2017, free water remaining in the LAP will be decanted or dewatered through existing Outfall 004 in preparation for closure construction activities. Dominion has collected water quality data representative of dewatering activities. These data are provided as an attachment for information purposes only. Samples of water from the ash pore space were collected during a pump test conducted at the LAP, and the sample results are representative of worst case conditions for decanting and typical conditions for dewatering. Analytical data from the pump test are presented in Appendix 2. Dominion will obtain all necessary regulatory approvals from DEQ before initiating any dewatering discharges.

APPENDIX 1

IAP Construction Sequence Overview

INTEGRATED ASH PROJECT
CONSTRUCTION SEQUENCE OVERVIEW

Item	2015	2016				2017				2018			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
All Projects													
Mobilization													
Receive Modified/Renewed VPDES Permit from DEQ	x												
Station Ash Management Conversion Outage								x					
FFCP Management Facility													
Begin Site Preparation													
Construct Base Liner, Leachate Management System, and other Support Systems													
Complete construction, receive CTO from DEQ, begin receiving ash								x					
Wet-to-Dry Conversion													
Begin Pre-Outage Construction													
Continue Pre-outage Construction, including Bottom Ash Handling Area													
Complete pre-outage construction of wet-to-dry ash conversion, complete outage tie-ins, and commission/startup dry ash and bottom ash management systems								x					
Upper Ash Pond Closure													
Site Preparation Activities													
Cap construction in Areas 1, 2 and 3													
Receive Closure Plan modification approval from DEQ		x											
Complete Areas 1, 2, and 3 construction, complete Area 4 construction													
Begin construction of storm water controls													
Continue construction of storm water controls													
Complete construction of storm water controls and begin capping construction in Area 5													
Complete construction of UAP Closure. Decommission existing Outfall 005 as a VPDES regulated outfall.													x
Lower Ash Pond Closure													
Initial Site Preparation Activities													
Continue Site Preparation in Areas 1 and 2													
Receive Solid Waste Permit from DEQ							x						
Complete cap construction in portions of Areas 1 and 2													
Conduct cap construction in Area 4.													
Receive Land Disturbance Permit, as needed, from Chesterfield County									x				
Conduct decanting water in Areas 3 and 4.													
Complete capping in portion of Area 4. Begin subgrade construction in Area 3 for LAP closure. Begin construction of new storm water management basin.													
Complete construction of new storm water management basin. Decommission existing Outfall 004 as a VPDES regulated outfall.													
Continue cap construction in Area 3 and portions of Areas 1, 2, and 4 for LAP closure													
Complete closure of LAP													x
Low Volume Wastewater Treatment System													
Begin Site Preparation													
Construct pipe systems, lift stations, fore bays, storage basin, and discharge structures and piping													
Complete construction of the LVWWTS, commission and startup LVWWTS													
Begin receiving wastewater streams through LVWWTS and discharging through Outfall 301								x					

x - Represents milestone

APPENDIX 2

DEWATERING TEST ANALYTICAL DATA

Table 1 Dewatering Results Dominion Power Chesterfield Power Station		Units	RL	Location	DW P-TEST			
				Field ID	DW_P_TEST_12_05_15_S1	DW_P-TEST_06_05_15	DW_P-TEST_13_05_15_S1	DW-P-TEST-05-05-15
				Date	5/12/2015	5/6/2015	5/13/2015	5/5/2015
Inorganics	Total Organic Carbon	mg/L	1		3.1	3	-	3.3
	Nitrate (as N)	mg/L	0.1		0.018J	0.017J	-	0.02J,B
	Nitrite (as N)	mg/L	0.024		<0.024U	<0.024U	-	<0.024U
General Che	Biochemical Oxygen Demand	mg/L	2		<2U	<2U,H	<2U	<2U,cn
	Chemical Oxygen Demand	mg/L	2		4.1J	11	<2U	13
	Total Suspended Solids	mg/L	1		12	12	4.6	16
	Ammonia as N	mg/L	0.1		0.56	0.56	-	0.65
	pH (Lab)	SU	0.1		7.95HF	8.05HF	7.99HF	7.82HF
	Bromide	mg/L	0.5		2.2	2.4	2.3	2.5
	Chlorine, Total Residual	mg/L			0.01	-	0.02	0.01
	Fluoride	mg/L	0.1		2.5	2.8	2.5F1	2.9
	Total Kjeldahl Nitrogen	mg/L	1.7		<1.7U	<1.7U	<1.7U	<1.7U
	Phosphorus	mg/L	0.1		0.8	0.7	0.86	0.73
	Sulfate	mg/L	1		140	120	130	120
	Sulfide	mg/L	3		1.1J	1.3J	1.2J	1.4J
	Cyanide (Total)	mg/L	0.0025		<0.0025U	<0.0025U	<0.0025U	<0.0025U
	Specific Conductivity (lab)	µS/cm	1		1,100	970	1,100	1,000
	Alkalinity (Bicarbonate as CaCO3)	mg/L	5		450B	-	480B	390B
	Alkalinity (Carbonate as CaCO3)	mg/L	0.41		<0.41U	-	<0.41U	<0.41U
	Alkalinity (total) as CaCO3	mg/L	5		450B	450B	480B	390B
	Ammonia	mg/L	0.1		-	-	0.41	-
	Carbon	mg/L	1		-	-	3.1	-
	Chloride	mg/L	1		48	42	46	40
	Hardness as CaCO3	mg/L	25		-	-	580	560
	Hardness as CaCO3 (Filtered)	mg/L	33		-	-	580	-
	Nitrate	mg/L	0.1		-	-	0.013J,H,B	-
	Nitrite	mg/L	0.024		-	-	<0.024U,H	-
	Total Dissolved Solids	mg/L	10		760	690	750	680
	Turbidity	NTU	0.85		23	22H	23	51
Metals	Aluminium	mg/L	0.2		0.12J	0.17J	0.13J,B	0.83
	Aluminium (Filtered)	mg/L	0.03		0.02J	-	0.18J,B	2.2
	Barium	mg/L	0.2		0.58	0.55	0.59	0.58
	Barium (Filtered)	mg/L	0.01		0.47	-	0.59	0.6
	Boron	mg/L	0.2		4.6B	4.8	4.7	5.1
	Boron (Filtered)	mg/L	0.005		3.9B	4.9	4.7	5
	Cobalt	mg/L	0.05		0.0013J	0.0015J,B	0.0014J,B	0.0019J,B
	Cobalt (Filtered)	mg/L	0.0005		0.0012B	-	0.0013J,B	0.003J,B
	Iron	mg/L	0.1		4.2	3.9	3.8B	4.1
	Iron (Filtered)	mg/L	0.0057		<0.0057U	<0.0095U	4B	<0.0095U
	Magnesium	mg/L	5		38	35	38	37
	Magnesium (Filtered)	mg/L	0.5		35	35	38	35
	Molybdenum	mg/L	0.04		0.8B	0.79B	0.81	0.82B
	Molybdenum (Filtered)	mg/L	0.005		0.74	-	0.81	0.79B
	Manganese	mg/L	0.015		0.32	0.28	0.31B	0.28
	Manganese (Filtered)	mg/L	0.005		0.31B	0.14B	0.31B	0.23B
	Antimony	mg/L	0.0016		<0.0016U	<0.0016U	<0.0016U	<0.0016U
	Antimony (Filtered)	mg/L	0.0016		0.00026J	-	<0.0016U	<0.0016U
	Arsenic	mg/L	0.01		1.5	1.5	1.5	1.5
	Arsenic (Filtered)	mg/L	0.001		0.71	0.66	1.6	0.7
	Beryllium	mg/L	0.00012		<0.00012U	<0.00012U	<0.00012U	0.00021J

	Beryllium (Filtered)	mg/L	0.000036	<0.000036U	-	<0.00012U	0.00058J
	Cadmium	mg/L	0.00013	<0.00013U	<0.00027U	<0.00027U	<0.00027U
	Cadmium (Filtered)	mg/L	0.00013	0.00034J	<0.00013U	<0.00027U	<0.00013U
	Chromium (Total)	mg/L	0.00077	<0.00077U	0.0008J	<0.00077U	0.0014J
	Chromium (Total) (Filtered)	mg/L	0.00077	0.00055J	<0.00077U	<0.00077U	<0.00077U
	Chromium (Hexavalent)	mg/L	0.0019	0.0026J	<0.0019U	<0.0019U,H	<0.0019U
	Copper	mg/L	0.0015	<0.0015U	<0.0015U	0.0024J	0.0037J
	Copper (Filtered)	mg/L	0.0015	0.00051J	<0.0015U	<0.0015U	<0.0015U
	Lead	mg/L	0.0012	<0.0012U	<0.0012U	<0.0012U	<0.0012U
	Lead (Filtered)	mg/L	0.001	0.000071J,B	<0.0012U	<0.0012U	<0.0012U
	Mercury	mg/L	0.000031	<0.000031U	<0.000031U	<0.000031U	<0.000031U
	Mercury (Filtered)	mg/L	0.000031	-	<0.000031U,H	<0.000031U	-
	Nickel	mg/L	0.04	0.0037J,B	0.0032J	0.0032J	0.0046J
	Nickel (Filtered)	mg/L	0.001	0.0033	0.0026J	0.0041J	0.0023J
	Selenium	mg/L	0.0039	0.0062J	0.0063J	<0.0039U	0.0057J
	Selenium (Filtered)	mg/L	0.0039	0.00046J	0.0063J	<0.0039U	0.0056J
	Silver	mg/L	0.00073	<0.00073U	<0.00073U	<0.00073U	<0.00073U
	Silver (Filtered)	mg/L	0.000047	<0.000047U	-	<0.00073U	<0.00073U
	Thallium	mg/L	0.0018	0.0023J	<0.0018U	<0.0018U	<0.0018U
	Thallium (Filtered)	mg/L	0.000013	<0.000013U	0.0018J,B	<0.0018U	0.0021J,B
	Zinc	mg/L	0.02	0.0043J	0.012J	0.0039J	0.012J
	Zinc (Filtered)	mg/L	0.005	0.0019J	0.0024J,B	0.0069J	0.0015J,B
	Calcium	mg/L	5	170	160	170	160
	Calcium (Filtered)	mg/L	0.5	160B	140	170	150
	Lithium	mg/L	0.05	0.1	0.088	0.1	0.088
	Lithium (Filtered)	mg/L	0.05	0.1	-	0.1	0.089
	Potassium	mg/L	5	3.6J,B	2.4J	2.9J	2.6J
	Potassium (Filtered)	mg/L	0.5	2.4	-	3J	2.8J
	Sodium	mg/L	5	12	8.9	11	8.5
	Sodium (Filtered)	mg/L	0.5	11	-	12	8.3
Pesticides	Aldrin	µg/L	0.00078	<0.00083U	<0.00078U	<0.00078U	<0.0008U
	a-BHC	µg/L	0.00062	<0.00066U	0.0012	<0.00062U	<0.00063U
	b-BHC	µg/L	0.00094	<0.001U	<0.00094U	<0.00094U	<0.00096U
	g-BHC (Lindane)	µg/L	0.00075	<0.0008U	<0.00075U	<0.00075U	<0.00077U
	d-BHC	µg/L	0.00036	<0.00038U	0.00095J	<0.00036U	<0.00037U
	chlordane	µg/L	0.0016	<0.0017U	<0.0016U	<0.0016U	<0.0016U
	DDT	µg/L	0.0007	<0.00074U	<0.0007U	<0.0007U	<0.00071U
	4,4-DDE	µg/L	0.00075	<0.00079U	<0.00075U	<0.00075U	<0.00076U
	DDD	µg/L	0.00063	<0.00067U	<0.00063U	<0.00063U	<0.00064U
	Dieldrin	µg/L	0.00077	<0.00082U	<0.00077U	<0.00077U	<0.00079U
	Endosulfan I	µg/L	0.00089	<0.00094U	<0.00089U	<0.00089U	<0.0009U
	Endosulfan II	µg/L	0.00092	<0.00098U	<0.00092U	0.00093J,p	<0.00094U
	Endosulfan sulphate	µg/L	0.00054	<0.00057U	<0.00054U	<0.00054U	<0.00055U
	Endrin	µg/L	0.00091	<0.00096U	<0.00091U	<0.00091U	<0.00092U
	Endrin aldehyde	µg/L	0.00085	<0.0009U	<0.00085U	<0.00085U	<0.00087U
	Heptachlor	µg/L	0.00093	<0.00099U	<0.00093U	<0.00093U	<0.00095U
	Heptachlor epoxide	µg/L	0.00092	<0.00097U	<0.00092U	<0.00092U	<0.00093U
	Arochlor 1242	µg/L	0.0018	<0.0019U	<0.0018U	<0.0018U	<0.0028U
	Arochlor 1254	µg/L	0.0013	<0.0014U	<0.0013U	<0.0013U	<0.0028U
	Arochlor 1221	µg/L	0.0023	<0.0025U	<0.0023U	<0.0023U	<0.0028U
	Arochlor 1232	µg/L	0.0028	<0.0029U	<0.0028U	<0.0028U	<0.0028U
	Arochlor 1248	µg/L	0.0021	<0.0023U	<0.0021U	<0.0021U	<0.0028U
	Arochlor 1260	µg/L	0.0013	<0.0014U	<0.0013U	<0.0013U	<0.0028U
	Arochlor 1016	µg/L	0.0024	<0.0025U	<0.0024U	<0.0024U	<0.0028U
	Toxaphene	µg/L	0.018	<0.019U	<0.018U	<0.018U	-
	Malathion	µg/L	0.021	<0.021U	<0.021U	<0.021U	<0.021U

	Methoxychlor	µg/L	0.00088	-	-	-	<0.00088U
	Mirex	µg/L	0.00045	<0.00048U	0.00055J	<0.00045U	<0.00046U
	Parathion	µg/L	0.031	<0.031U	<0.031U	<0.031U	<0.031U
Radioactive	Radium-226	pCi/L	0.0701	0.405	0.282	0.377	0.313
	Radium-228	pCi/L	0.329	0.457	<0.329U	0.417	<0.349U
SVOCs	2-chlorophenol	µg/L	0.17	<0.17U	<1.6U,*	<1.6U	<1.6U,*
	2,4-dichlorophenol	µg/L	0.033	<0.033U	<0.32U,*	<0.32U	<0.33U,*
	2,4-dimethylphenol	µg/L	0.085	<0.085U	<0.8U,*	<0.8U	<0.84U,*
	4,6-Dinitro-2-methylphenol	µg/L	0.22	<0.22U	<2.1U,*	<2.1U	<2.2U,*
	2,4-dinitrophenol	µg/L	0.61	<0.61U	<5.8U,*	<5.8U	<6U,*
	2-nitrophenol	µg/L	0.17	<0.17U	<1.6U	<1.6U	<1.7U
	4-nitrophenol	µg/L	0.65	<0.65U	<6.1U,*	<6.1U	<6.3U,*
	P-Chloro-M-Cresol	µg/L	0.075	<0.075U	<0.71U	<0.71U	<0.74U
	Pentachlorophenol	µg/L	0.066	<0.066U	<0.63U,*	<0.63U	<0.65U,*
	Phenol	µg/L	0.058	<0.058U	<0.55U,*	<0.55U	<0.57U,*
	2,4,6-trichlorophenol	µg/L	0.17	<0.17U	<1.7U	<1.7U	<1.7U
	Acenaphthene	µg/L	0.014	<0.014U	<0.14U	<0.14U	<0.14U
	Acenaphthylene	µg/L	0.15	-	-	-	<0.15U
	Anthracene	µg/L	0.015	<0.015U	<0.15U	<0.15U	<0.15U
	Benzidine	µg/L	3.5	<3.5U	<33U	<33U	<34U
	Benz(a)anthracene	µg/L	0.015	<0.015U	<0.14U	<0.14U	<0.14U
	Benzo(a) pyrene	µg/L	0.013	<0.013U	<0.13U	<0.13U	<0.13U
	3,4-Benzo-fluoranthene	µg/L	0.016	<0.016U	<0.15U	<0.15U	<0.15U
	Benzo(g,h,i)perylene	µg/L	0.015	<0.015U	<0.14U	<0.14U	<0.15U
	Benzo(k)fluoranthene	µg/L	0.055	<0.055U	<0.52U	<0.52U	<0.54U
	Bis(2-chloroethoxy) methane	µg/L	0.058	<0.058U	<0.55U	<0.55U	<0.57U
	Bis(2-chloroethyl)ether	µg/L	0.025	<0.025U	<0.24U,*	<0.24U	<0.25U,*
	Bis(2-chloroisopropyl) ether	µg/L	0.02	<0.02U	<0.19U	<0.19U	<0.19U
	Bis(2-ethylhexyl) phthalate	µg/L	1.3	<1.3U	<12U	<12U	<12U
	4-bromophenyl phenyl ether	µg/L	0.064	<0.064U	<0.6U	<0.6U	<0.62U
	Butyl benzyl phthalate	µg/L	0.14	<0.14U	<1.3U	<1.3U	<1.4U
	2-chloronaphthalene	µg/L	0.015	<0.015U	<0.14U	<0.14U	<0.15U
	4-chlorophenyl phenyl ether	µg/L	0.05	<0.05U	<0.47U	<0.47U	<0.49U
	Chrysene	µg/L	0.014	<0.014U	<0.13U	<0.13U	<0.14U
	Dibenz(a,h)anthracene	µg/L	0.016	<0.016U	<0.15U	<0.15U	<0.15U
	3,3-Dichlorobenzidine	µg/L	0.11	<0.11U	<1.1U	<1.1U	<1.1U
	Diethylphthalate	µg/L	0.15	<0.15U	<1.4U	<1.4U	<1.4U
	Dimethyl phthalate	µg/L	0.077	<0.077U	<0.72U	<0.72U	<0.75U
	Di-n-butyl phthalate	µg/L	0.12	<0.12U	<1.2U	<1.2U	<1.2U
	2,4-Dinitrotoluene	µg/L	0.054	<0.054U	<0.51U,*	<0.51U	<0.53U,*
	2,6-dinitrotoluene	µg/L	0.08	<0.08U	<0.75U	<0.75U	<0.78U
	Di-n-octyl phthalate	µg/L	0.21	<0.21U	<1.9U,*	<1.9U	<2U,*
	Diphenylhydrazine	µg/L	0.066	<0.066U	<0.62U	<0.62U	<0.65U
	Fluoranthene	µg/L	0.016	<0.016U	<0.15U	<0.15U	<0.16U
	Fluorene	µg/L	0.022	<0.022U	<0.2U	<0.2U	<0.21U
	Hexachlorobenzene	µg/L	0.018	<0.018U	<0.17U	<0.17U	<0.18U
	Hexachlorobutadiene	µg/L	0.017	<0.017U	<0.16U	<0.16U	<0.16U
	Hexachlorocyclopentadiene	µg/L	0.052	<0.052U	<0.49U,*	<0.49U	<0.51U,*
	Hexachloroethane	µg/L	0.063	<0.063U	<0.59U,*	<0.59U	<0.62U,*
	Indeno(1,2,3-c,d)pyrene	µg/L	0.02	<0.02U	<0.19U	<0.19U	<0.2U
	Isophorone	µg/L	0.064	<0.064U	<0.61U	<0.61U	<0.63U
	Naphthalene	µg/L	0.014	<0.014U	<0.13U	<0.13U	<0.14U
	Nitrobenzene	µg/L	0.084	<0.084U	<0.8U	<0.8U	<0.83U
	N-Nitrosodimethylamine	µg/L	0.074	<0.074U	<0.69U,*	<0.69U	<0.72U,*
	N-nitrosodi-n-propylamine	µg/L	0.031	<0.031U	<0.29U	<0.29U	<0.3U
	n-Nitrosodiphenylamine	µg/L	0.085	<0.085U	<0.8U	<0.8U	<0.84U

	Phenanthrene	µg/L	0.043	<0.043U	<0.4U	<0.4U	<0.42U
	Pyrene	µg/L	0.016	<0.016U	<0.15U	<0.15U	<0.15U
	1,2,4-trichlorobenzene	µg/L	0.071	<0.071U	<0.67U	<0.67U	<0.7U
	Aroclor 1262	µg/L	0.0028	-	-	-	<0.0028U
	SVOCs						
	Azinophos methyl	µg/L	0.021	<0.022U	<0.022U	<0.021U	<0.022U
	Chlorpyrifos	µg/L	0.019	<0.019U	<0.019U	<0.019U	<0.02U
	Demeton (total)	µg/L	0.031	<0.031U	<0.031U	<0.031U	<0.032U
	Diazinon	µg/L	0.018	<0.018U	<0.018U	<0.018U	<0.018U
	Kepone	µg/L	0.97	<0.97U,cn	<9.1U	<9.1U,cn	<9.5U
	PCBs (Sum of total)	µg/L	0.0028	-	-	-	<0.0028U
	Arochlor 1268	mg/L	0.0000028	-	-	-	<0.0000028U
VOCs	Accrolein	µg/L	2.6	<2.6U	<2.6U	<2.6U	<4.5U
	Acrylonitrile	µg/L	0.55	<0.55U	<0.55U	<0.55U	<6.3U
	Benzene	µg/L	0.11	<0.11U	<0.11U	<0.11U	<0.35U
	Bromoform	µg/L	0.19	<0.19U	<0.19U	<0.19U	<0.56U
	Carbon tetrachloride	µg/L	0.14	<0.14U	<0.14U	<0.14U	<0.43U
	Chlorobenzene	µg/L	0.14	<0.14U	<0.14U	<0.14U	<0.25U
	Chlorodibromomethane	µg/L	0.14	<0.14U	<0.14U	<0.14U	<0.43U
	Chloroethane	µg/L	0.21	<0.21U	<0.21U	<0.21U	<0.32U
	2-Chloroethylvinyl ether	µg/L	0.25	<0.25U	<0.25U	<0.25U	<0.59U
	Chloroform	µg/L	0.17	<0.17U	<0.17U	<0.17U	<0.25U
	Dichlorobromomethane	µg/L	0.13	<0.13U	<0.13U	<0.13U	<0.29U
	1,1-dichloroethane	µg/L	0.12	<0.12U	<0.12U	<0.12U	<0.3U
	1,2-dichloroethane	µg/L	0.21	<0.21U	<0.21U	<0.21U	<0.23U
	1,1-dichloroethene	µg/L	0.3	<0.3U	<0.3U	<0.3U	<0.45U
	1,2-dichloropropane	µg/L	0.095	<0.095U	<0.095U	<0.095U	<0.25U
	Ethylbenzene	µg/L	0.23	<0.23U	<0.23U	<0.23U	<0.25U
	Methyl Bromide	µg/L	0.31	<0.31U	<0.31U	<0.31U	<0.44U
	Methyl Chloride	µg/L	0.28	<0.28U	<0.28U	<0.28U	<0.44U
	Methylene Chloride	µg/L	0.15	<0.15U	<0.15U	<0.15U	<0.33U
	1,1,2,2-tetrachloroethane	µg/L	0.2	<0.2U	<0.2U	<0.2U	<0.22U
	Tetrachloroethene	µg/L	0.15	<0.15U	<0.15U	<0.15U	<0.31U
	Toluene	µg/L	0.15	<0.15U	<0.15U	<0.15U	<0.23U
	1,2-Trans-dichloroethene	µg/L	0.17	<0.17U	<0.17U	<0.17U	<0.3U
	1,1,1-trichloroethane	µg/L	0.29	<0.29U	<0.29U	<0.29U	<0.44U
	1,1,2-trichloroethane	µg/L	0.2	<0.2U	<0.2U	<0.2U	<0.24U
	Trichloroethene	µg/L	0.14	<0.14U	<0.14U	<0.14U	<0.22U
	Vinyl chloride	µg/L	0.23	<0.23U	<0.23U	<0.23U	<0.29U
	1,2-dichlorobenzene	µg/L	0.15	<0.15U	<0.15U	<0.15U	<0.25U
	1,3-dichlorobenzene	µg/L	0.11	<0.11U	<0.11U	<0.11U	<0.19U
	1,4-dichlorobenzene	µg/L	0.21	<0.21U	<0.21U	<0.21U	<0.27U
	cis-1,3-dichloropropene	µg/L	0.19	<0.19U	<0.19U	<0.19U	<0.46U
	trans-1,3-dichloropropene	µg/L	0.15	<0.15U	<0.15U	<0.15U	<0.56U

Notes:

Qualifier	Explanation
U	Result is less than the sample detection limit.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Field parameter requested by the laboratory.
*	RPD of the LCS and LCSD exceeds the control limits
-	Not analyzed.

TABLES

Table 1

Average Daily Flow (Process Water)

Table 1 - Daily Average Flows

Date	FGD Sump (MGD)	Master Sump (MGD)	FGD WWTP (MGD)	Date	FGD Sump (MGD)	Master Sump (MGD)	FGD WWTP (MGD)	Date	FGD Sump (MGD)	Master Sump (MGD)	FGD WWTP (MGD)	Date	FGD Sump (MGD)	Master Sump (MGD)	FGD WWTP (MGD)	Date	FGD Sump (MGD)	Master Sump (MGD)	FGD WWTP (MGD)
02/23/15	1.31	1.90	0.10	03/31/15	1.33	3.47	0.07	04/23/15	Meter Down	2.15	0.00	05/09/15	0.57	1.60	0.05	05/25/15	Meter Down	3.41	0.00
02/24/15	2.86	1.75	0.33	04/01/15	0.91	3.53	0.15	04/24/15		2.34	0.00	05/10/15	0.34	2.00	0.03	05/26/15		3.53	0.32
02/25/15	2.75	3.04	0.34	04/02/15	0.72	3.42	0.12	04/25/15		2.27	0.00	05/11/15	0.41	2.22	0.03	05/27/15		3.44	0.31
02/26/15	2.45	2.04	0.33	04/03/15	1.51	3.44	0.33	04/26/15		2.25	0.05	05/12/15	0.37	3.02	0.02	05/28/15		3.88	0.14
02/27/15	1.90	2.23	0.30	04/04/15	0.81	3.24	0.16	04/27/15		2.16	0.18	05/13/15	0.45	3.13	0.04	05/29/15		3.86	0.13
02/28/15	1.23	2.07	0.17	04/05/15	Meter Down	3.28	0.04	04/28/15		2.30	0.03	05/14/15	0.61	3.58	0.08	05/30/15		3.96	0.06
03/01/15	0.39	1.80	0.19	04/06/15		3.34	0.27	04/29/15		2.19	0.00	05/15/15	0.13	3.63	0.00	05/31/15		4.01	0.14
03/02/15	2.15	2.48	0.16	04/07/15		3.28	0.00	04/30/15		1.86	0.00	05/16/15	0.64	3.05	0.06	06/01/15		3.67	0.03
03/03/15	0.62	2.15	0.10	04/08/15		3.01	0.06	05/01/15		2.28	0.00	05/17/15	1.13	3.28	0.18				
03/04/15	2.19	2.76	0.34	04/09/15		1.64	0.12	05/02/15		2.32	0.00	05/18/15	0.63	2.96	0.11				
03/05/15	3.71	2.70	0.31	04/10/15		2.98	0.02	05/03/15		2.72	0.00	05/19/15	0.90	3.09	0.13				
03/06/15	1.09	1.88	0.14	04/11/15		3.60	0.08	05/04/15		2.69	0.00	05/20/15	0.68	2.87	0.08				
03/07/15	1.29	2.55	0.24	04/12/15		3.19	0.00	05/05/15		0.14	0.00	05/21/15	1.00	3.56	0.00				
03/08/15	0.74	1.84	0.24	04/13/15		2.50	0.00	05/06/15		1.93	0.05	05/22/15	Meter Down	3.79	0.13				
03/09/15	1.46	2.00	0.35	04/21/15		2.20	0.00	05/07/15	0.56	1.93	0.09	05/23/15		3.05	0.24				
03/10/15	2.47	3.02	0.18	04/22/15		2.15	0.05	05/08/15	0.30	1.92	0.00	05/24/15		3.17	0.21				

	FGD Sump (MGD)	Master Sump (MGD)	FGD WWTP (MGD)	FGD Sump w/out WWTP (MGD)
Average Flow:	1.18	2.72	0.11	1.07
Maximum Daily Flow:	3.71	4.01	0.35	3.36

Table 2

Stormwater Runoff Volume Summary

Table 2 - Runoff Estimate

Drainage Area	Acres	Estimated Runoff (gallons) 1-inch	10-year	25-year
FGD Sump	10.8	206,589	1,536,715	1,683,023
Master Sump	22.9	438,270	435,469	3,567,096
Coal Pile	18.8	128,711	2,159,417	2,404,132
S-Ditch	71.9	785,628	3,257,537	10,089,664
Bottom Ash Dewatering Area	5	107,530	727,952	795,729
Total:	***129.4***	***1,666,728***	***8,117,090***	***18,539,644***

Total Daily Volume to LVWWTS: 9,235,608 gallons per day

9.24 MGD

APPENDICES

APPENDIX A

Hydrologic Calculations

PROCTORS CREEK

JAMES RIVER

DUTCH GAP BOAT RAMP

COAL PILE

COXENDALE ROAD

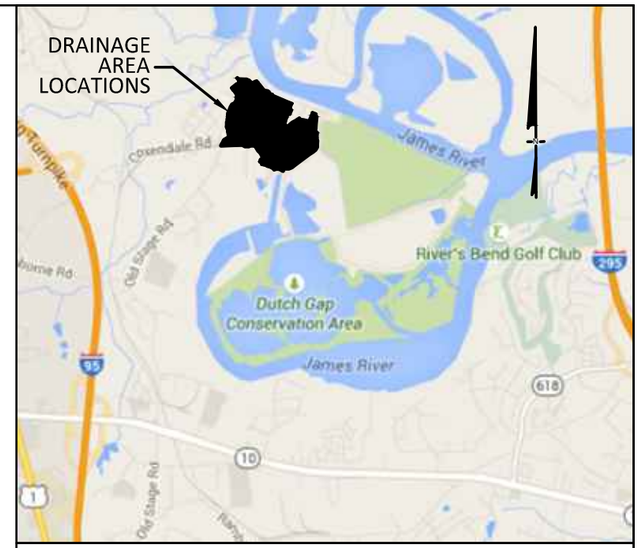
OLD STAGE ROAD

METALS POND

THERMAL DITCH

LOWER ASH POND

N



VICINITY MAP
SCALE 1"=5,000'

DRAINAGE AREA LEGEND

- FGD SUMP AREA (9.33 ACRES; 1.46 MG PER 25-YR STORM)
- MASTER SUMP AREA (22.87 ACRES; 3.57 MG PER 25-YR STORM)
- COAL PILE AREA (18.75 ACRES; 2.81 MG PER 25-YR STORM)
- SIERRA DITCH AREA (71.90 ACRES; 0.79 MG PER 1-INCH STORM)
- BOTTOM ASH DEWATERING AREA (9.21 ACRES; 1.21 MG PER 25-YEAR STORM)

Dominion®

0 400' 800'

SCALE IN FEET

FIGURE A
DRAINAGE AREA MAP
CHESTERFIELD POWER STATION
CHESTERFIELD COUNTY, VA

Geosyntec consultants

DATE: JUNE 2015	SCALE: 1" = 400'
PROJECT No.: MV1222	FILE No.: \PER FIGURES\1222f001.dwg
DOCUMENT No.:	FIGURE No.: A

Summary for Subcatchment 1S: FGD SUMP

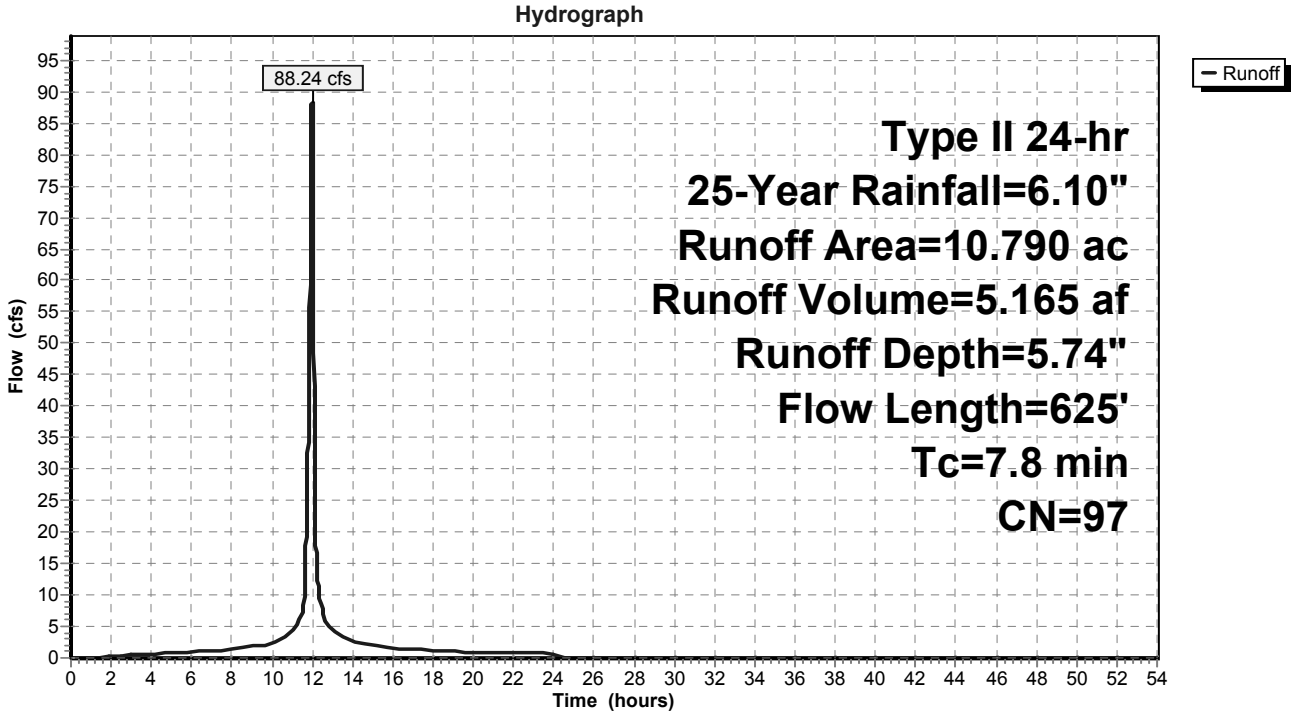
Runoff = 88.24 cfs @ 11.99 hrs, Volume= 5.165 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-54.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=6.10"

	Area (ac)	CN	Description
	1.190	89	<50% Grass cover, Poor, HSG D
*	9.600	98	Impervious Area, HSG D
	10.790	97	Weighted Average
	1.190		11.03% Pervious Area
	9.600		88.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	200	0.0100	1.25		**Sheet Flow, SHEET FLOW** Smooth surfaces n= 0.011 P2= 3.50"
5.1	425	0.0047	1.39		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Paved Kv= 20.3 fps
7.8	625	Total			

Subcatchment 1S: FGD SUMP



Summary for Subcatchment 2S: MASTER SUMP

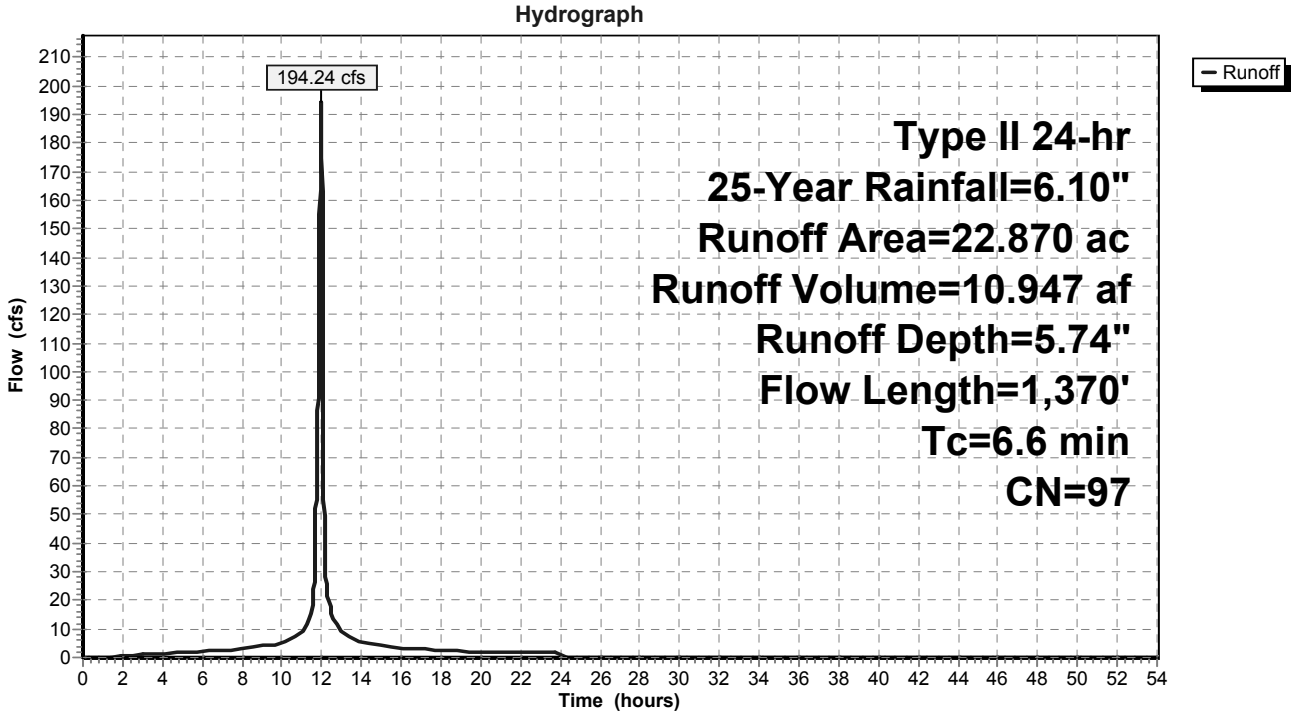
Runoff = 194.24 cfs @ 11.97 hrs, Volume= 10.947 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-54.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=6.10"

	Area (ac)	CN	Description
	1.580	89	<50% Grass cover, Poor, HSG D
*	21.290	98	Impervious Area, HSG D
	22.870	97	Weighted Average
	1.580		6.91% Pervious Area
	21.290		93.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	200	0.0300	1.94		**Sheet Flow, SHEET FLOW** Smooth surfaces n= 0.011 P2= 3.50"
2.9	295	0.0068	1.67		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Paved Kv= 20.3 fps
2.0	875	0.0469	7.47	11.95	**Channel Flow, CHANNEL FLOW** Area= 1.6 sf Perim= 12.4' r= 0.13' n= 0.011 Concrete pipe, straight & clean
6.6	1,370	Total			

Subcatchment 2S: MASTER SUMP



Summary for Subcatchment 3S: COAL PILE

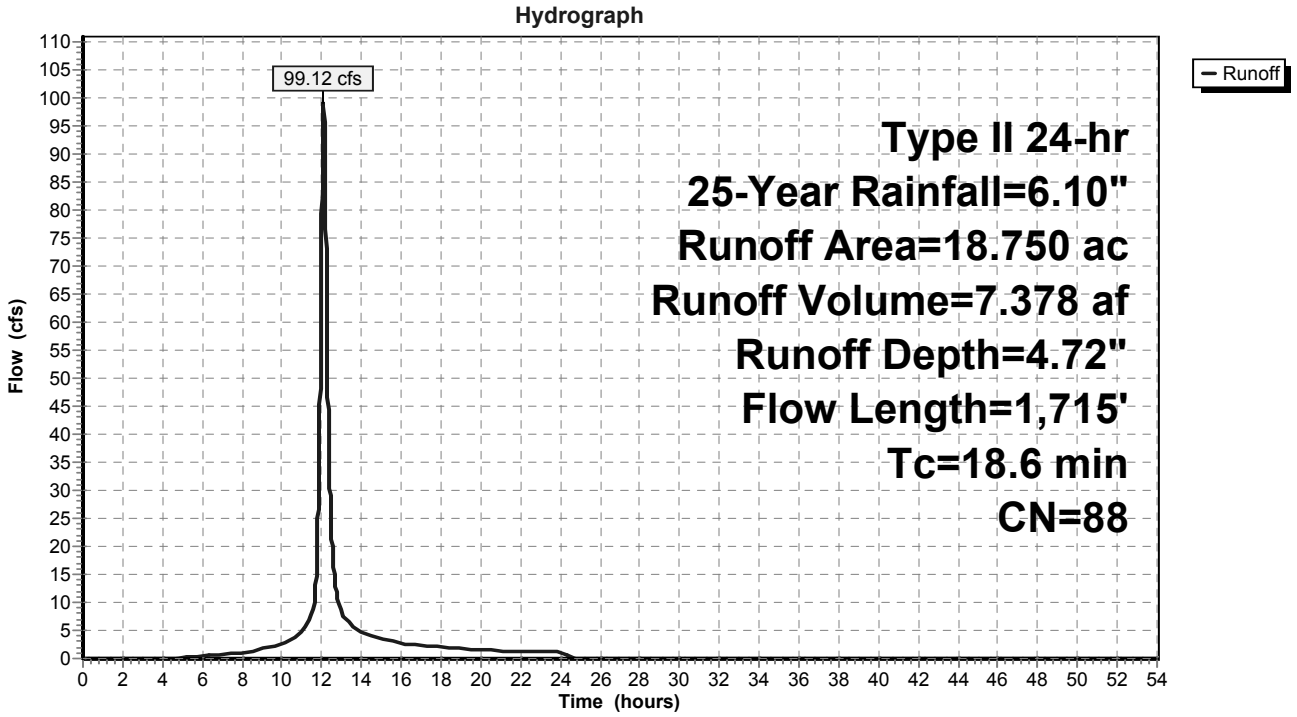
Runoff = 99.12 cfs @ 12.10 hrs, Volume= 7.378 af, Depth= 4.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-54.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=6.10"

	Area (ac)	CN	Description
	2.720	89	<50% Grass cover, Poor, HSG D
*	12.190	85	Coal Ash, HSG D
*	3.840	98	Impervious Area, HSG D
	18.750	88	Weighted Average
	14.910		79.52% Pervious Area
	3.840		20.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	200	0.0650	0.22		**Sheet Flow, SHEET FLOW** Grass: Dense n= 0.240 P2= 3.50"
0.9	190	0.1175	3.43		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Nearly Bare & Untilled Kv= 10.0 fps
2.5	790	0.0150	5.21	52.11	**Channel Flow, CHANNEL FLOW** Area= 10.0 sf Perim= 20.0' r= 0.50' n= 0.022
0.4	535	0.0224	19.85	389.79	**Pipe Channel, PIPE FLOW** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013
18.6	1,715	Total			

Subcatchment 3S: COAL PILE



Summary for Subcatchment 16S: BOTTOM ASH DEWATERING (Assumes just 5 acres)

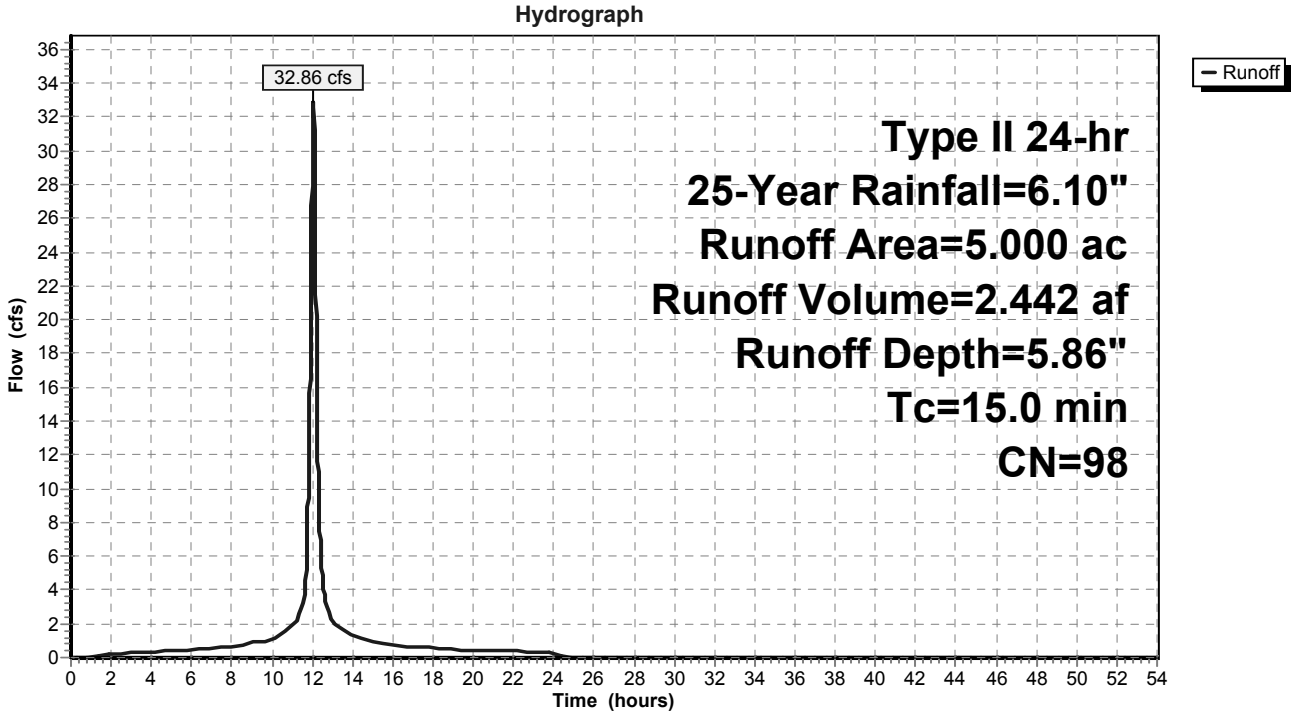
Runoff = 32.86 cfs @ 12.06 hrs, Volume= 2.442 af, Depth= 5.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-54.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=6.10"

	Area (ac)	CN	Description
	0.000	83	Woods, Poor, HSG D
*	5.000	98	<50% Grass cover, Poor, HSG D
*	0.000	98	Impervious Area, HSG D
	5.000	98	Weighted Average
	5.000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, DIRECT ENTRY (CMC ESTIMATION)**

Subcatchment 16S: BOTTOM ASH DEWATERING (Assumes just 5 acres)



Summary for Subcatchment 1S: FGD SUMP

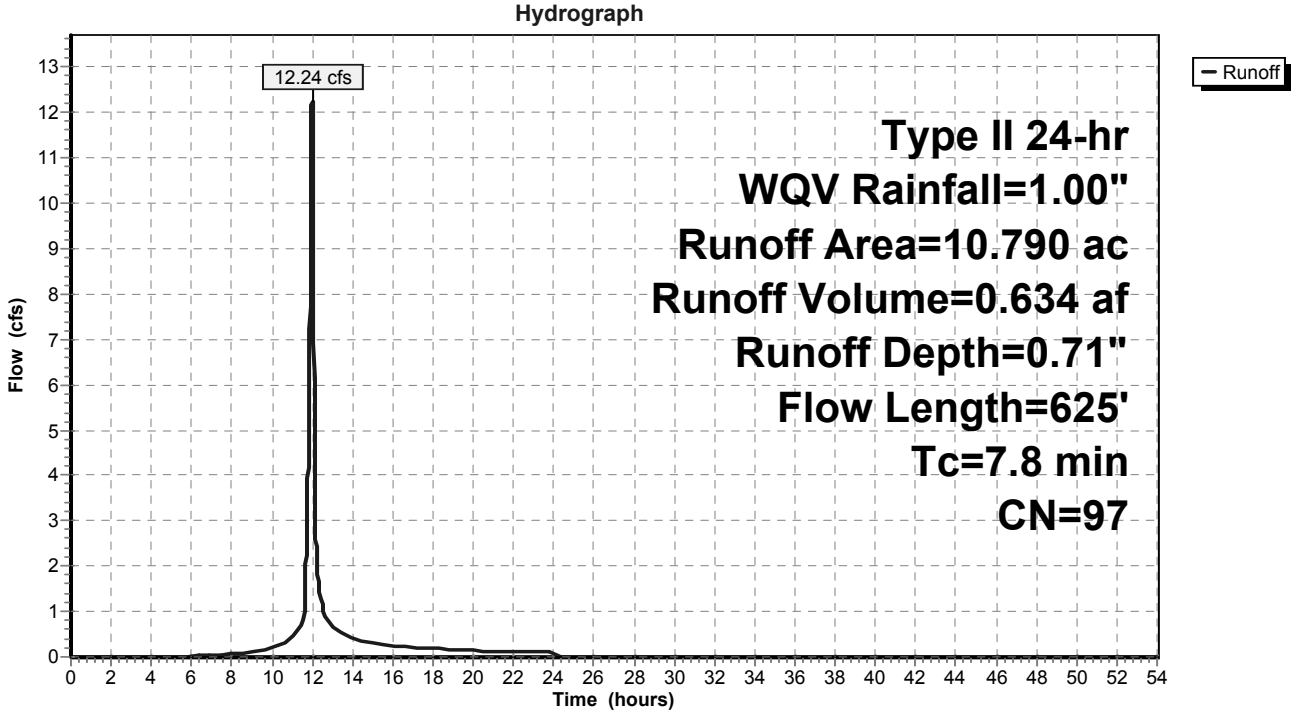
Runoff = 12.24 cfs @ 11.99 hrs, Volume= 0.634 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-54.00 hrs, dt= 0.01 hrs
Type II 24-hr WQV Rainfall=1.00"

	Area (ac)	CN	Description
	1.190	89	<50% Grass cover, Poor, HSG D
*	9.600	98	Impervious Area, HSG D
	10.790	97	Weighted Average
	1.190		11.03% Pervious Area
	9.600		88.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	200	0.0100	1.25		**Sheet Flow, SHEET FLOW** Smooth surfaces n= 0.011 P2= 3.50"
5.1	425	0.0047	1.39		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Paved Kv= 20.3 fps
7.8	625	Total			

Subcatchment 1S: FGD SUMP



Summary for Subcatchment 2S: MASTER SUMP

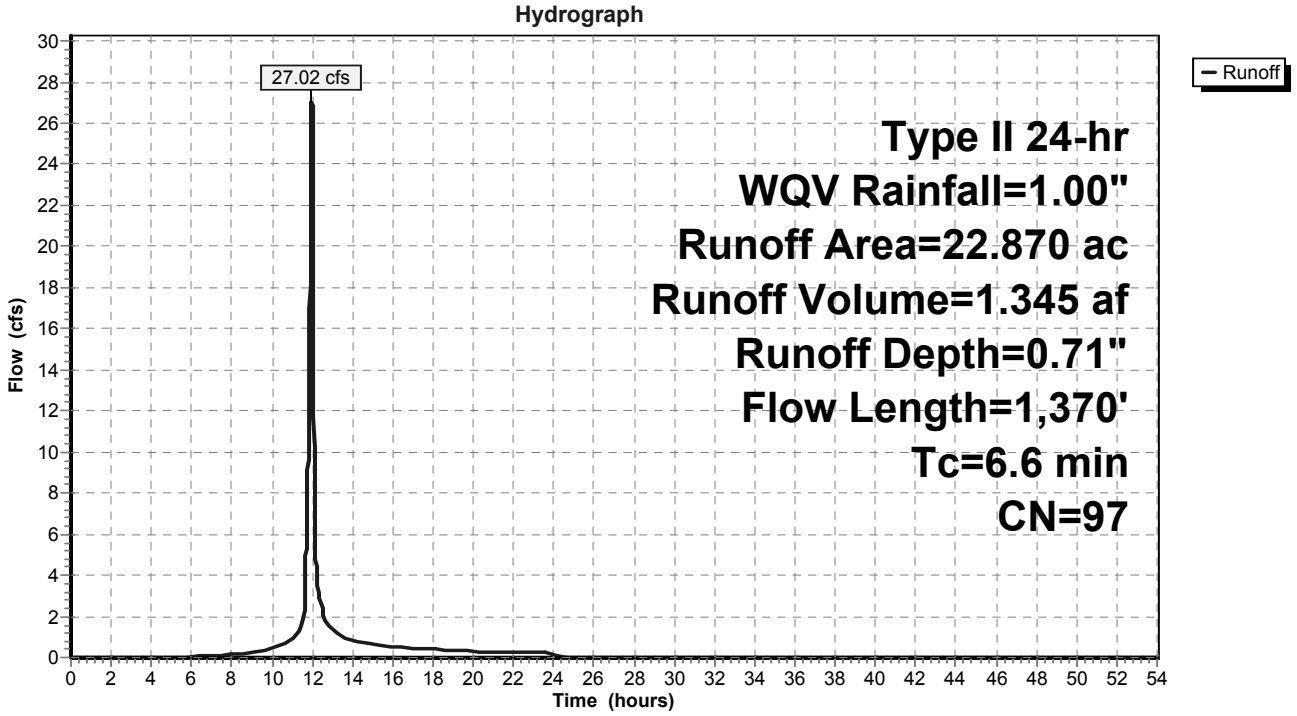
Runoff = 27.02 cfs @ 11.98 hrs, Volume= 1.345 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-54.00 hrs, dt= 0.01 hrs
Type II 24-hr WQV Rainfall=1.00"

	Area (ac)	CN	Description
	1.580	89	<50% Grass cover, Poor, HSG D
*	21.290	98	Impervious Area, HSG D
	22.870	97	Weighted Average
	1.580		6.91% Pervious Area
	21.290		93.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	200	0.0300	1.94		**Sheet Flow, SHEET FLOW** Smooth surfaces n= 0.011 P2= 3.50"
2.9	295	0.0068	1.67		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Paved Kv= 20.3 fps
2.0	875	0.0469	7.47	11.95	**Channel Flow, CHANNEL FLOW** Area= 1.6 sf Perim= 12.4' r= 0.13' n= 0.011 Concrete pipe, straight & clean
6.6	1,370	Total			

Subcatchment 2S: MASTER SUMP



Summary for Subcatchment 3S: COAL PILE

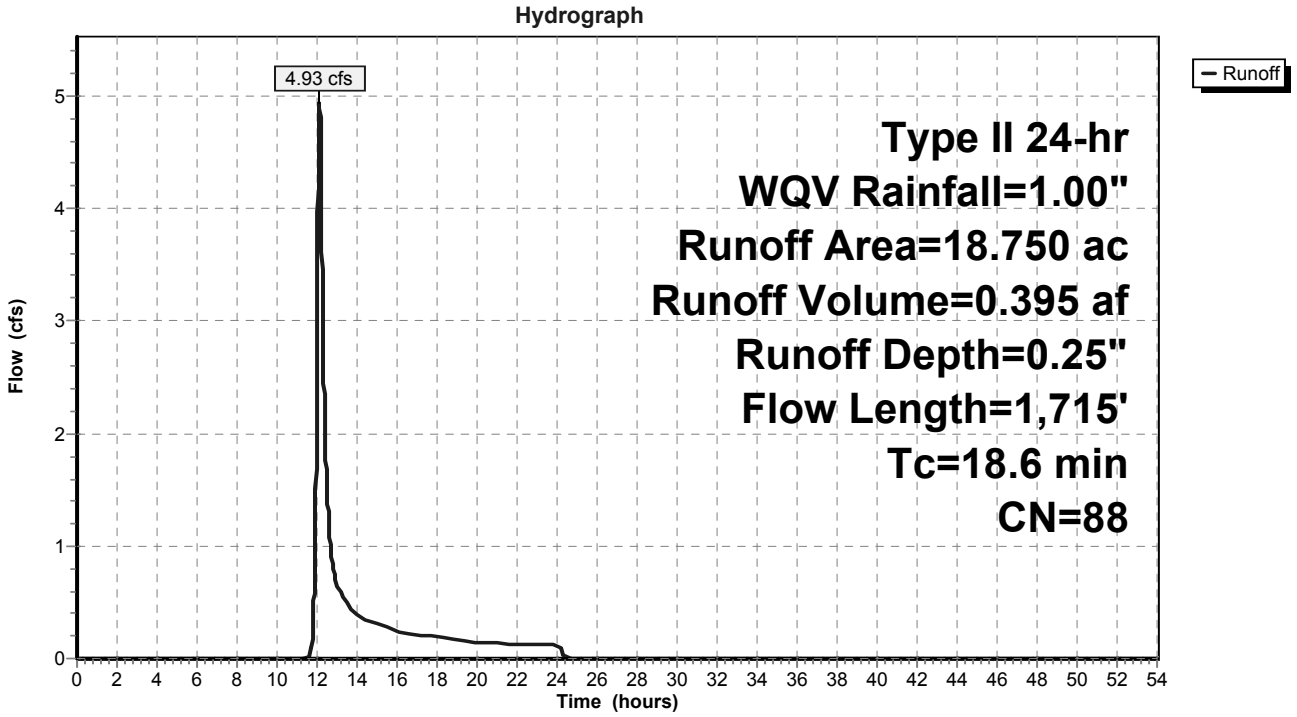
Runoff = 4.93 cfs @ 12.13 hrs, Volume= 0.395 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-54.00 hrs, dt= 0.01 hrs
Type II 24-hr WQV Rainfall=1.00"

	Area (ac)	CN	Description
	2.720	89	<50% Grass cover, Poor, HSG D
*	12.190	85	Coal Ash, HSG D
*	3.840	98	Impervious Area, HSG D
	18.750	88	Weighted Average
	14.910		79.52% Pervious Area
	3.840		20.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	200	0.0650	0.22		**Sheet Flow, SHEET FLOW** Grass: Dense n= 0.240 P2= 3.50"
0.9	190	0.1175	3.43		**Shallow Concentrated Flow, SHALLOW CONCENTRATED FLOW** Nearly Bare & Untilled Kv= 10.0 fps
2.5	790	0.0150	5.21	52.11	**Channel Flow, CHANNEL FLOW** Area= 10.0 sf Perim= 20.0' r= 0.50' n= 0.022
0.4	535	0.0224	19.85	389.79	**Pipe Channel, PIPE FLOW** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013
18.6	1,715	Total			

Subcatchment 3S: COAL PILE



Summary for Subcatchment 16S: BOTTOM ASH DEWATERING (Assumes just 5 acres)

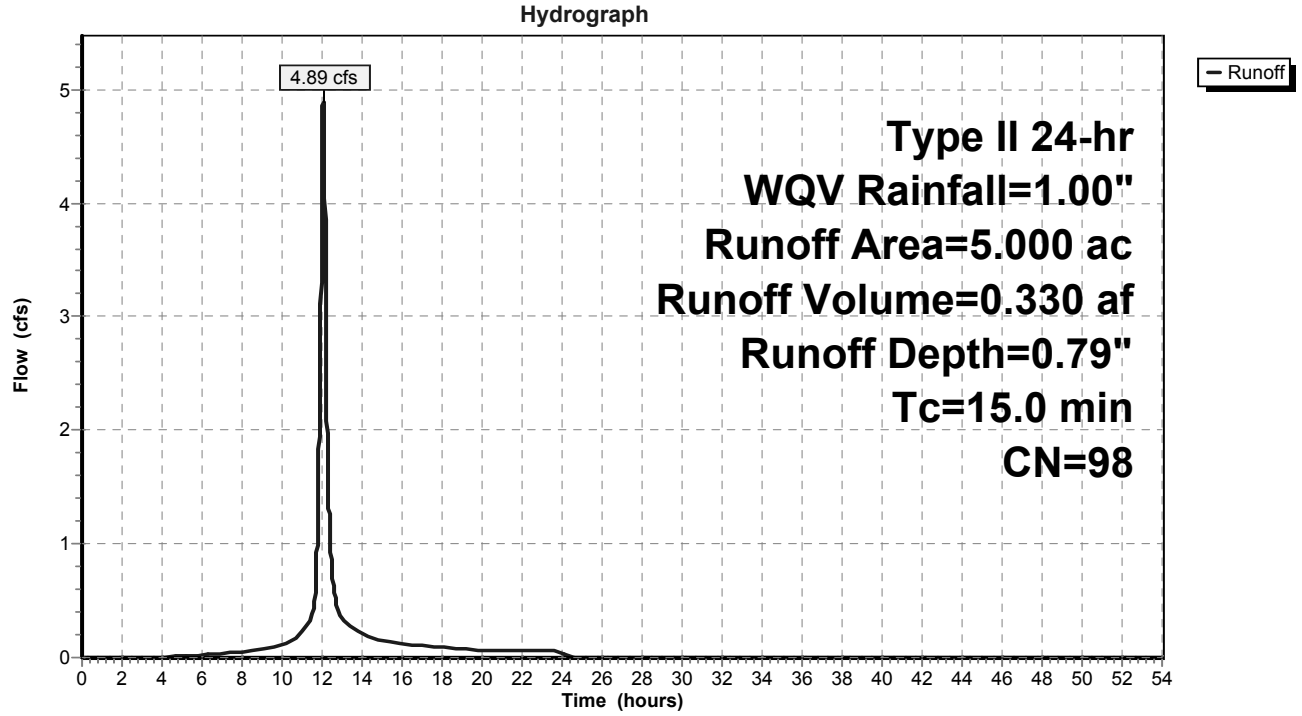
Runoff = 4.89 cfs @ 12.06 hrs, Volume= 0.330 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-54.00 hrs, dt= 0.01 hrs
Type II 24-hr WQV Rainfall=1.00"

	Area (ac)	CN	Description
	0.000	83	Woods, Poor, HSG D
*	5.000	98	<50% Grass cover, Poor, HSG D
*	0.000	98	Impervious Area, HSG D
	5.000	98	Weighted Average
	5.000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, DIRECT ENTRY (CMC ESTIMATION)**

Subcatchment 16S: BOTTOM ASH DEWATERING (Assumes just 5 acres)



APPENDIX B

Design Calculations

Geosyntec consultants

COMPUTATION COVER SHEET

Client: DVP Project: LVWWTS Project/ Proposal No.: MV1222 Task No.

Title of Computations: **ANALYSIS OF TOTAL SUSPENDED SOLIDS AND OIL-GREASE REMOVAL**

Computations by:	Signature		
	Printed Name	Andrew Copley	Date
	Title	Staff Engineer	
Assumptions and Procedures Checked by: (peer reviewer)	Signature		
	Printed Name	Mike Hayes	Date
	Title	Associate	
Computations Checked by:	Signature		
	Printed Name	Kyle LaClair	Date
	Title	Senior Engineer	
Computations backchecked by: (originator)	Signature		
	Printed Name		Date
	Title		
Approved by: (pm or designate)	Signature		
	Printed Name	Kyle LaClair	Date
	Title	Senior Engineer	

Approval notes:

Revisions (number and initial all revisions)

No.	Sheet	Date	By	Checked by	Approval

Written by: **A. Copley** Date: **06/18/15** Reviewed by: **M. Hayes** Date:

Client: **DVP** Project: **CPS-LVWWTS** Project No.: **MV1222** Task No.:

ANALYSIS OF TOTAL SUSPENDED SOLIDS AND OIL-GREASE REMOVAL

PURPOSE

The purpose of this calculation package is to provide the engineering calculations used for the design of the primary fore bays and oil-grease collection structure associated with the Low Volume Wastewater Treatment System (LVWWTS) at the Chester Power Station (the Station) located in Chester, Virginia. The calculations are intended to demonstrate the ability to settle total suspended solids (TSS) and remove sufficient oil and grease in accordance with the design criteria and input wastewater characteristics described herein.

PROCEDURE

Fore Bay Size Calculation

Stoke's Law, was used to calculate the settling velocity for distinct particles. The Stokes's Law Equation for terminal settling velocity includes the following equation:

$$v_p = \frac{g(sg_p - 1)d_p^2}{18\upsilon}$$

Where,

- v_p= terminal settling velocity, distinct particle
- g= gravity constant (32.2 ft/s^2)
- sg_p= specific gravity of particle
- d_p^2= diameter of particle
- υ= kinematic viscosity (1.091x10^{-5} ft^2/s, water[1])

To analyze the fore bay size options three (3) distinct particles were evaluated based on the type of potential matter in the wastewater inputs. These particles include coal fines,

[1] The definition of kinematic viscosity and the value selected for the calculations can be found in Appendix C of Metcalf and Eddy, the fourth reference under References.

bottom ash, and fly ash. Using Stoke's Law, the settling velocity, v_p, was determined for each distinct particle, which is also equivalent to the overflow rate[2]. Using the overflow rate and the continuity equation the surface area of the sediment basin is determined for each distinct particle.

$$A = \frac{Q}{v_c}$$

Where,

- Q = flowrate, ft^3/s (9,200 gpm maximum and 2,800 gpm average)
- A = surface of the sedimentation basin, ft^2
- v_c = particle settling velocity or overflow rate, ft/s

Below are tables summarizing the inputs and results as a function of distinct particle size and flow rate.

Table 1: Settling Area Required for Average Flow

Particle	d_p (meters)	sg	$v_{settling}$ (ft/s)	A (ft^2)
Coal Fine	0.0001	1.35	0.00624	1,000
Bottom Ash	0.0000146	3.2	0.000836	7,400
Fly Ash	0.0000146	2.5	0.00057	11,000

[2] More information on Discrete Particle Settling can be found on pg. 368 of Metcalf and Eddy.

Table 2: Settling Area Required for Maximum Flow

Particle	d_p (meters)	sg	$v_{settling}$ (ft/s)	A (ft^2)
Coal Fine	0.0001	1.35	0.00624	3,300
Bottom Ash	0.0000146	3.2	0.000836	24,550
Fly Ash	0.0000146	2.5	0.00057	36,000

Oil-Grease Collection Sizing

The oil-grease collection structure was sized using the maximum flow rate of 9,200 gallons per minute and a calculation spreadsheet from Hydro-Flo Technologies, Inc. The size of the basin for the oil removal system will be 35' W x 175' L x 10' D. The system will include an underflow and overflow baffle system 10 feet from the end of the basin to store water for a skimmer to remove oil and grease allowing clean water to flow into the discharge area where the water will flow to the storage basin.

RESULTS

It is recommended that each fore bay is sized to be 100' W x 370' L x 10' D. The settling area of 37,000 ft^2 is sufficient for settling of the particles of concern at the average daily flow and maximum daily flow. A 10' depth is recommended to provide 6' of height for storage of 6 months of solids at a TSS concentration of 500 mg/L, 2' of height for clean water to discharge, and freeboard for installation of a splitter box for flow diversion and an emergency overflow.

REFERENCES

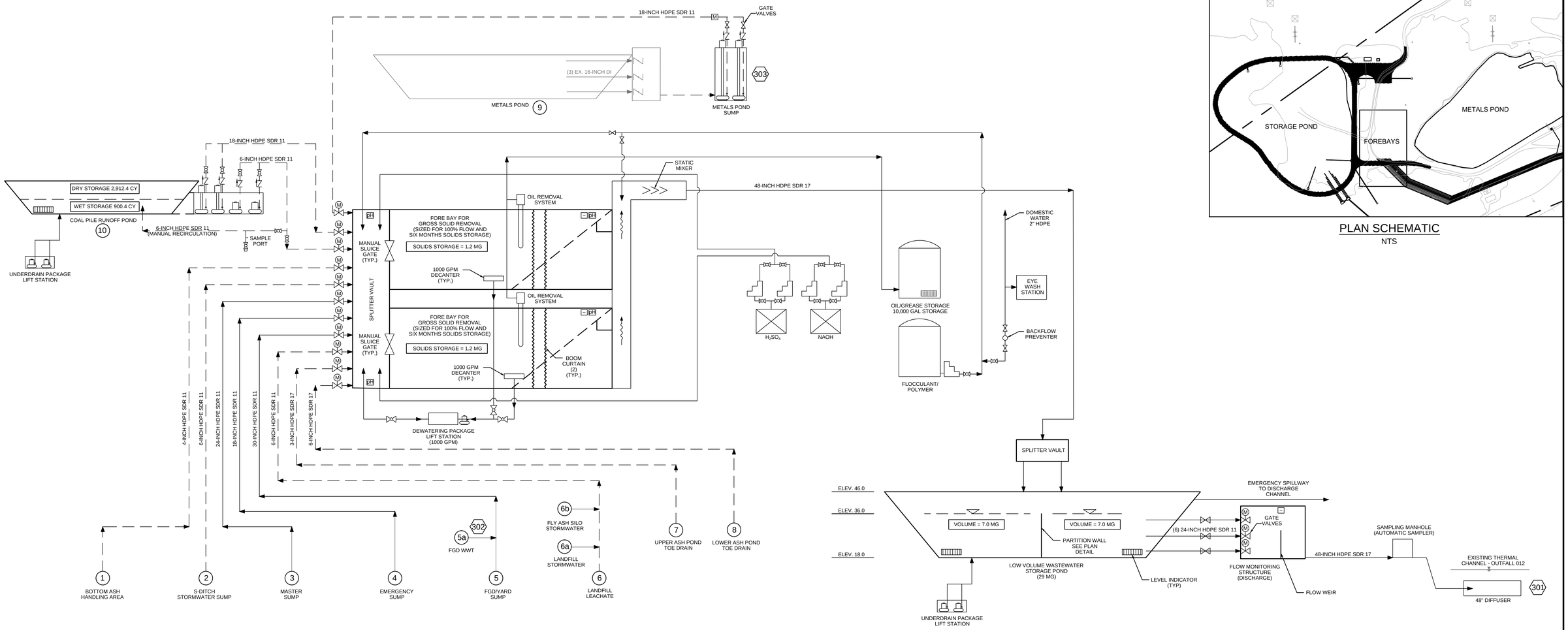
(2015). Retrieved from http://www.tapcoinc.com/content/product_data/Tapco_Catalog_09_p88-94.pdf

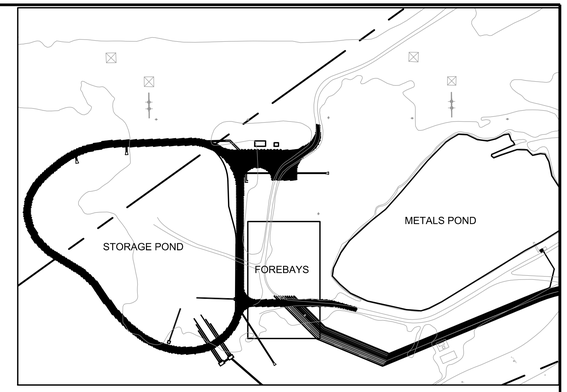
API Oil Water Separator Equipment Sizing Spreadsheet. (2015). Retrieved from http://www.oilwaterseparator.hydroflotech.com/Engineering%20Data/API%20Oil%20Water%20Separator%20Sizing%20Calculations.htm

Sowers, G.F., "Settlement of Disposal Fills", *Proceedings of the 8th International Conference on Soil Mechanics and Foundation Engineering*, Moscow, 1973, pp. 207-210.

Tchobanoglous, G., Burton, F. L., Stensel, H. D., & Metcalf & Eddy. (2003). *Wastewater Engineering: Treatment and reuse* (4th ed.). Boston: McGraw-Hill.

Wall D. K., and Zeiss, C., (1995), "Municipal Landfill Biodegradation and Settlement", *Journal of Environmental Engineering, Mar. 1995, Vol. 121, No. 3, pp. 214-224.*





PLAN SCHEMATIC
NTS

ID	DESCRIPTION	PROCESS FLOW (MGD) AVG	PROCESS FLOW (MGD) MAX	STORM FLOW (MGD)	NOTES
1	BOTTOM ASH HANDLING AREA	N/A	N/A	0.8	PROCESS FLOW - BLOWDOWN 12" DIAMETER (6); 5,280 LF STORM FLOW - 5 ACRES 25-YEAR STORM EVENT
2	S-DITCH	N/A	N/A	0.8	71.9 ACRES; 1" RUNOFF STORM EVENT
3	MASTER SUMP	2.72	4.01	3.6	PROCESS FLOW - METERED BETWEEN 3/1/15 AND 6/1/15 STORM FLOW - 22.9 ACRES; 25-YEAR STORM EVENT
4	EMERGENCY SUMP	N/A	N/A	N/A	BACK-UP FOR MASTER SUMP
5	FGD YARD SUMP	1.07	3.36	1.7	PROCESS FLOW - METERED BETWEEN 3/1/15 AND 6/1/15 STORM FLOW - 10.8 ACRES; 25-YEAR STORM EVENT
5a	FGD WWT	0.11	0.35	N/A	METERED BETWEEN 3/1/15 AND 6/1/15
6	REYMET LANDFILL LEACHATE	0.08	0.36	N/A	BASED ON FULL BUILDOUT OF LANDFILL HELP MODEL
6a	LANDFILL STORMWATER	N/A	N/A	?	-
6b	FLY ASH SILO STORMWATER	N/A	N/A	?	-
7	LOWER ASH POND TOE DRAIN	0.07	0.14	N/A	PROCESS FLOW - 2 PUMPS @ 50 GPM (AVG.) 4 PUMPS @ 50 GPM (MAX.)
8	UPPER ASH POND TOE DRAIN	0.20	0.40	-	PROCESS FLOW - 2 PUMPS @ 70 GPM (AVG.) 4 PUMPS @ 70 GPM (MAX.)
9	METALS POND	2.70	5.00	N/A	AVG BASED ON 8 DAY DRAINAGE MAX BASED ON 3 DAY DRAINAGE
10	COAL PILE RUNOFF POND	N/A	N/A	2.4	18.8 ACRES; 25-YEAR STORM EVENT

LEGEND

- GATE VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- MOTOR ACTIVATED
- SLUICE GATE
- ULTRASONIC LEVEL INDICATOR
- LEVEL INDICATOR
- pH METER
- SAMPLE PORT
- INTERMITTENT FLOW
- CONTINUOUS FLOW
- WASTEWATER INPUT (SEE TABLE)
- REGULATED OUTFALL

PRELIMINARY
PROGRESS PRINT ONLY
NOT FOR CONSTRUCTION

Geosyntec consultants
9211 ARBORETUM PARKWAY, SUITE 200
RICHMOND, VA 23236 USA
PHONE: 804.767.2206

DOMINION SM
POWER GENERATION ENGINEERING
RICHMOND, VIRGINIA

PROCESS FLOW DIAGRAM

LOW VOLUME WASTEWATER TREATMENT SYSTEM
CHESTERFIELD POWER STATION

REV	DATE	DSGN	DRWN	CHKD	DSGN SUPV	PROJ ENGR	CIVIL ENGR	ELEC ENGR	MECH ENGR	ARCH	E.M. ENGR	I&C ENGR
0	06-24 2014	-	-	-	-	-	-	-	-	-	-	-

(D-SIZE ITEBEL DRAWING FOR AUTOCAD)

DSGN ----- DSGN SUPV ----
DRWN --- ENGR SUPV ----
CHKD ----- PROJ ENGR ----
DISPL ENGR -----

DRAWING NUMBER 1222-005
REV. 0

SCALE: N/A UNLESS OTHERWISE NOTED SH 5 OF 1

1222-005.DWG

Figure 2

Master Sump and FGD Sumps Metering Locations

PROCTORS CREEK

JAMES RIVER

DUTCH GAP BOAT RAMP

COAL PILE

COXENDALE ROAD

OLD STAGE ROAD

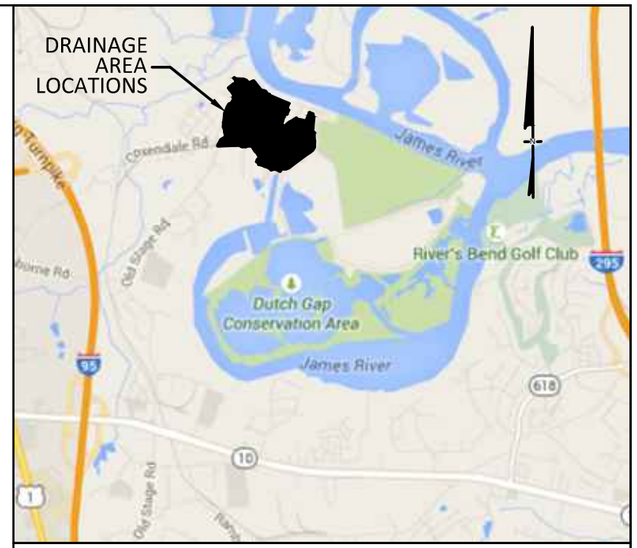
METALS POND

THERMAL DITCH

LOWER ASH POND

LOCATION OF MASTER SUMP AND FGD METERING

N



VICINITY MAP
SCALE 1"=5,000'

DRAINAGE AREA LEGEND

- FGD SUMP AREA (9.33 ACRES; 1.46 MG PER 25-YR STORM)
- MASTER SUMP AREA (22.87 ACRES; 3.57 MG PER 25-YR STORM)
- COAL PILE AREA (18.75 ACRES; 2.81 MG PER 25-YR STORM)
- SIERRA DITCH AREA (71.90 ACRES; 0.79 MG PER 1-INCH STORM)
- BOTTOM ASH DEWATERING AREA (9.21 ACRES; 1.21 MG PER 25-YEAR STORM)

Dominion®

0 400' 800'

SCALE IN FEET

FIGURE 2
MASTER SUMP & FGD METERING LOCATION MAP
CHESTERFIELD POWER STATION
CHESTERFIELD COUNTY, VA

Geosyntec consultants

DATE: JUNE 2015	SCALE: 1" = 400'
PROJECT No.: MV1222	FILE No.: \PER FIGURES\1222f001.dwg
DOCUMENT No.:	FIGURE No.: 2

ATTACHMENT 3

CER

Prepared for

Dominion Virginia Power
500 Coxendale Road
Chester, Virginia 23836

CONCEPT ENGINEERING REPORT

Low Volume Wastewater Treatment System

Chesterfield Power Station

Prepared by

9211 Arboretum Parkway, Suite 200
Richmond, Virginia 23236

Project Number MV1222

July 2015

TABLE OF CONTENTS

1. INTRODUCTION 1-1
1.1 Overview and Purpose 1-1
1.2 Station Background 1-1
1.3 Report Organization 1-1

2. REGULATORY OVERVIEW AND EFFLUENT STANDARDS 2-3

3. EVALUATION OF WASTEWATER CHARACTERISTICS 3-4
3.1 Wastewater and Stormwater Inputs 3-4
3.2 Wastewater and Stormwater Generation 3-7
3.2.1 FGD, Master, and Emergency Sumps 3-8
3.2.2 Metals Pond Discharge 3-9
3.2.3 Coal Pile Runoff Discharge 3-9
3.2.4 Sierra Ditch 3-9
3.2.5 Upper Ash Pond Toe Drain 3-10
3.2.6 Lower Ash Pond Toe Drain 3-10
3.2.7 Bottom Ash Handling Area 3-10
3.2.8 FFCP Management Facility Leachate 3-10
3.3 Wastewater and Stormwater Chemistry 3-10
3.3.1 Sampling Program 3-10
3.3.2 Sample Collection Methodology 3-11
3.3.3 Sampling Data Overview 3-12

4. OPERATIONAL DESIGN REQUIREMENTS 4-14

5. PROPOSED DESIGN CONCEPTS 5-15
5.1 Overall Concept 5-15
5.2 Structures 5-15
5.2.1 Fore Bays 5-15
5.2.2 Oil Collection 5-15
5.2.3 Storage basin 5-15
5.3 Existing FGD Treatment System 5-16
5.4 Outfall Sampling Design 5-16

LIST OF FIGURES

Figure 1: Process Flow Diagram

Figure 2: Master Sump and FGD Sumps Metering Locations

LIST OF TABLES

Table 1: Average Daily Flow (Process Water)

Table 2: Stormwater Runoff Volume Summary

LIST OF APPENDICES

Appendix A – Hydrologic Calculations

Appendix B – Design Calculations

1. INTRODUCTION

1.1 Overview and Purpose

This Concept Engineering Report (CER) was prepared by Geosyntec Consultants, Inc. (Geosyntec) for Dominion Virginia Power (Dominion) in support of the ongoing efforts to comply with anticipated regulatory revisions associated the Low Volume Waste Water Treatment System (LVWWTS) at the Chesterfield Power Station (the Station) located in Chester, Virginia. The purpose of this report is to serve as documentation of design inputs and considerations that will be used to prepare the final design documents for the LVWWTS and the Virginia Pollutant Discharge Elimination System (VPDES) application. The proof of concept for the proposed treatment will be based on the anticipated regulatory effluent limitations associated with the Effluent Limitation Guidelines (ELGs) for Steam Electric Generation Units, operational requirements, and the wastewater chemistry and flow data collected at the site to establish a new outfall (Outfall 301). Data is also presented for characterization of existing discharges from the FGD treatment system (Outfall 302) and the metals ponds (Outfall 303), although treatment technologies for those discharges are already established.

This report was written by Mr. Andrew Copley, E.I.T., and Mr. Kyle LaClair, P.E. and reviewed by Dr. Tim Kelly, P.E., and Scott Sheridan, P.E. in accordance with Geosyntec's internal review policy. Mr. LaClair, Dr. Kelly, and Mr. Sheridan are all licensed professional engineers in the Commonwealth of Virginia.

1.2 Station Background

The Station is an active electric power generating station comprising four (4) coal-fired combustion power units (Units 3, 4, 5, and 6) and two (2) natural gas-fired combined cycle units (Units 7 and 8) located at 500 Coxendale Road in Chester, Virginia, about 15 miles south of Richmond on the James River. The Station can generate more than 1,600 megawatts. The Station began operation in 1944, and the oldest active unit (Unit 3) was commissioned in 1952. The most recent gas-fired units were commissioned in 1990 and 1992.

1.3 Report Organization

The remainder of this report is organized as follows:

Section 2 is the regulatory overview that will serve as the main compliance objectives for the LVWWTS.

Section 3 summarizes site-specific chemistry and flow data collected for each wastewater input related to the LVWWTS. This section will also provide an evaluation of the overall wastewater chemistry and characteristics.

Section 4 will outline the installation of a new outfall (Outfall 301) and present design criteria based on regulatory requirements and wastewater chemistry and flow data. The design criteria will also include operational requirements, such as sampling and monitoring requirements, control, and contingency issues.

Section 5 will present the proposed solution incorporating the design criteria with appropriate justifications.

2. REGULATORY OVERVIEW AND EFFLUENT STANDARDS

EPA has proposed new effluent limitation guidelines (ELGs) for the steam-electric power generating point source category. The proposed ELGs, when finalized, will establish uniform national technology-based treatment standards for existing and new sources of wastewater from steam-electric power generating facilities. The ELGs for power plants were last updated in 1982. Since then, the use of advanced air pollution control systems has increased significantly at coal-fired power plants in order to meet Clean Air Act requirements. As a result, EPA has determined that wastewater streams associated with air pollution control equipment contain additional levels of metals and other pollutants beyond those that are identified in the 1982 update of the ELGs.

The proposed ELG modifications for existing sources are presented below:

- Revised the definition of low volume waste sources to remove flue gas desulfurization (FGD) wastewater from the definition;
- Addition of new category of FGD wastewater;
- Addition of pollutants (arsenic, mercury, selenium, and nitrate/nitrite) to FGD discharge;
- Addition of landfill leachate from existing generating units considered under ELGs.
- Must demonstrate compliance with effluent limitations for FGD wastewater at a point prior to use in any other plant process or commingling of the FGD wastewater with any other wastewater, except combustion residual leachate or other FGD wastewater;
- For units with nameplate generating capacity greater than 50 MW, there shall be no discharge of fly ash transport water (dry handling); and
- For units with nameplate generating capacity greater than 400 MW, there shall be no discharge of bottom ash transport water (dry handling or closed loop system).

The discharge limits presented below are based on the draft ELG and are the basis for the design of the LVWWTS.

Basis of Design - Draft ELG Discharge Limits[1]

Pollutant or Pollutant Property	Daily Maximum	Monthly Average
LOW VOLUME WASTES		
pH	6 S.U. < pH , 9 S.U.	
Total Suspended Solids	50 mg/L	30 mg/L
Oil and Grease	20 mg/L	15 mg/L
FGD WASTEWATER TREATMENT DISCHARGE		
pH	6 S.U. < pH , 9 S.U.	
Total Suspended Solids	50 mg/L	30 mg/L
Oil and Grease	20 mg/L	15 mg/L
Arsenic, total	8 ug/L	6 ug/L
Mercury, total	242 ng/L	119 ng/L
Selenium, total	16 ug/L	10 ug/L
Nitrate/nitrite as N	0.17 mg/L	0.13 mg/L

3. EVALUATION OF WASTEWATER CHARACTERISTICS

This section includes an analysis of the wastewater and stormwater characteristics including generation rates and chemical constituents to support the VPDES permit modification application. This analysis will serve as the basis for the LVWWTS design and the VPDES permit modification application.

3.1 Wastewater and Stormwater Inputs

The LVWWTS will comprise of several wastewater and stormwater inputs that were originally directed to the Lower Ash Pond (LAP). These inputs include the following:

- FGD Sump. This includes multiple yard sumps within the area of the FGD wastewater plant. These sumps receive primarily stormwater, but will also, on occasion, receive blowdown water or other process water during certain operational or maintenance activities in the Station. The scope of this CER did not include an in depth evaluation of the wastewater sources due to the multitude of varying inputs and circumstances by which the FGD sumps are used. Geosyntec understands that the current FGD Sump configuration collectively includes multiple yard sumps which discharge to the existing master retention

[1] From 40 CFR, Part 423—STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY

basin prior to the LAP; whereas, in the final configuration the sump discharge will be directed through the LVWWTS.

Geosyntec has been monitoring flow rates at the existing sump discharge using an area-velocity meter with a data logger. Data on depth and velocity has been collected for several months.

The anticipated volume from the FGD Sump will be based on the metering data and hydrologic evaluation based on the contributing drainage area. The hydrologic analysis will be based on a pre-determined storm event as identified by the Station. Discussions and justification for the design storm event and associated hydrologic evaluation is discussed further in the proceeding sections.

The FGD wastewater plant discharge is also part of the FGD Sump discharge and is included in the flows metered at the effluent. The FGD wastewater plant discharge ties to the FGD Yard Sump discharge pipe inside the Station. Dominion has provided the daily flow rates from the FGD wastewater treatment plant so that the yard sump flows could be isolated from the wastewater treatment flow.

- Master (Normal) Sump. Similar to the FGD Sump, the Master Sump comprises multiple yard sumps, including the main operation sump at Unit 6 that receives the majority of the operational wastewater including blowdown events and housekeeping activities such as floor washing. This sump includes multiple pumps varying in size and horsepower.

  Geosyntec has measured flow from the Master Sump with an area-velocity meter and data logger at the sump discharge at the master retention basin. Effluent samples were collected at strategic events as directed by the Station to characterize the wastewater. The resulting data is discussed in the proceeding sections and presented in Form 2C of the VPDES Permit Modification Application.

  The anticipated volume from the Master Sump will be based on the metering data and hydrologic evaluation based on the contributing drainage area. The hydrologic analysis will be based on a pre-determined storm event as identified by the Station. Discussions and justification for the design storm event and associated hydrologic evaluation is discussed further in the proceeding sections.

- Emergency Sump. This sump is only used in the event the Master Sump is in need of maintenance or other issue requiring a "lock out tag out" of the pump system within the sump. Flow data was not collected at this location since it was a backup for the Master Sump. The use of an emergency sump will remain part of the LVWWTS.

- Metals Pond Discharge. The Metals Pond is a holding basin for non-chemical metal cleaning wastewater discharge. The basin is typically discharged in a controlled manner via a multi-staged pipe and valve system that is manually operated at a sump. The current discharge location of the Metals Pond is through the sump directly to the LAP via an 18-

inch gravity pipe. Wastewater characterization samples have been collected and analyzed during planned discharge events. The results of the analysis are presented in the proceeding sections and in Form 2C of the VPDES Permit Modification Application.

- Coal Pile Runoff Discharge. The coal pile runoff discharge is a stormwater discharge that is currently directed to the LAP. The volume of discharge is dependent upon the precipitation rates and configuration of the coal pile. Estimates to determine the average daily flow will be based on hydrological analysis of the contributing drainage area of the Coal Pile outfall. Further discussion on the design storm and related hydrologic analysis are presented in the proceeding sections.

- Sierra Ditch Discharge. The Sierra Ditch serves as a containment dike and a drainage conveyance channel. The containment portion is for the ash sluice lines for Units 3, 4, 5, and 6, in addition to the FGD, Master, and Emergency Sumps pipe networks to the LAP. The contributing drainage area to the Sierra Ditch is fairly large consisting of approximately 71.8 acres. The Sierra Ditch is directed to the LAP via a stormwater lift station for most storm events. In larger storm events, a bypass culvert under Coxendale Road is used. There is an existing weir plate over the entrance of the culvert that can be removed. The estimated discharge from the Sierra Ditch will be based on hydrologic analysis. Further discussion on the analysis and discharge estimates are presented further below.

- Upper Ash Pond Toe Drain Force Main. This force main will originate from the Upper Ash Pond (UAP) and be directed to the LVWWTS via a 4-inch pipe. The toe drain currently pumps to Outfall 005. This toe drain system and force main serves as a concentrated water collection system to aid in stability of a portion of the UAP embankment.

- Lower Ash Pond Toe Drain Force Main. This force main will originate from the Lower Ash Pond (LAP) and be directed to the LVWWTS via a 3-inch diameter pipe. This drain will serve as a collection for groundwater when the elevation reaches the toe drain pipe invert.

- Bottom Ash Handling Area. The existing ash slurry lines will be directed to the Bottom Ash Handling Area where coarse solids will be removed with a submerged flight conveyor and stockpiled for commercial use. The stormwater runoff from the bottom ash handling area will be collected and directed to the LVWWTS via a lift station. The estimated runoff from the site will be determined through hydrologic analysis based on a predetermined storm event and based on anticipated volumes of water from blow down events.

- FFCP Management Facility. Leachate and collected contact stormwater from the proposed FFCP Management Facility (a CCR landfill) will be collected and directed to the LVWWTS via a lift station. The estimated leachate and contact stormwater runoff from the site was determined based on the Hydrologic Evaluation of Landfill Performance

(HELP) model and hydrologic analysis based on a predetermined storm event and based on anticipated volumes of leachate from the landfill.

A process flow diagram has been included as **Figure 1** for reference to depict the various inputs of wastewater in relation to the existing conditions and proposed conditions.

3.2 Wastewater and Stormwater Generation

Wastewater and stormwater flow rates have been estimated by Geosyntec using collected data from meters or estimated through hydrologic analysis. The estimated average daily flow rates from metered discharges are presented in **Table 1**. When the flow rates were determined using hydrologic analysis, the following assumptions and methodology was applied. Given the existing site condition, the stormwater runoff peak flow rates and volumes were determined using the National Resources Conservation Service (NRCS) method, which is dependent on the soil's ability to absorb a certain amount of precipitation before runoff begins. This ability is categorized based on a Hydrologic Soil Group (HSG). The hydrologic calculations were performed using HydroCAD® micro-computer program. The following list details the assumptions used in determining the peak runoff and associated runoff volumes for each identified input.

1. The estimated surface runoff used the NRCS curve number method. The HSG is fairly consistent given current site characteristics and was assumed to be HSG of D for all land cover categories. The estimated values are presented below for each land cover category:

Curve Numbers, CN [2]

Description	HSG	Curve Number, CN
Brush, Fair	D	77
Woods, Fair	D	79
Coal Pile	D	85
Site Stone (Non-compacted)	D	87
Grass cover, Poor <50%	D	89
General Industrial	D	93
Roofs, Pavement & Impervious Area	D	98

2. The annual 1-, 2-, 10-, and 100-year precipitation data as outlined below using a Type II rainfall distribution in accordance with geographic boundaries for NRCS (SCS) rainfall distributions [3] :

[2] Refer to Appendix for weighted CN values CER Outfall
[3] Obtained from http://www.hydrocad.net/pdf/TR-55%20Appendix%20B.pdf accessed on 19 May 2015.

Precipitation Data

Year Storm	24 hour Depth (in)
1	3.00
2	3.50
10	5.60
25	6.10
100	8.00

3. The time of concentration, t_c, was computed using TR-55 methodology. The Manning's Roughness Coefficient for sheet flow was assumed to be the following: short grass (0.15), non-compacted stone (0.15), dense grass (0.24), and pavement and other impervious (0.011) areas for a maximum of 200 feet, depending on site conditions. Shallow concentrated flow over paved or unpaved areas were used for the remaining distance up to a well-defined receiving channel (if applicable). The remainder of the distance was defined by geometric shape as presented in the calculations (See Appendix A for each input's contributing runoff flow).

Below is an explanation of how the estimated flow rate was determined for each input. The hydrologic calculations and analysis for each input are presented in **Appendix A** and summarized in **Table 2**.

3.2.1 FGD, Master, and Emergency Sumps

A metering plan was developed by Geosyntec to collect flow data from the FGD Sump and the Master Sump. An area-velocity meter was installed at the effluent at the existing retention basin. The location of these metering points are presented in **Figure 2** for reference. The flow for these inputs are presented in **Table 1** in units of gallons per day. In addition, the FGD wastewater treatment plant discharge flow (gallons per day) has been included, so that the actual sump discharges can be determined. The FGD wastewater treatment plant discharge data was provided by Dominion. This scope of this CER does not address the design of the FGD wastewater treatment plan. A CER was approved by DEQ on March 5, 2008 for the existing plant, and a CER for the plant upgrades will be submitted under separate cover.

A review of **Table 1** shows there is variability in the flow from day-to-day. The flows depend upon Station operations such as on-going maintenance issues, cleaning, storm events, and other non-planned activities. This variability presented a challenge in determining the most appropriate average daily flow that will originate from the Station and be designated as the normal operation discharge water. It is Geosyntec's opinion that the daily average flow presented in **Table 1** should represent the normal operating average daily volume. Although, precipitation did occur over the metering period and the flow rate did vary slightly, the precipitation rates were not significant enough and regular enough to determine a separate runoff volume from the normal operating flows.

To account for additional volume destined for the LVWWTS during a larger storm event, the 25-year, 24 hour storm event was analyzed for both the contributing drainage areas for the FGD Sump and the Master Sump.

As stated previously, the emergency sump does not operate unless the FGD or Master Sumps are diverted to the Emergency Sump. No flow data was collected at this discharge point; however, it is understood that the Emergency Sump will be directed to the LVWWTS.

3.2.2 Metals Pond Discharge

The Metals Pond is used during boiler wash down activities typically in the fall and spring during scheduled outage of a power generation unit. The Master Sump (via the Emergency Sump) is diverted to the Metals Pond where pH may be adjusted if needed to facilitate metals precipitation. The outfall of the metals pond is an internal discharge monitoring point located in a sampling manhole along the discharge pipe to the LAP. The Outfall is currently designated as Outfall 104 and will be renamed as Outfall 303 in the VPDES permit modification application. In addition the outfall will be relocated to the existing sump structure. The Metals Pond has a capacity of 22 million gallons based on as-built drawings and correspondence with Dominion. Dominion typically drains the basin using the multi-stage pipe and valve system at the Metals Pond Sump over the course of eight to ten days resulting in a flow of 2.7 MGD (average) and 5.0 MGD (maximum). This flow rate and corresponding volume was not included in the LVWWTS system average flow since these are controlled flows that can be discharged during low peak LVWWTS flows and during dry periods when excess volume is available in the LVWWTS.

3.2.3 Coal Pile Runoff Discharge

The estimated flow rate from the coal pile was determined by hydrologic analysis using the assumption and analysis approach presented above. Existing ELGs required that coal pile stormwater controls be designed to manage a 10-year, 24-hour storm event; however, the Station requested that Geosyntec estimate this discharge using the 25-year, 24-hour storm event. All stormwater runoff originating from the coal pile shall be directed to the LVWWTS system up to the 25-year, 24-hour runoff volume. Geosyntec assumed that the runoff from a 25-year, 24 hour storm event will need to pump to the LVWWTS within 24 hours as part of the routing model.

3.2.4 Sierra Ditch

The volume and flows are based on hydrologic calculations for the 1-inch storm event for 71.8 acres. It is understood that the 1-inch storm event or “first flush” contains the primary pollutant loadings. The runoff from the 1-inch storm event will be directed to the LVWWTS via an existing lift station. Larger storms will bypass via an existing culvert under Coxendale Road to the thermal discharge channel.

3.2.5 Upper Ash Pond Toe Drain

The UAP toe drain system consists of two lift stations with two 70 GPM pumps each. The discharge volume is estimated based on the pump sizes proposed for the system. The average flow was based on two (2) of the pumps operating for 24 hours, and the maximum flow was based on four (4) of the pumps operating for 24 hours.

3.2.6 Lower Ash Pond Toe Drain

The LAP toe drain system consists of two lift stations located along the western embankment with two (2) 50 GPM pumps. The average flow was based on two (2) of the pumps operating for 24 hours, and the maximum flow was based on four (4) of the pumps operating for 24 hours.

3.2.7 Bottom Ash Handling Area

The Bottom Ash Handling Area is based on an anticipated 5-acre development scheme. The drainage area will include an impervious pad on which coarse solids removed from the system will be stacked for management. On-site best management practices (BMP) will be established at this site prior to stormwater runoff being sent to the LVWWTS. Typical BMP strategies may include pre-settling infrastructure, filters, or other means to removed CCR type material from the stormwater flows. The total anticipated stormwater runoff volume from this area is based on the 25-year, 24 hour storm event. Runoff will also consist of runoff from the impermeable pad due to water draining from the material stockpiles or occasional cleaning. The volume of additional runoff was estimated to be 0.19 GPD on average when discharging.

3.2.8 FFCP Management Facility Leachate

The FFCP management facility leachate volume is based on the peak daily flow modeled for a 67-acre landfill using the HELP model. The drainage area will mainly consist of leachate and contact stormwater from the working face of the landfill. On-site best management practices (BMP) will be established at this site prior to stormwater entering the LVWWTS. The total anticipated volume from this area is based on the 25-year, 24 hour storm event.

3.3 Wastewater and Stormwater Chemistry

The proposed ELGs for low volume waste streams at steam power generating facilities include limits for total suspended solids (TSS), oil and grease, and pH, and they establish additional limits for FGD wastewater treatment discharges for arsenic, mercury, selenium, and nitrate/nitrite. DEQ may require additional effluent limitations; however, for the purpose of this CER, the proof of concept will be based on the proposed ELGs at the limits presented in Section 2.

3.3.1 Sampling Program

Samples for laboratory analysis were collected for each wastewater and stormwater discharge to the LVWWTS. The samples were collected at locations shown in **Figure 2** over various dates in an attempt to collect representative samples that will be discharged to the LVWWTS in the future.

Collection type, method, and date for each sample are presented in the table below. A table presenting analytical data required for Form 2C is provided with Form 2C provided in the VPDES permit modification application. The data table presents the maximum concentration for each discharge along with the anticipated flow and mass based on a discharge volume over 24 hours. The addendum to the VPDES Permit Modification Application presents dissolved metals analytical data as required by the DEQ Attachment A.

Sample Collection Summary

Sample	Type	Collection Method	Date
Coal Pile Runoff Pond	Grab	Auto Sampler	19 May 2015
Coal Pile Runoff Pond	Grab	Auto Sampler	21 May 2015
Bottom Ash	Grab	Dipped from Barrel	20 May 2015
FGD WWTP	Grab	Sample Port	19 May 2015
FGD WWTP	Grab	Sample Port	22 May 2015
FGD Yard Sump	Grab	End of Discharge Pipe	19 May 2015
FGD Yard Sump	Grab	End of Discharge Pipe	21 May 2015
Master Sump	Grab	Auto Sampler	19 May 2015
Master Sump	Grab	Auto Sampler	22 May 2015
Master Sump	Grab	End of Discharge Pipe	26 May 2015
Metals Pond	Grab	Peristaltic Pump	19 March 2015
Sierra Ditch	Grab	Dipped from Manhole	19 May 2015
Sierra Ditch	Grab	Dipped from Manhole	21 May 2015
Upper Ash Pond Toe Drain	Grab	Peristaltic Pump	20 May 2015
Upper Ash Pond Toe Drain	Grab	Peristaltic Pump	22 May 2015

3.3.2 Sample Collection Methodology

Samples were collected for each process or stormwater discharge anticipated to be treated by the LVWWTS, including discharges through the master sump, the FGD wastewater treatment plant, FGD yard sumps, stormwater runoff from the sierra ditch, stormwater runoff from the coal pile, discharge from the metals pond, and discharge from the upper ash pond toe drains. Samples were also collected using methods designed to closely represent two new discharges: landfill leachate and Bottom Ash Handling system runoff. Two samples were collected for each discharge except for the master sump discharge and the metals pond discharge. Due to the consistency of the discharge characteristics and the highly intermittent nature of the discharge, one sample was collected of the metals pond discharge. Alternately, due to the variable nature of the master sump discharge, three samples were collected and analyzed.

The intermittent nature of the process water discharge and stormwater runoff meant that grab sample collection was the most reliable means of sample collection. Grab samples were collected of waste streams that were in general determined to be the most representative sample while remaining conservative in the nature of its quality. Field parameters were measured in the field at the time of sample collection including pH, dissolved oxygen, oxidation-reduction potential, conductivity, and temperature.

The samples, except for leachate column samples, were tested and logged at TestAmerica located at 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238 by Veronica Bortot, Senior Project Manager. Leachate column test samples were tested and logged at Air, Water, & Soil Laboratories, Inc. located at 1941 Reymet Road, Richmond, VA 23237 by J.P. Verheul. Chemist.

3.3.2.1 Landfill Leachate

Dominion anticipates the FFCP Management Facility will begin operation in the fall or winter of 2017; therefore, representative samples of landfill leachate are not currently available. Column testing using fly ash from Unit 5, fly ash from Unit 6, combined bottom ash from Units 5 and 6, and FGD treatment plant filter cake at a ratio of 42.5/42.5/10/5 was conducted to generate samples to represent landfill leachate. Rainwater collected at the Station was used as a leaching solution. Two samples of leachate were collected and analyzed. These samples are expected to represent a worst-case condition since they represent the first few flushes of water through the column.

3.3.2.2 Bottom Ash Handling Area

The Bottom Ash Handling Area runoff will include stormwater runoff from the drainage area, water that drains out of the stacked coarse bottom ash material, and bottom ash blowdown as part of occasional maintenance operations. Samples of Units 5 and 6 bottom ash slurry water were collected to represent the future Bottom Ash Handling Area discharge. Fifty-five gallon drums of Units 5 and 6 bottom ash slurry were collected and allowed to settle over a 24-hour period. Samples were collected from each barrel and combined into one sample in a 50/50 ratio.

3.3.2.3 Lower Ash Pond Toe Drain

The LAP toe drain will collect groundwater in instances when groundwater is elevated around the LAP embankment. Geosyntec assumes that the discharge from the LAP toe drain is sufficiently represented by the UAP toe drain since both ponds contain ash from the same generating units. Therefore, samples were not generated to represent the LAP toe drain effluent.

3.3.3 Sampling Data Overview

This overview is provided for those analytes that are likely to be given discharge limitations under the proposed ELGs. Form 2C and the addendum to VPDES permit modification application include the entire data set in support of the LVWWTS design and, but a summary is provided below:

- Oil and grease was only sporadically detected with a maximum estimated (J flag and found in the blank) value of 1.4 mg/L.
- Total suspended solids were detected at a maximum concentration at the coal yard of 330 mg/L. Despite a few results above 100 mg/L, most samples had a TSS concentration of 50 mg/L or below.

- Field pH was highest for the manufactured leachate (11.26 S.U.) and lowest in the coal pile runoff (2.52 S.U.). The remaining samples tended towards a typical pH (6-9 S.U.). The bottom ash runoff had a pH of 9.24 S.U., and the metals pond had a pH of 10.97 S.U.
- Temperature was lowest in the upper toe drain (17.24 degrees Celsius) and Sierra Ditch (18.52 degrees Celsius) samples and highest in the FGD Plant samples (38.8 degrees Celsius).
- The maximum total arsenic concentration was 92 µg/L from the FGD treatment plant effluent. The coal pile and manufactured landfill leachate had maximum concentrations of 49 and 49.5 µg/L, respectively.
- The maximum mercury concentration was 220 ng/L, from the FGD treatment plant effluent. The FGD yard sump had a concentration of 100 ng/L.
- The maximum total selenium concentration was 344 µg/L from the landfill leachate. The FGD treatment plant, FGD yard sump and coal pile had concentrations of 44, 31, and 23 µg/L, respectively.

4. OPERATIONAL DESIGN REQUIREMENTS

In addition to the proposed ELGs, the Station has several operational requirements to ensure the LVWWTS is integrated efficiently into the overall Station operation. Below is a list of operational considerations that will be included in the LVWWTS design.

1. The Station desires to have the ability to maintain an operational water level in the storage basin prior to discharge to Outfall 301. This is to ensure sufficient time for additional settling capabilities. It should be noted that the system is designed to provide sufficient settling capacity prior to the basin; therefore, settling capacity in the storage basin is not part of required treatment operation. In addition, the storage basin will also serve as an equalization basin to control larger storm events or larger volumes of operational discharges.
2. The Station desires the LVWWTS to serve as a secondary containment system, similar to the current strategy of using the master retention basin as secondary containment.
3. The Station desires the ability to monitor and adjust pH prior to the storage basin. A base and acid feed system is proposed with the LVWWTS.
4. The Station desires to have at least 6 months or more of storage in the fore bays prior to the larger storage basin. Incoming TSS concentrations are assumed to be 500 mg/L for each input for the purpose of designing sufficient settling and storage capacity. These fore bays will include truck access with decanting systems for water removal prior to removing sediment.

5. PROPOSED DESIGN CONCEPTS

5.1 Overall Concept

The proposed treatment system is designed to handle the wastewater and stormwater inputs described in Section 3.2. **Table 1** presents the average daily and maximum flows for the Master Sump and the FGD Wastewater Sump. All inputs flow through fore bay tanks for solids and oil and grease (O&G) removal and a storage basin for final solids removal and storage prior to discharge to Outfall 301. As is needed, pH adjustment will occur after the fore bay tanks (after commingling). Design concepts for the treatment of FGD wastewater to the proposed ELG effluent standards will be presented in a CER submitted under separate cover.

5.2 Structures

The following structures are included in the LVWWTS design.

5.2.1 Fore Bays

The proposed treatment design concept begins with a splitter box that collects the incoming flows and directs them through gate valves to one of two fore bay tanks with the capacity to provide 6 months of solids storage. Two fore bays were chosen for the purpose of cleaning the "off line" fore bay once the maximum solids storage capacity had been reached while keeping the LVWWTS operational. The fore bays were sized to allow for settling of 100 micron particles at the average daily flow rate from the incoming flows listed above; however, per the attached calculations, smaller particles will be settled depending on temperature, flow rates, and particle size. The primary purpose of the fore bay is to remove larger particles, and it provides O&G treatment as described below. Each fore bay tank is able to store the maximum average daily flow, if necessary. A weir is placed at the end of the fore bay to decant water which will flow by gravity to the storage basin. The pH shall be adjusted with caustic acid material by a metering pump as it flows from the fore bay.

5.2.2 Oil Collection

Oil-water skimmers, designed to handle an incoming flow rate of 9,200 GPM, will be installed in each of the fore bay tanks. Booms will trap O&G floating on the water to be removed by the skimmer. Clean water passes under the booms and over the weir at the end of the fore bay. O&G skimmed from the fore bay will be collected in a separate tank for storage and eventual disposal.

5.2.3 Storage basin

Water flows from the fore bays to the storage basin. The pond is designed to store twice the maximum average daily flow if discharge from the storage basin is suspended. The basin is designed with two storage areas separated by a concrete partition wall. The storage basin provides additional settling capacity for solids that pass through the fore bays. Water discharges from the

storage basin through a sampling and flow monitoring structure (Outfall 301) before discharging into the thermal discharge channel through a diffuser designed to provide thorough mixing. An emergency overflow is added to the storage basin to bypass the sampling and flow monitoring structure during major storm events that exceed the design capacity of the system. The emergency overflow flows directly to the discharge channel. **Figure 1** shows the PFD of the overall treatment system.

5.3 Existing FGD Treatment System

The station utilizes a treatment system to treat FGD wastewater. On March 5, 2008, DEQ approved a CER for the FGD treatment plant. A CER to describe the upgrades to the current FGD treatment plant to address the proposed ELG effluent limitations will be submitted under separate cover.

5.4 Outfall Sampling Design

The new and modified outfalls related to the Integrated Ash Project at the Station includes Outfalls 004 (LAP outfall), 301 (LVWWTS internal outfall), 302 (FGD treatment plant internal outfall), 303 (metals pond internal outfall), and Outfall 005 (UAP outfall). Outfalls 004 and 005 will be sampled in the same manner that they are sampled under the current VPDES permit. Outfall 301 will be located at a sampling manhole on the located along the bank of the thermal discharge channel and in line with the LVWWTS discharge pipe. Samples can be collected from the sampling manhole using an automated sampler, manual peristaltic pump, or bailer directly from the manhole. Outfall 302 is located on the discharge pipe leading from the FGD treatment plant effluent tank between the tank and the pumps that send the effluent to the FGD sump discharge pipe. Samples can be collected manually directly from a sampling port installed in the pipe. Outfall 303 will be located at a pump skid located directly adjacent to the existing concrete sump structure at the metals pond. A sampling port will be installed at the discharge side of the discharge pumps from which samples can be manually collected.

FIGURES

Action Items

A meeting was held on Monday, September 21, 2015 with DEQ, Dominion, and Geosyntec. The purpose of the meeting was to discuss responses to DEQ comments and requests for additional information. Multiple action items were generated during the call, and Dominion is providing this response to provide additional information to DEQ to assist them in the processing and review of the VPDES Permit Application. The specific action items and Dominion's responses are provided below.

Action Item #1: Provide an explanation of all the flows to the new Low Volume Wastewater Treatment System (LVWWTS) and spreadsheets showing the worst case concentration of constituents expected in the final discharge to Outfall 301.

Response: The response to Action Item #1 is provided in three separate sections below. The first section provides a discussion of the flow estimates. The second section describes the two scenarios presented to DEQ, and the third section provides a discussion of the worst case concentration calculation for the two scenarios.

Flow Descriptions

Flow estimates have been measured and estimated for the various process and stormwater runoff flows that discharge to the LVWWTS. The attached Table 1 presents a summary of the maximum and average process flows and the stormwater runoff flows for the various waste streams. The table also includes flow information for two typical operating scenarios at the Chesterfield Power Station. The scenarios are presented in the following section.

The average and maximum process flows were estimated based on actual metered flow data (Master Sump, FGD Yard, and FGD Plant), design information such as pump capacities (LAP toe drain and UAP toe drain), design modeling (leachate), and previously reported flow data (metals pond). Other sources contribute stormwater only and have no process water contribution (bottom ash, S-ditch, contact stormwater, and coal pile runoff).

Stormwater flows were generally calculated by modeling the runoff from a 25-year, 24-hour storm event (design storm) over the drainage area contributing to the source. The S-ditch stormwater flow is a manually controlled stormwater discharge, and the estimate is based on the operation of a 3,000 GPM pump.

Some revisions to the previously reported flows have been made since the initial application submission. The revisions and the reasons for these revisions are as follows:

- Leachate process maximum. The leachate process maximum flow was revised from 0.36 MGD to 0.19 MGD. The flow was revised based on a more detailed analysis of the phasing of the landfill. The original estimate was based on an overly conservative fully open landfill with a peak daily leachate generation rate. The current estimate is based on a peak daily leachate generation with 10 acres of open cell (maximum allowed under the solid waste permit) with the remaining portions of the landfill with intermediate or final cover.
- Contact stormwater. Previously no flow was reported for the contact stormwater discharge from the FFCP Management Facility's contact stormwater basin. An analysis of this contact stormwater discharge during a 25-year, 24-hour stormwater event, based on the maximum

contributing area for the potential to generate contact stormwater, indicated a maximum flow of 0.4 MGD.

- Lower ash pond toe drain. The lower ash pond toe drain pumps were revised to be identical to the upper ash pond toe drain pumps. Therefore, the flows were revised to be identical.
- Coal pile. In recent email correspondence, DEQ noted a discrepancy with the coal pile runoff flow reported in the application versus what was reported in the CER. A change in design resulted in a design flow of 2.4 MGD based on a 25-year, 24-hour storm event and an 18.8 acre drainage area.
- Metals pond. A flow of 3.23 MGD was reported in the draft 2014 fact sheet as part of the 2009 permit renewal application in which the metals pond operation was assumed to continue as a gravity flow system. The current metals pond design is a pumped system; therefore, the anticipated average and maximum flows are different. The correct flow value for the new design is 2.7 MGD.

The flows described above and provided in Table 1 are appropriate for analysis of the worst case concentrations for Outfall 301. Other documents in which these flows are reported (Conceptual Engineering Report, Process Flow Diagram, and the One-line Drawing) will be revised to reflect these flows and will be submitted under separate cover to DEQ.

Scenario Descriptions

Dominion understands DEQ desires to use a conservative approach to determine worst case concentrations for the discharge through Outfall 301. DEQ initially used the maximum reported concentration for each pollutant from any source and the total maximum reported flow, which was a summation of flows for all sources, to determine the worst case concentrations. While the analysis provided an ultra-conservative estimate, Dominion believes the scenario is not realistic or even possible based on the operating conditions of the Chesterfield Power Station and the variability in flows. Therefore, Dominion has developed two "typical" discharge scenarios for DEQ's use. These scenarios are still conservative but are more representative of actual conditions. The first scenario is the maximum process flow from the Station during nice weather. The second scenario is the maximum flow anticipated during a 25-year, 24-hour storm event, which is considered the design storm event for the LVWWTS. Scenario 1 is process flow only, and Scenario 2 represents both process and stormwater flow combined. It should be noted that in estimating Scenario 2 flows, the average process flow was added to the stormwater flow for discharges that include both process and stormwater flow. The average process flow was used since it most accurately represents Station operations during a major storm event.

Table 1 presents the individual flows for each internal discharge along with the flows for both scenarios. The Scenario 1 flow is equal to the Process Maximum flow. The Scenario 2 flow is equal to the sum of the Process Average flow and the Design Stormwater Runoff flow. A discussion of Dominion's proposed worst case concentration calculation is provided below.

Worst Case Concentrations

The flow weighted average of the concentrations for the pollutants of concern in the waste streams that contribute to Outfall 301 are attached (two spreadsheets). The worst case scenario was calculated by first multiplying the pollutant concentration by the flow (Q, see Table 1) for the particular waste stream.

The product of the concentration and flow was summed for each contributing waste stream. The sum was then divided by the sum of Qs expected for Outfall 301 as shown by the following equation:

Combined Discharge Concentration (mg/L) = $(Q_1/\sum Q_i)$ x Max $Conc_1$ + $(Q_2/\sum Q_i)$ x Max $Conc_2$ + ….. $(Q_n/\sum Q_i)$ x Max $Conc_n$)

Where Q_i is the expected maximum flow rate from each waste stream (i.e. Master Sump, FGD Plant, etc) and Max $Conc_1$ is the maximum constituent concentration sampled from the waste stream.

A description of the calculation steps and an example calculation for Copper using Scenario 2 are provided below.

Inputs:

Step 1 – Assume a constituent to analyze. For this example, the element copper will be used. In order to identify the maximum potential concentration, the total copper value will be used. For the Attachment A constituents, metals (such as copper) were required to be in the dissolved form. For Form 2C, the total form was required to be reported. Dominion analyzed both forms of this element. Usually, the total form of an element is greater than the dissolved form. Therefore, in order to be conservative, the total form of copper will be used in this example. The unit for the concentration of copper is milligrams per liter.

Step 2 – Assume a particular waste steam. The first goal of this example is to examine one waste stream and one constituent and calculate the maximum expected concentration of this constituent in one particular waste stream. For this example, the unit contributing to the flow will be "Bottom Ash". Please note that this selection is arbitrary, and we could have selected any of the units contributing to the total flow to analyze for this example.

Step 3 – Under Scenario 2, there are a total of ten flows that contribute to the total flow to Outfall 301, as shown in the table below. Of the ten flows, the LAP toe drains, UAP toe drains, and contact stormwater are combined and represented by the water quality data from the UAP toe drain. These data are considered representative of the other two flows and are derived from an actual source. Each flow will have a concentration of copper in it. In this example, the bottom ash flow is estimated to be 0.8 MGD. Therefore, Q_1 = 0.8 MGD.

Unit Contributing to Flow	**Flow Qi (MGD)**
Bottom Ash	0.8
S-Ditch	0.8
Master Sump	6.3
FGD Yard	2.0
FGD Plant	0.11
Leachate	0.08
LAP / UAP Toe Drains and Non-Contact Stormwater	0.8
Coal Yard	2.4
Totals (∑Qi)	13.29

Step 4 – Calculate the copper concentration in the unit contributing to the flow (i.e., Bottom Ash). A sample of the bottom ash slurry was collected and analyzed for both total and dissolved copper. As discussed above, the total copper concentration was conservatively used in developing the worse-case concentration for Outfall 301. The concentration of copper used in this example is 0.0029 mg/L; therefore, Max $Conc_1$ is 0.0029 mg/L.

Step 5 – Sum up all the flows contributing to Outfall 301. The bottom ash unit is only one of the units contributing to total flow that will be expected at Outfall 301. In order to determine this amount, each flow must be added together to obtain the total. In the equation above, this is represented by = $\sum Q_i$ and is the sum of all flows.

Sum of all flows = $\sum Q_i$ = 0.8 MGD + 0.8 MGD + 6.3 MGD + 2 MGD + 0.11 MGD + 0.08 MGD + 0.8 MGD + 2.4 MGD = 13.29 MGD.

Step 6 – Calculate the portion of the total flow that each waste stream will contribute. In this example, the flow for "Bottom Ash" is used. This portion of the total flow (expressed as a percentage) is calculated by dividing the individual flow by the total flow as shown below. This proportional flow will be used to estimate the weighted contribution of copper to the total flow by the bottom ash waste stream.

$(Q_1/\sum Q_i)$ = 0.8 MGD / 13.29 MGD = 0.0601956

Step 7 – Calculate the copper concentration in the portion of the flow calculated in Step 6 above. This value is calculated by multiplying the copper concentration sampled in the bottom ash sample by the calculated flow. The equation for this step is shown below.

$(Q_1/\sum Q_i)$ x Max $Conc_1$ = 0.0601956 x 0.0029 mg/L = 0.0001746 mg/L

Step 8 – Compute the combined discharge concentration by adding up individual, flow-weighted copper concentrations of all the waste streams using the same methodology outlined in Steps 1-7. This equation is shown below.

Combined Discharge Concentration (mg/L) = $(Q_1/\sum Q_i)$ x Max $Conc_1$ + $(Q_2/\sum Q_i)$ x Max $Conc_2$ + ….. $(Q_n/\sum Q_i)$ x Max $Conc_n$)

Total Maximum Expected Concentration of Copper in Outfall 301 =

$(Q_1/\sum Q_i)$ x Max $Conc_1$ (Bottom Ash) +

$(Q_2/\sum Q_i)$ x Max $Conc_2$ (Metals Pond) +

$(Q_3/\sum Q_i)$ x Max $Conc_3$ (Coal Yard) +

$(Q_4/\sum Q_i)$ x Max $Conc_4$ (Sierra Ditch) +

$(Q_5/\sum Q_i)$ x Max $Conc_5$ (Leachate) +

$(Q_{6,\ 7,\ 8}/\sum Q_{6,\ 7,\ 8})$ x Max $Conc_1$ (LAP and UAP Toe Drains and Non-Contact Stormwater are combined, and water quality is represented by the UAP Toe Drain sample)

$(Q_9/\sum Q_i)$ x Max $Conc_9$ (FGD Plant) +

$(Q_{10}/\sum Q_i)$ x Max $Conc_{10}$ (FGD Yard Sump) +

$(Q_{11}/\sum Q_i)$ x Max $Conc_{11}$ (Master Sump) =

0.0001746 + 0 + 0.068623 + 0.00204665+ 1.43868E-05 + 3.49135E-05 + 0.00022348 + 0.0022574 + 0.0151693 = 0.0885437 mg/L

The tables provided below show the results for the constituents of potential concern recently developed by DEQ as a result of DEQ's initial RPA evaluation. These tables show the worst case concentration for both Scenarios 1 and 2. The calculation steps above were repeated for each parameter and each scenario.

Scenario 1

Parameter	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (µg/l)
Copper	0.019	19.241
Nickel	0.023	22.852
Selenium	0.019	19.070
Zinc	0.027	27.171

Scenario 2

Parameter	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (µg/l)
Copper	0.088	88.544
Nickel	0.111	111.255
Selenium	0.013	13.421
Zinc	0.359	359.095

Action Item #2: Provide an explanation of all values that had the laboratory qualifier of "P" and ensure that the maximum concentration for each value is used to determine the worst case concentration at Outfall 301.

Response: Geosyntec has reviewed the results for all constituents that had a "P" qualifier. Please note that the analytical laboratory selected the lower value (mg/L of the constituent) of the two GC columns and reported that value with a "P" qualifier. Since the laboratory reported the lower of the results from the two GC columns, we selected the higher of these values (i.e., maximum concentration) and used these values in the worst case scenario spreadsheets and calculations. Dominion is providing both column tests in the attached spreadsheet labeled "P Qualifier Data Table". Please note that this qualifier was only used for the following pesticide results (i.e., 4,4-DDE, a-BHC, Aldrin, d-BHC, DDD, DDT, Dieldrin, Endosulfan I, Endosulfan II, Endosulfan sulphate, g-BHC {Lindane}, and Heptachlor).

Action Item #3: Provide an explanation for the elevated QLs for the leachate data provided to DEQ previously. In the absence of an appropriate QL, DEQ has generated proposed limits for several SVOCs (see response) that do not appear to be constituents of potential concern for Outfall 301.

Response: The laboratory (Air, Water and Soil Laboratories, AWS) that analyzed the leachate samples only provided the LOQ for the results. Dominion requested that AWS also provide the LOD values with the data. As a result, AWS has re-issued the report for the leachate sample results. This report shows the LOD and LOQ of the analyses and is attached to this response. With the re-issued report showing both LOD and LOQ results, all results are now lower than DEQ's QL of 0.010 mg/L. For example (as shown on the attached table), the maximum concentration of 1,1,1-trichloroethane in the two leachate samples was reported as <0.001U mg/L. The laboratory provided an MDL (LOD) of 0.001 mg/l and a RL (LOQ or QL) of 0.005 mg/l. This result is below DEQ's QL of 0.010 mg/L.

Since the lab reported the MDL/LODs for the leachate results and since all values are below 0.010 mg/L, the proposed limits previously generated by DEQ for several SVOCs (e.g., Benzo anthracene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Benzo (a) pyrene, and Chrysene) are no longer necessary or applicable.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use same format)* instead of completing these pages. SEE INTRUCTIONS

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* [redacted] OUTFALL NO. 301 LEACHATE COLUMNS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table foe each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	3. UNITS a. CONCEN-TRATION	3. UNITS b. MASS	4. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (RAINWATER) b. NO OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.9	8.7	-	-	2.5	7.5	2	mg/L	lb/day	4.6	13.8	1
b. Chemical Oxygen Demand *(COD)*	12.7	38.2	-	-	8.85	26.6	2	mg/L	lb/day	10	30.0	1
c. Total Organic Carbon *(TOC)*	1.8	5.4	-	-	1.15	3.5	2	mg/L	lb/day	1.7	5.1	1
d. Total Suspended Solids *(TSS)*	18.4	55.3	-	-	11	33.0	2	mg/L	lb/day	2.2	6.6	1
e. Ammonia *(as N)*	2	6.0	-	-	1.805	5.4	2	mg/L	lb/day	0.4	1.2	1
f. Flow	VALUE 0.36 MGD		VALUE -		VALUE 0.002 MGD					VALUE -		-
g. Temperature *(winter)*	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
h. Temperature *(summer)*	VALUE -		VALUE -		VALUE -		2	°C		VALUE -		-
i. pH	MINIMUM 10.97	MAXIMUM 11.26	MINIMUM -	MAXIMUM -	Below Detection Limit		2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their present in our discharge. Complete one table for each outfall See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" a. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAILY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAILY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* * (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* * (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	4. UNITS b. MASS	5. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (RAINWATER) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (RAINWATER) b. NO OF ANALYSES
a. Bromide (24959-67-9)	x	x	5	15.0			2.5	7.5						
b. Chlorine, Total Residual	x	x	Not Tested	Not Tested										
c. Color		x	10	N/A	-	-	5	15.0	2	pcu		10	N/A	1
d. Fecal Coliform		x	<4	N/A	-	-	-	-	2	MPN/100 mL	N/A	<4	N/A	1
e. Fluoride (16984-48-8)		x	2.8	8.4			2.6	7.8						
f. Nitrate-Nitrite *(as N)*	x		0.4	1.2	-	-	0.05	0.2	2	mg/L	lb/day	0.33	1.0	1

Below Detection Limit

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (RAINWATER)		
			a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
g. Nitrogen, Total Organic (*as N*)	x		3.08	9.3	-	-	1.91	5.7	2	mg/L	lb/day	0.89	2.7	1
h. Oil and Grease	x		5	15.0	-	-	2.5	7.5	2	mg/L	lb/day	5	15.0	1
i. Phosphorus (as P), Total (7723-14-0)	x		0.03	0.1	-	-	0.0175	0.05	2	mg/L	lb/day	0.02	0.1	1
j. Radioactivity					-	-	-	-	2	mg/L	lb/day	-	-	-
(1) Alpha, Total		x	Not Tested	Not Tested										
(2) Beta, Total		x	Not Tested	Not Tested										
(3) Radium, Total		x	Not Tested	Not Tested										
(4) Radium 226, Total		x	Not Tested	Not Tested										
k. Sulfate (*as SO4*) (14808-79-8)		x	984	2956.3			832.5	2501.1						
l. Sulfide (*as S*)		x	0.05	0.2			0.025	0.08						
m. Sulfite (*as SO3*) (14265-45-3)		x	Not Tested	Not Tested										
n. Surfactants		x	Not Tested	Not Tested										
o. Aluminum, Total (7429-90-5)	x		1.09	3.3	-	-	1.085	3.3	2	mg/L	lb/day	0.05	0.2	1
p. Barium, Total (7440-39-3)	x		0.193	0.6	-	-	0.169	0.51	2	mg/L	lb/day	0.0149	0.0	1
q. Boron, Total (7440-42-8)	x		3.76	11.3	-	-	3.5	10.5	2	mg/L	lb/day	0.06	0.2	1
r. Cobalt, Total (7440-48-4)	x		0.004	0.0	-	-	0.002	0.006	2	mg/L	lb/day	0.004	0.0	1
s. Iron, Total (7439-89-6)	x		0.01	0.0	-	-	0.0037	0.011	2	mg/L	lb/day	0.622	1.9	1
t. Magnesium, Total (7439-95-4)	x		0.105	0.3	-	-	0.08515	0.26	2	mg/L	lb/day	0.234	0.7	1
u. Molybdenum, Total (7439-98-7)	x		0.55	1.7	-	-	0.352	1.06	2	mg/L	lb/day	0.05	0.2	1
v. Manganese, Total (7439-96-5)	x		0.01	0.0	-	-	0.0010	0.003	2	mg/L	lb/day	0.0379	0.1	1
w. Tin, Total (7440-31-5)	x		0.02	0.1	-	-	0.0100	0.030	2	mg/L	lb/day	0.02	0.1	1
x. Titanium, Total (7440-32-6)	x		0.05	0.2	-	-	0.0025	0.008	2	mg/L	lb/day	0.05	0.2	1

CONTINUED FROM PAGE 3 OF FORM 2-C

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301- LEACHATE COLUMNS

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (RAINWATER)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	x	x		3.44000	0.0103	-	-	0.003365	0.01	2	µg/L	lb/day	0.11	0.0003	1
2M. Arsenic, Total (7440-38-2)	x	x		49.50000	0.1487	-	-	0.0467	0.14	2	µg/L	lb/day	0.61	0.0018	1
3M. Beryllium, Total (7440-41-7)	x	x		0.00200	0.0000	-	-	0.001	0.00000300	2	µg/L	lb/day	0.004	0.0000	1
4M. Cadmium, Total (7440-43-9)	x	x		0.00011	0.0000	-	-	0.000055	0.00000017	2	µg/L	lb/day	0.11	0.0003	1
5M. Chromium, Total (7440-47-3)	x	x		0.03550	0.0001	-	-	0.01775	0.05	2	µg/L	lb/day	0.01	0.0000	1
6M. Copper, Total (7440-50-8)	x	x		2.390000	0.0072	-	-	0.002245	0.01	2	µg/L	lb/day	1.29	0.0039	1
7M. Lead, Total (7439-92-1)	x	x		0.00016	0.0000	-	-	0.00008	0.00000024	2	µg/L	lb/day	0.16	0.0005	1
8M. Mercury, Total (7439-97-6)	x	x		0.000023	0.0000	-	-	0.0000115	0.00000003	2	µg/L	lb/day	0.023	0.0001	1
9M. Nickel, Total (7440-02-0)	x	x		4.670000	0.0140	-	-	0.004575	0.01	2	µg/L	lb/day	1.76	0.0053	1
10M. Selenium, Total (7782-49-2)	x	x		344.0000	1.0335	-	-	0.3075	0.92	2	µg/L	lb/day	0.65	0.0020	1
11M. Silver, Total (7440-22-4)	x	x		0.029000	0.0001	-	-	0.0145	0.00004	2	µg/L	lb/day	0.029	0.0001	1
12M. Thallium, Total (7440-28-0)	x	x		0.058000	0.0002	-	-	0.029	0.00009	2	µg/L	lb/day	0.058	0.0002	1
13M. Zinc, Total (7440-66-6)	x	x		5.71	0.0172	-	-	0.00472	0.01	2	µg/L	lb/day	175	0.5258	1
14M. Cyanide, Total (57-12-5)	x	x		0.01	0.00003	-	-	0.005	0.00002	2	mg/L	lb/day	0.01	0.0000	1
15M. Phenols, Total			x	0.05	0.0001	-	-	0.025	0.00008	-	µg/L	lb/day	0.05	0.0001	1
DIOXIN															
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			x		DESCRIBE RESULTS										

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
2V. Acrylonitrile (107-13-1)	x	x		25.00	0.0751	-	-	12.5	0.0376	2	µg/L	lb/day	25.00	0.0751	1
3V. Benzene (71-43-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			x	Not Required	Not Required										1
5V. Bromoform (75-25-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
6V. Carbon Tetrachloride (56-23-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
7V. Chlorobenzene (108-90-7)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
8V. Chlorodi-bromomethane (124-48-1)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
9V. Chloroethane (75-00-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
11V. Chloroform (67-66-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
12V. Dichloro-bromomethane (75-27-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
13V. Dichloro-difluoromethane (75-71-8)			x	Not Required	Not Required								5.00	0.0150	1
14V. 1,1-Dichloro-ethane (75-34-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
15V. 1,2-Dichloro-ethane (107-06-2)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
16V. 1,1-Dichloro-ethylene (75-35-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
17V. 1,2-Dichloro-propane (78-87-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
18V. 1,3-Dichloro-propylene (542-75-6)	x	x		50.00	0.1502	-	-	25	0.0751	2	µg/L	lb/day	50.00	0.1502	1
19V. Ethylbenzene (100-41-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
20V. Methyl Bromide (74-83-9)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
21V. Methyl Chloride (74-87-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
22V. Methylene Chloride (75-09-2)	x	x		20.00	0.0601	-	-	10	0.0300	2	µg/L	lb/day	20.00	0.0601	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
24V. Tetrachloro-ethylene (127-18-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
25V. Toluene (108-88-3)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
27V. 1,1,1-Trichloro- ethane (71-55-6)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
28V. 1,1,2-Trichloro- ethane (79-00-5)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
29V Trichloro-ethylene (79-01-6)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
30V. Trichloro-fluoromethane (75-69-4)			x	Not Required	Not Required								5.00	0.0150	1
31V. Vinyl Chloride (75-01-4)	x	x		5.00	0.0150	-	-	2.5	0.0075	2	µg/L	lb/day	5.00	0.0150	1
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
2A. 2,4-Dichloro-phenol (120-83-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
3A. 2,4-Dimethyl-phenol (105-67-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
5A. 2,4-Dinitro-phenol (51-28-5)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
6A. 2-Nitrophenol (88-75-5)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
7A. 4-Nitrophenol (100-02-7)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
8A. P-Chloro-M-Cresol (59-50-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
9A. Pentachloro-phenol (87-86-5)	x	x		42.1	0.1265	-	-	21.05	0.0632	2	µg/L	lb/day	42.1	0.1265	1
10A. Phenol (108-95-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
11A. 2,4,6-Trichloro- phenol (88-05-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
2B. Acenaphtylene (208-96-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
3B. Anthracene (120-12-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
4B. Benzidine (92-87-5)	x	x		105	0.3155	-	-	52.5	0.1577	2	µg/L	lb/day	105	0.3155	1
5B. Benzo (*a*) Anthracene (56-55-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
6B. Benzo (*a*) Pyrene (50-32-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
8B. Benzo (*ghi*) Perylene (191-24-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
9B. Benzo (*k*) Fluoranthene (207-08-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
15B. Butyl Benzyl Phthalate (85-68-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
16B. 2-Chloro-naphthalene (91-58-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
18B. Chrysene (218-01-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
20B. 1,2-Dichloro-benzene (95-50-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
21B. 1,3-Di-chloro-benzene (541-73-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichloro-benzene (106-46-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
23B. 3,3-Dichloro-benzidine (91-94-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
24B. Diethyl Phthalate (84-66-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
25B. Dimethyl Phthalate (131 -11-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
26B. Di-N-Butyl Phthalate (84-74-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
27B. 2,4-Dinitro-toluene (121-14-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
28B. 2,6-Dinitro-toluene (606-20-2)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
29B. Di-N-Octyl Phthalate (117-84-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
31B. Fluoranthene (206-44-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
32B. Fluorene (86-73-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
33B. Hexachloro-benzene (118-74-1)	x	x		5.26	0.0158	-	-	2.63	0.0079	2	µg/L	lb/day	5.26	0.0158	1
34B. Hexachloro-butadiene (87-68-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
35B. Hexachloro-cyclopentadiene (77-47-4)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
36B Hexachloro-ethane (67-72-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
38B. Isophorone (78-59-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
39B. Naphthalene 91-20-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
40B. Nitrobenzene(98-95-3)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
41B. N-Nitro-sodimethylamine (62-75-9)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
42B. N-Nitrosodi- N-Propylamine (621-64-7)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1

Below Detection Limit

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitro-sodiphenylamine (86-30-6)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
44B. Phenanthrene (85-01-8)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
45B. Pyrene (129-00-0)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	x	x		21.1	0.0634	-	-	10.55	0.0317	2	µg/L	lb/day	21.1	0.0634	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
2P. α-BHC (319-84-6)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
3P. β-BHC (319-85-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
4P. γ-BHC (58-89-9)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
5P. δ-BHC (319-86-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
6P. Chlordane (57-74-9)	x	x		0.213	0.0006399	-	-	0.1065	0.0003	2	µg/L	lb/day	0.213	0.0006399	1
7P. 4,4'-DDT (50-29-3)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
8P. 4,4'-DDE (72-55-9)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
9P. 4,4'-DDD (72-54-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
10P. Dieldrin (60-57-1)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
11P. α-Enosulfan (115-29-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
12P. β-Endosulfan (115-29-7)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
13P. Endosulfan Sulfate (1031-07-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
14P. Endrin (72-20-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
15P. Endrin Aldehyde (7421-93-4)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
16P. Heptachlor (76-44-8)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1

Below Detection Limit

CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
110000342530	301- LEACHATE COLUMNS

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAILY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*					a. LONG TERM AVERAGE VALUE		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c.. BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN-TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	x	x		0.053	0.0001592	-	-	0.0265	0.0001	2	µg/L	lb/day	0.053	0.0001592	1
18P. PCB-1242 (53469-21-9)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
19P. PCB-1254 (11097-69-1)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
20P. PCB-1221 (11104-28-2)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
21P. PCB-1232 (11141-16-5)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
22P. PCB-1248 (12672-29-6)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
23P. PCB-1260 (11096-82-5)	x	x		0.2	0.0006009	-	-	0.1	0.0003	2	µg/L	lb/day	0.2	0.0006009	1
24P. PCB-1016 (12674-11-2)	x	x		0.5	0.0015022	-	-	0.25	0.0008	2	µg/L	lb/day	0.5	0.0015022	1
25P. Toxaphene (8001-35-2)	x	x		1.06	0.0031846	-	-	0.53	0.0016	2	µg/L	lb/day	1.06	0.0031846	1

Below Detection Limit

Summary of Worst Case Concentrations for Scenarios 1 and 2

		SCENARIO 1 RESULTS	SCENARIO 2 RESULTS
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)
1,1,1-trichloroethane	mg/L	0.0002998	0.0002943
1,1,2,2-tetrachloroethane	mg/L	0.0002180	0.0002078
1,1,2-trichloroethane	mg/L	0.0002111	0.0002048
1,1-dichloroethane	mg/L	0.0001322	0.0001253
1,1-dichloroethene	mg/L	0.0003097	0.0003042
1,2,4-trichlorobenzene	mg/L	0.0007246	0.0007160
1,2-dichlorobenzene	mg/L	0.0001633	0.0001558
1,2-dichloroethane	mg/L	0.0002278	0.0002178
1,2-dichloropropane	mg/L	0.0001144	0.0001035
1,2-Trans-dichloroethene	mg/L	0.0001815	0.0001750
1,3-dichlorobenzene	mg/L	0.0001238	0.0001160
1,3-Dichloropropene	mg/L	0.0005069	0.0005030
1,4-dichlorobenzene	mg/L	0.0002224	0.0002154
2,3,7,8-Tetrachlorooxanthrer	mg/L	0.0000000	0.0000000
2,4,6-trichlorophenol	mg/L	0.0017166	0.0017115
2,4-dichlorophenol	mg/L	0.0003413	0.0003358
2,4-dimethylphenol	mg/L	0.0008383	0.0008466
2,4-dinitrophenol	mg/L	0.0059692	0.0060732
2,4-Dinitrotoluene	mg/L	0.0005400	0.0005408
2,6-dichlorophenol	mg/L	0.0000153	0.0000067
2,6-dinitrotoluene	mg/L	0.0007941	0.0007987
2-Chloroethylvinyl ether	mg/L	0.0003157	0.0002786
2-chloronaphthalene	mg/L	0.0001619	0.0001572
2-chlorophenol	mg/L	0.0016471	0.0016595
2-methylphenol	mg/L	0.0000769	0.0000335
2-nitrophenol	mg/L	0.0016718	0.0016926
3,3-Dichlorobenzidine	mg/L	0.0011709	0.0011352
3,4-Benzo-fluoranthene	mg/L	0.0001687	0.0001638
4,4-DDE	mg/L	0.0000011	0.0000009
4,6-Dinitro-2-methylphenol	mg/L	0.0021649	0.0021896
4-bromophenyl phenyl ether	mg/L	0.0006341	0.0006383
4-chlorophenyl phenyl ether	mg/L	0.0005042	0.0005028
4-nitrophenol	mg/L	0.0063381	0.0064221
a-BHC	mg/L	0.0000030	0.0000024
Accrolein	mg/L	0.0027023	0.0026445
Acenaphthene	mg/L	0.0001559	0.0001473
Acenaphthylene	mg/L	0.0001619	0.0001572
Acrylonitrile	mg/L	0.0009074	0.0010008

Summary of Worst Case Concentrations for Scenarios 1 and 2

		SCENARIO 1 RESULTS	SCENARIO 2 RESULTS
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)
Aldrin	mg/L	0.0000020	0.0000014
Alkalinity (Bicarbonate as CaC	mg/L	97.0924309	89.3441685
Alkalinity (Carbonate as CaCC	mg/L	47.8974891	22.3527540
Alkalinity (total) as CaCO3	mg/L	149.4905386	109.1485327
Aluminium	mg/L	1.1499374	9.5237502
Ammonia	mg/L	0.0418996	0.0182393
Ammonia as N	mg/L	2.1587118	1.4139503
Anthracene	mg/L	0.0001657	0.0001573
Antimony	mg/L	0.0039679	0.0024721
Arochlor 1016	mg/L	0.0000028	0.0000026
Arochlor 1221	mg/L	0.0000052	0.0000036
Arochlor 1232	mg/L	0.0000031	0.0000030
Arochlor 1242	mg/L	0.0000023	0.0000020
Arochlor 1248	mg/L	0.0000029	0.0000025
Arochlor 1254	mg/L	0.0000018	0.0000015
Arochlor 1260	mg/L	0.0000018	0.0000015
Arsenic	mg/L	0.0230673	0.0254597
Azinophos methyl	mg/L	0.0001119	0.0000615
Barium	mg/L	0.2194811	0.2450745
b-BHC	mg/L	0.0000040	0.0000028
Benz(a)anthracene	mg/L	0.0002203	0.0001807
Benzene	mg/L	0.0001254	0.0001164
Benzidine	mg/L	0.0339452	0.0344150
Benzo(a) pyrene	mg/L	0.0001460	0.0001374
Benzo(g,h,i)perylene	mg/L	0.0001619	0.0001572
Benzo(k)fluoranthene	mg/L	0.0005498	0.0005507
Beryllium	mg/L	0.0005439	0.0046488
Biochemical Oxygen Demand	mg/L	6.1580058	6.4802107
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.0005838
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.0002548
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.0002051
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.0125590
Bisphenol A	mg/L	0.0003117	0.0005491
Boron	mg/L	36.6327802	20.3147329
Bromide	mg/L	70.3643377	40.9787058
Bromoform	mg/L	0.0002081	0.0001979
Butyl benzyl phthalate	mg/L	0.0014182	0.0014125
Cadmium	mg/L	0.0009789	0.0017251

Summary of Worst Case Concentrations for Scenarios 1 and 2

		SCENARIO 1 RESULTS	SCENARIO 2 RESULTS
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)
Carbon tetrachloride	mg/L	0.0001519	0.0001452
Chemical Oxygen Demand	mg/L	73.4507278	79.2096313
chlordane	mg/L	0.0000044	0.0000036
Chloride	mg/L	4288.6023290	2964.2161023
Chlorine, Total Residual	mg/L	0.6244541	0.5370504
Chlorobenzene	mg/L	0.0001450	0.0001422
Chlorodibromomethane	mg/L	0.0003980	0.0003869
Chloroethane	mg/L	0.0002209	0.0002148
Chloroform	mg/L	0.0087341	0.0091213
Chlorpyrifos	mg/L	0.0001092	0.0000589
Chromium (Hexavalent)	mg/L	0.0063464	0.0418059
Chromium (Total)	mg/L	0.0031586	0.0098777
Chrysene	mg/L	0.0001514	0.0001455
cis-1,3-dichloropropene	mg/L	0.0002012	0.0001949
Cobalt	mg/L	0.0035488	0.0570652
Color	o	0.1382824	0.0601956
Copper	mg/L	0.0192408	0.0885437
Cyanide (Total)	mg/L	0.0039196	0.0038800
d-BHC	mg/L	0.0000004	0.0000006
DDD	mg/L	0.0000007	0.0000011
DDT	mg/L	0.0000009	0.0000008
Demeton (total)	mg/L	0.0000314	0.0000322
Demeton-O	mg/L	0.0000899	0.0000391
Demeton-S	mg/L	0.0000899	0.0000391
Diazinon	mg/L	0.0001079	0.0000575
Dibenz(a,h)anthracene	mg/L	0.0001687	0.0001620
Dichlorobromomethane	mg/L	0.0014567	0.0016658
Dichlorodifluoromethane	mg/L	0.0000138	0.0000060
Dieldrin	mg/L	0.0000016	0.0000040
Diesel Range Organics	mg/L	0.2197962	0.2835214
Diethylphthalate	mg/L	0.0014498	0.0014607
Dimethyl phthalate	mg/L	0.0007645	0.0007689
Di-n-butyl phthalate	mg/L	0.0012389	0.0012212
Di-n-octyl phthalate	mg/L	0.0020637	0.0020713
Diphenylhydrazine	mg/L	0.0007174	0.0006847
E. Coli	cfu/100 ml	0.0138282	0.0060196
EC (field)	µS/cm	6180.5458515	2588.2844244
Endosulfan I	mg/L	0.0000015	0.0000012

Summary of Worst Case Concentrations for Scenarios 1 and 2

		SCENARIO 1 RESULTS	SCENARIO 2 RESULTS
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)
Endosulfan II	mg/L	0.0000075	0.0000080
Endosulfan sulphate	mg/L	0.0000349	0.0000211
Endrin	mg/L	0.0000016	0.0000013
Endrin aldehyde	mg/L	0.0000009	0.0000009
Enterococci	MPN/100 m	0.0138282	0.0060196
Ethylbenzene	mg/L	0.0002455	0.0002354
Fecal Coliforms	MPN/100 m	0.0276565	0.0120391
Fluoranthene	mg/L	0.0001717	0.0001671
Fluorene	mg/L	0.0002301	0.0002231
Fluoride	mg/L	1.4253275	0.9139202
Gasoline Range Organics	mg/L	0.0347889	0.0360497
g-BHC (Lindane)	mg/L	0.0000010	0.0000009
Hardness	mg/L	18.9446870	8.2468021
HEM	mg/L	1.1426492	1.1783296
Heptachlor	mg/L	0.0000261	0.0000155
Heptachlor epoxide	mg/L	0.0000016	0.0000013
Hexachlorobenzene	mg/L	0.0002145	0.0001971
Hexachlorobutadiene	mg/L	0.0001785	0.0001720
Hexachlorocyclopentadiene	mg/L	0.0005203	0.0005209
Hexachloroethane	mg/L	0.0006279	0.0006283
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002106	0.0002051
Iron	mg/L	1.2432195	23.0797105
Isophorone	mg/L	0.0006411	0.0006435
Kepone	mg/L	0.0094503	0.0096049
Lead	mg/L	0.0029869	0.0050781
Lithium	mg/L	0.0691077	0.0775275
Magnesium	mg/L	115.1251783	82.6266667
Malathion	mg/L	0.0000348	0.0000274
Manganese	mg/L	0.2209156	0.7599669
Mercury	mg/L	0.0000787	0.0000735
Methoxychlor	mg/L	0.0000001	0.0000000
Methyl Bromide	mg/L	0.0003195	0.0003142
Methyl Chloride	mg/L	0.0002969	0.0002873
Methylene Chloride	mg/L	0.0002539	0.0012384
Mirex	mg/L	0.0000005	0.0000005
Molybdenum	mg/L	0.0253879	0.0193175
Naphthalene	mg/L	0.0002129	0.0004359
Nickel	mg/L	0.0228521	0.1112553

Summary of Worst Case Concentrations for Scenarios 1 and 2

		SCENARIO 1 RESULTS	SCENARIO 2 RESULTS
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)
Nitrate	mg/L	0.0055313	0.0024078
Nitrate (as N)	mg/L	15.0071325	9.5243040
Nitrite	mg/L	0.0011063	0.0004816
Nitrite (as N)	mg/L	0.2248326	0.2023326
Nitrobenzene	mg/L	0.0008978	0.0008669
Nitrogen (Organic)	mg/L	0.0082969	0.0036117
Nitrogen (Total Oxidised)	mg/L	0.0055313	0.0024078
Nitrogen (Total)	mg/L	0.0425910	0.0185403
N-Nitrosodimethylamine	mg/L	0.0007503	0.0007458
N-nitrosodi-n-propylamine	mg/L	0.0003305	0.0003192
n-Nitrosodiphenylamine	mg/L	0.0009075	0.0008767
Nonylphenol	mg/L	0.0000691	0.0000301
Nonylphenol Diethoxylate (T	mg/L	0.0019043	0.0019157
Nonylphenol Monoethoxylat	mg/L	0.0031168	0.0031558
Oil and Grease	mg/L	1.0647744	1.6084274
para-tert-Octylphenol	mg/L	0.0003117	0.0003156
Parathion	mg/L	0.0000449	0.0000378
P-Chloro-M-Cresol	mg/L	0.0008133	0.0007810
Pentachlorophenol	mg/L	0.0007223	0.0006902
pH (Field)	SU	9.2799127	7.6105643
Phenanthrene	mg/L	0.0004942	0.0004567
Phenol	mg/L	0.0015318	0.0011509
Phenolics Total	mg/L	0.0083333	0.0093664
Phosphorus	mg/L	0.3790539	0.5926486
p-Nonylphenol (Technical mi	mg/L	0.0015415	0.0015904
Potassium	mg/L	29.7569141	23.7441685
Pyrene	mg/L	0.0002302	0.0001906
Radium-226	pCi/L	0.2496070	0.3981339
Radium-228	pCi/L	0.4050946	0.6257562
Redox	mV	129.0367540	207.5270880
Selenium	mg/L	0.0190702	0.0134214
Silver	mg/L	0.0002699	0.0001491
Sodium	mg/L	345.8762737	397.2415350
Specific Conductivity (lab)	µS/cm	0.0000000	0.0000000
Sulfate	mg/L	1030.8267831	1399.1361926
Sulfide	mg/L	0.8236900	0.6826938
sulfide (as H2S)	mg/L	0.6027656	0.4720090
Surfactants	mg/L	0.0013828	0.0006020

Summary of Worst Case Concentrations for Scenarios 1 and 2

		SCENARIO 1 RESULTS	SCENARIO 2 RESULTS
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)
Temperature	oC	27.6409025	29.5034612
Tetrachloroethene	mg/L	0.0001618	0.0001551
Thallium	mg/L	0.0051653	0.0016883
Tin	mg/L	0.0002766	0.0001204
Titanium	mg/L	0.0000691	0.0000301
Toluene	mg/L	0.0001618	0.0001569
Total Dissolved Solids	mg/L	4478.4570597	3631.1512415
Total Kjeldahl Nitrogen	mg/L	8.3045852	9.2900677
Total Organic Carbon	mg/L	5.0234352	4.5887133
Total Suspended Solids	mg/L	88.9877001	182.8649360
Toxaphene	mg/L	0.0000206	0.0000191
trans-1,2-Dibromoethene	mg/L	0.0000138	0.0000060
trans-1,3-dichloropropene	mg/L	0.0001618	0.0001551
Tributyltin	mg/L	0.0000464	0.0000480
Trichloroethene	mg/L	0.0001519	0.0001452
Trichlorofluoromethane	mg/L	0.0000138	0.0000060
Turbidity	NTU	22.5786026	88.9765237
Vinyl chloride	mg/L	0.0002406	0.0002346
Zinc	mg/L	0.0271714	0.3590946

		SCENARIO 1 RESULTS	BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002998	0.00029	0.00029	0.001	0.0000000	0.00029	0.00029	0.001	0.000105531
1,1,2,2-tetrachloroethane	mg/L	0.0002180	0.0002	0.0002	0.001	0.0000000	0.0002	0.0002	0.001	7.27802E-05
1,1,2-trichloroethane	mg/L	0.0002111	0.0002	0.0002	0.001	0.0000000	0.0002	0.0002	0.001	7.27802E-05
1,1-dichloroethane	mg/L	0.0001322	0.00012	0.00012	0.001	0.0000000	0.00012	0.00012	0.001	4.36681E-05
1,1-dichloroethene	mg/L	0.0003097	0.0003	0.0003	0.001	0.0000000	0.0003	0.0003	0.001	0.00010917
1,2,4-trichlorobenzene	mg/L	0.0007246	0.00068	0.00068	0.0019	0.0000000	0.00068	0.00068	0.0019	0.000247453
1,2-dichlorobenzene	mg/L	0.0001633	0.00015	0.00015	0.001	0.0000000	0.00015	0.00015	0.001	5.45852E-05
1,2-dichloroethane	mg/L	0.0002278	0.00021	0.00021	0.001	0.0000000	0.00021	0.00021	0.001	7.64192E-05
1,2-dichloropropane	mg/L	0.0001144	0.000095	0.000095	0.001	0.0000000	0.000095	0.000095	0.001	3.45706E-05
1,2-Trans-dichloroethene	mg/L	0.0001815	0.00017	0.00017	0.001	0.0000000	0.00017	0.00017	0.001	6.18632E-05
1,3-dichlorobenzene	mg/L	0.0001238	0.00011	0.00011	0.001	0.0000000	0.00011	0.00011	0.001	4.00291E-05
1,3-Dichloropropene	mg/L	0.0005069	0.0005	0.0005	0.002	0.0000000	0.0005	0.0005	0.002	0.000181951
1,4-dichlorobenzene	mg/L	0.0002224	0.00021	0.00021	0.001	0.0000000	0.00021	0.00021	0.001	7.64192E-05
2,3,7,8-Tetrachlorooxanthrene	mg/L	2.01E-11				0				0
2,4,6-trichlorophenol	mg/L	0.0017166	0.0017	0.0017	0.0096	0.0000000	0.0017	0.0017	0.0095	0.000618632
2,4-dichlorophenol	mg/L	0.0003413	0.00032	0.00032	0.0019	0.0000000	0.00032	0.00032	0.0019	0.000116448
2,4-dimethylphenol	mg/L	0.0008383	0.00082	0.00082	0.0096	0.0000000	0.00081	0.00081	0.0095	0.00029476
2,4-dinitrophenol	mg/L	0.0059692	0.0059	0.0059	0.048	0.0000000	0.0058	0.0058	0.048	0.002110626
2,4-Dinitrotoluene	mg/L	0.0005400	0.00052	0.00052	0.0096	0.0000000	0.00051	0.00051	0.0095	0.00018559
2,6-dichlorophenol	mg/L	0.0000153				0				0
2,6-dinitrotoluene	mg/L	0.0007941	0.00077	0.00077	0.0096	0.0000000	0.00076	0.00076	0.0095	0.000276565
2-Chloroethylvinyl ether	mg/L	0.0003157	0.00025	0.00025	0.002	0.0000000	0.00025	0.00025	0.002	9.09753E-05
2-chloronaphthalene	mg/L	0.0001619	0.00015	0.00015	0.0019	0.0000000	0.00014	0.00014	0.0019	5.09461E-05
2-chlorophenol	mg/L	0.0016471	0.0016	0.0016	0.0096	0.0000000	0.0016	0.0016	0.0095	0.000582242
2-methylphenol	mg/L	0.0000769				0				0
2-nitrophenol	mg/L	0.0016718	0.0016	0.0016	0.0096	0.0000000	0.0016	0.0016	0.0095	0.000582242
3,3-Dichlorobenzidine	mg/L	0.0011709	0.0011	0.0011	0.0096	0.0000000	0.0011	0.0011	0.0095	0.000400291
3,4-Benzo-fluoranthene	mg/L	0.0001687	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.45852E-05
4,4-DDE	mg/L	0.0000011	0.00000076	0.00000076	0.0000013	0.00E+00	0.00000076	0.00000076	0.0000013	2.76565E-07
4,6-Dinitro-2-methylphenol	mg/L	0.0021649	0.0021	0.0021	0.048	0.0000000	0.0021	0.0021	0.048	0.000764192
4-bromophenyl phenyl ether	mg/L	0.0006341	0.00061	0.00061	0.0096	0.0000000	0.0006	0.0006	0.0095	0.000218341
4-chlorophenyl phenyl ether	mg/L	0.0005042	0.00048	0.00048	0.0096	0.0000000	0.00048	0.00048	0.0095	0.000174672
4-nitrophenol	mg/L	0.0063381	0.0062	0.0062	0.048	0.0000000	0.0062	0.0062	0.048	0.002256186
a-BHC	mg/L	0.0000030	0.00000063	0.00000063	0.0000013	0.00E+00	0.00000063	0.00000063	0.0000013	2.29258E-07
Accrolein	mg/L	0.0027023	0.0026	0.0026	0.02	0.0000000	0.0026	0.0026	0.02	0.000946143
Acenaphthene	mg/L	0.0001559	0.00014	0.00014	0.0019	0.0000000	0.00014	0.00014	0.0019	5.09461E-05
Acenaphthylene	mg/L	0.0001619	0.00015	0.00015	0.0019	0.0000000	0.00014	0.00014	0.0019	5.09461E-05
Acrylonitrile	mg/L	0.0009074	0.00055	0.00055	0.02	0.0000000	0.00055	0.00055	0.02	0.000200146
Aldrin	mg/L	0.0000020	0.0000008	0.0000008	0.0000013	0.00E+00	0.0000008	0.0000008	0.0000013	2.91121E-07
Alkalinity (Bicarbonate as CaCO3)	mg/L	97.0924309	60	0.41	5	0.0000000	0.41	0.41	5	0.149199418
Alkalinity (Carbonate as CaCO3)	mg/L	47.8974891	16	0.41	5	0.0000000	36	0.41	5	13.10043668
Alkalinity (total) as CaCO3	mg/L	149.4905386	64	0.41	5	0.0000000	56	0.41	5	20.37845706
Aluminium	mg/L	1.1499374	0.92	0.0024	0.03	0.0000000	0.42	0.0024	0.03	0.152838428
Ammonia	mg/L	0.0418996				0				0
Ammonia as N	mg/L	2.1587118	0.65	0.086	0.1	0.0000000	2.6	0.086	0.1	0.946142649
Anthracene	mg/L	0.0001657	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.45852E-05
Antimony	mg/L	0.0039679	0.0011	0.00004	0.002	0.0000000	0.00032	0.00004	0.002	0.000116448
Arochlor 1016	mg/L	0.0000028	0.0000024	0.0000024	0.0000096	0.00E+00	0.0000024	0.0000024	0.0000096	8.73362E-07
Arochlor 1221	mg/L	0.0000052	0.0000024	0.0000024	0.0000096	0.00E+00	0.0000024	0.0000024	0.0000096	8.73362E-07

		SCENARIO 1 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	COAL YARD	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002998	0.00029	0.00029	0.001	0	0.00029	0.00029	0.001	0
1,1,2,2-tetrachloroethane	mg/L	0.0002180	0.0002	0.0002	0.001	0	0.0002	0.0002	0.001	0
1,1,2-trichloroethane	mg/L	0.0002111	0.0002	0.0002	0.001	0	0.0002	0.0002	0.001	0
1,1-dichloroethane	mg/L	0.0001322	0.00012	0.00012	0.001	0	0.00012	0.00012	0.001	0
1,1-dichloroethene	mg/L	0.0003097	0.0003	0.0003	0.001	0	0.0003	0.0003	0.001	0
1,2,4-trichlorobenzene	mg/L	0.0007246	0.0007	0.0007	0.002	0	0.00068	0.00068	0.0019	0
1,2-dichlorobenzene	mg/L	0.0001633	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	0
1,2-dichloroethane	mg/L	0.0002278	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	0
1,2-dichloropropane	mg/L	0.0001144	0.000095	0.000095	0.001	0	0.000095	0.000095	0.001	0
1,2-Trans-dichloroethene	mg/L	0.0001815	0.00017	0.00017	0.001	0	0.00017	0.00017	0.001	0
1,3-dichlorobenzene	mg/L	0.0001238	0.00011	0.00011	0.001	0	0.00011	0.00011	0.001	0
1,3-Dichloropropene	mg/L	0.0005069	0.0005	0.0005	0.002	0	0.0005	0.0005	0.002	0
1,4-dichlorobenzene	mg/L	0.0002224	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	0
2,3,7,8-Tetrachlorooxanthrene	mg/L	2.01E-11				0				0
2,4,6-trichlorophenol	mg/L	0.0017166	0.0017	0.0017	0.0099	0	0.0017	0.0017	0.0096	0
2,4-dichlorophenol	mg/L	0.0003413	0.00033	0.00033	0.002	0	0.00032	0.00032	0.0019	0
2,4-dimethylphenol	mg/L	0.0008383	0.00084	0.00084	0.0099	0	0.00082	0.00082	0.0096	0
2,4-dinitrophenol	mg/L	0.0059692	0.0061	0.0061	0.05	0	0.0059	0.0059	0.048	0
2,4-Dinitrotoluene	mg/L	0.0005400	0.00053	0.00053	0.0099	0	0.00052	0.00052	0.0096	0
2,6-dichlorophenol	mg/L	0.0000153				0				0
2,6-dinitrotoluene	mg/L	0.0007941	0.00079	0.00079	0.0099	0	0.00077	0.00077	0.0096	0
2-Chloroethylvinyl ether	mg/L	0.0003157	0.00025	0.00025	0.002	0	0.00025	0.00025	0.002	0
2-chloronaphthalene	mg/L	0.0001619	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0
2-chlorophenol	mg/L	0.0016471	0.0016	0.0016	0.0099	0	0.0016	0.0016	0.0096	0
2-methylphenol	mg/L	0.0000769				0				0
2-nitrophenol	mg/L	0.0016718	0.0017	0.0017	0.0099	0	0.0016	0.0016	0.0096	0
3,3-Dichlorobenzidine	mg/L	0.0011709	0.0011	0.0011	0.0099	0	0.0011	0.0011	0.0096	0
3,4-Benzo-fluoranthene	mg/L	0.0001687	0.00016	0.00016	0.002	0	0.00015	0.00015	0.0019	0
4,4-DDE	mg/L	0.0000011	0.00000077	0.00000077	0.0000013	0	0.00000078	0.00000078	0.0000013	0
4,6-Dinitro-2-methylphenol	mg/L	0.0021649	0.0022	0.0022	0.05	0	0.0021	0.0021	0.048	0
4-bromophenyl phenyl ether	mg/L	0.0006341	0.00063	0.00063	0.0099	0	0.00061	0.00061	0.0096	0
4-chlorophenyl phenyl ether	mg/L	0.0005042	0.0005	0.0005	0.0099	0	0.00048	0.00048	0.0096	0
4-nitrophenol	mg/L	0.0063381	0.0064	0.0064	0.05	0	0.0062	0.0062	0.048	0
a-BHC	mg/L	0.0000030	0.000001	0.00000063	0.0000012	0	0.0000021	0.00000065	0.0000013	0
Accrolein	mg/L	0.0027023	0.0026	0.0026	0.02	0	0.0026	0.0026	0.02	0
Acenaphthene	mg/L	0.0001559	0.00014	0.00014	0.002	0	0.00014	0.00014	0.0019	0
Acenaphthylene	mg/L	0.0001619	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0
Acrylonitrile	mg/L	0.0009074	0.00055	0.00055	0.02	0	0.00055	0.00055	0.02	0
Aldrin	mg/L	0.0000020	0.00000081	0.00000081	0.0000013	0	0.00000082	0.00000082	0.0000013	0
Alkalinity (Bicarbonate as CaCO3)	mg/L	97.0924309	0.41	0.41	5	0	110	0.41	5	0
Alkalinity (Carbonate as CaCO3)	mg/L	47.8974891	0.41	0.41	5	0	0.41	0.41	5	0
Alkalinity (total) as CaCO3	mg/L	149.4905386	0.41	0.41	5	0	110	0.41	5	0
Aluminium	mg/L	1.1499374	44	0.0024	0.03	0	0.98	0.0024	0.03	0
Ammonia	mg/L	0.0418996				0				0
Ammonia as N	mg/L	2.1587118	0.99	0.086	0.1	0	0.4	0.086	0.1	0
Anthracene	mg/L	0.0001657	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0
Antimony	mg/L	0.0039679	0.00058	0.00004	0.002	0	0.00049	0.00004	0.002	0
Arochlor 1016	mg/L	0.0000028	0.0000024	0.0000024	0.0000097	0	0.0000025	0.0000025	0.0000099	0
Arochlor 1221	mg/L	0.0000052	0.0000024	0.0000024	0.0000097	0	0.0000025	0.0000025	0.0000099	0

		SCENARIO 1 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002998	0.001	0.001	0.005	1.38282E-05	0.00029	0.00029	0.001	1.6885E-05
1,1,2,2-tetrachloroethane	mg/L	0.0002180	0.0015	0.0015	0.005	2.07424E-05	0.0002	0.0002	0.001	1.16448E-05
1,1,2-trichloroethane	mg/L	0.0002111	0.001	0.001	0.005	1.38282E-05	0.0002	0.0002	0.001	1.16448E-05
1,1-dichloroethane	mg/L	0.0001322	0.001	0.001	0.005	1.38282E-05	0.00012	0.00012	0.001	6.9869E-06
1,1-dichloroethene	mg/L	0.0003097	0.001	0.001	0.005	1.38282E-05	0.0003	0.0003	0.001	1.74672E-05
1,2,4-trichlorobenzene	mg/L	0.0007246	0.00222	0.00222	0.005556	3.06987E-05	0.00068	0.00068	0.0019	3.95924E-05
1,2-dichlorobenzene	mg/L	0.0001633	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.001	8.73362E-06
1,2-dichloroethane	mg/L	0.0002278	0.0015	0.0015	0.005	2.07424E-05	0.00021	0.00021	0.001	1.22271E-05
1,2-dichloropropane	mg/L	0.0001144	0.0015	0.0015	0.005	2.07424E-05	0.000095	0.000095	0.001	5.5313E-06
1,2-Trans-dichloroethene	mg/L	0.0001815	0.001	0.001	0.005	1.38282E-05	0.00017	0.00017	0.001	9.89811E-06
1,3-dichlorobenzene	mg/L	0.0001238	0.00111	0.00111	0.005556	1.53493E-05	0.00011	0.00011	0.001	6.40466E-06
1,3-Dichloropropene	mg/L	0.0005069	0.001	0.001	0.01	1.38282E-05	0.0005	0.0005	0.002	2.91121E-05
1,4-dichlorobenzene	mg/L	0.0002224	0.00111	0.00111	0.005556	1.53493E-05	0.00021	0.00021	0.001	1.22271E-05
2,3,7,8-Tetrachlorooxanthrene	mg/L	2.01E-11	1.45E-09	1.45E-09	0.000000011	2.00509E-11				0
2,4,6-trichlorophenol	mg/L	0.0017166	0.00111	0.00111	0.005556	1.53493E-05	0.0017	0.0017	0.0096	9.89811E-05
2,4-dichlorophenol	mg/L	0.0003413	0.00111	0.00111	0.005556	1.53493E-05	0.00032	0.00032	0.0019	1.86317E-05
2,4-dimethylphenol	mg/L	0.0008383	0.00056	0.00056	0.005556	7.74381E-06	0.00082	0.00082	0.0096	4.77438E-05
2,4-dinitrophenol	mg/L	0.0059692	0.00056	0.00056	0.005556	7.74381E-06	0.0059	0.0059	0.048	0.000343523
2,4-Dinitrotoluene	mg/L	0.0005400	0.00111	0.00111	0.005556	1.53493E-05	0.00052	0.00052	0.0096	3.02766E-05
2,6-dichlorophenol	mg/L	0.0000153	0.00111	0.00111	0.005556	1.53493E-05				0
2,6-dinitrotoluene	mg/L	0.0007941	0.00111	0.00111	0.005556	1.53493E-05	0.00077	0.00077	0.0096	4.48326E-05
2-Chloroethylvinyl ether	mg/L	0.0003157	0.005	0.005	0.005	6.91412E-05	0.00025	0.00025	0.002	1.4556E-05
2-chloronaphthalene	mg/L	0.0001619	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.0019	8.73362E-06
2-chlorophenol	mg/L	0.0016471	0.00111	0.00111	0.005556	1.53493E-05	0.0016	0.0016	0.0096	9.31587E-05
2-methylphenol	mg/L	0.0000769	0.00556	0.00556	0.005556	7.6885E-05				0
2-nitrophenol	mg/L	0.0016718	0.00111	0.00111	0.005556	1.53493E-05	0.0016	0.0016	0.0096	9.31587E-05
3,3-Dichlorobenzidine	mg/L	0.0011709	0.00444	0.00444	0.005556	6.13974E-05	0.0011	0.0011	0.0096	6.40466E-05
3,4-Benzo-fluoranthene	mg/L	0.0001687	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.0019	8.73362E-06
4,4-DDE	mg/L	0.0000011	0.000005	0.000005	0.00005155	6.91412E-08	0.00000076	0.00000076	0.0000013	4.42504E-08
4,6-Dinitro-2-methylphenol	mg/L	0.0021649	0.00111	0.00111	0.005556	1.53493E-05	0.0021	0.0021	0.048	0.000122271
4-bromophenyl phenyl ether	mg/L	0.0006341	0.00111	0.00111	0.005556	1.53493E-05	0.00061	0.00061	0.0096	3.55167E-05
4-chlorophenyl phenyl ether	mg/L	0.0005042	0.00111	0.00111	0.005556	1.53493E-05	0.00048	0.00048	0.0096	2.79476E-05
4-nitrophenol	mg/L	0.0063381	0.00111	0.00111	0.005556	1.53493E-05	0.0062	0.0062	0.048	0.00036099
a-BHC	mg/L	0.0000030	0.00002	0.005	0.00005155	2.76565E-07	0.00000063	0.00000063	0.0000013	3.66812E-08
Accrolein	mg/L	0.0027023	0.01	0.01	0.01	0.000138282	0.0026	0.0026	0.02	0.000151383
Acenaphthene	mg/L	0.0001559	0.00111	0.00111	0.005556	1.53493E-05	0.00014	0.00014	0.0019	8.15138E-06
Acenaphthylene	mg/L	0.0001619	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.0019	8.73362E-06
Acrylonitrile	mg/L	0.0009074	0.0085	0.0085	0.01	0.00011754	0.00055	0.00055	0.02	3.20233E-05
Aldrin	mg/L	0.0000020	0.000005	0.000005	0.00005155	6.91412E-08	0.0000008	0.0000008	0.0000013	4.65793E-08
Alkalinity (Bicarbonate as CaCO3)	mg/L	97.0924309				0	170	0.41	5	9.898107715
Alkalinity (Carbonate as CaCO3)	mg/L	47.8974891				0	0.41	0.41	5	0.023871907
Alkalinity (total) as CaCO3	mg/L	149.4905386				0	170	0.41	5	9.898107715
Aluminium	mg/L	1.1499374	1.09	0.02	0.05	0.01507278	0.0088	0.0024	0.03	0.000512373
Ammonia	mg/L	0.0418996	3.03			0.041899563				0
Ammonia as N	mg/L	2.1587118	3.03	0.05	0.1	0.041899563	2.3	0.086	0.1	0.133915575
Anthracene	mg/L	0.0001657	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.0019	8.73362E-06
Antimony	mg/L	0.0039679	0.00344	0.00011	0.002	4.75691E-05	0.00012	0.00004	0.002	6.9869E-06
Arochlor 1016	mg/L	0.0000028	0.00003	0.00003	0.0005155	4.14847E-07	0.0000024	0.0000024	0.0000096	1.39738E-07
Arochlor 1221	mg/L	0.0000052	0.0002	0.0002	0.0005155	2.76565E-06	0.0000024	0.0000024	0.0000096	1.39738E-07

		SCENARIO 1 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002998	0.00029	0.00029	0.001	7.38719E-06	0.00029	0.00029	0.001	7.17613E-05	0.00029	0.00029	0.001	8.4425E-05
1,1,2,2-tetrachloroethane	mg/L	0.0002180	0.0002	0.0002	0.001	5.09461E-06	0.0002	0.0002	0.001	4.94905E-05	0.0002	0.0002	0.001	5.82242E-05
1,1,2-trichloroethane	mg/L	0.0002111	0.0002	0.0002	0.001	5.09461E-06	0.0002	0.0002	0.001	4.94905E-05	0.0002	0.0002	0.001	5.82242E-05
1,1-dichloroethane	mg/L	0.0001322	0.00012	0.00012	0.001	3.05677E-06	0.00012	0.00012	0.001	2.96943E-05	0.00012	0.00012	0.001	3.49345E-05
1,1-dichloroethene	mg/L	0.0003097	0.0003	0.0003	0.001	7.64192E-06	0.0003	0.0003	0.001	7.42358E-05	0.0003	0.0003	0.001	8.73362E-05
1,2,4-trichlorobenzene	mg/L	0.0007246	0.00067	0.00067	0.0019	1.7067E-05	0.00074	0.00074	0.0021	0.000183115	0.00071	0.00071	0.002	0.000206696
1,2-dichlorobenzene	mg/L	0.0001633	0.00015	0.00015	0.001	3.82096E-06	0.00015	0.00015	0.001	3.71179E-05	0.00015	0.00015	0.001	4.36681E-05
1,2-dichloroethane	mg/L	0.0002278	0.00021	0.00021	0.001	5.34934E-06	0.00021	0.00021	0.001	5.19651E-05	0.00021	0.00021	0.001	6.11354E-05
1,2-dichloropropane	mg/L	0.0001144	0.000095	0.000095	0.001	2.41994E-06	0.000095	0.000095	0.001	2.3508E-05	0.000095	0.000095	0.001	2.76565E-05
1,2-Trans-dichloroethene	mg/L	0.0001815	0.00017	0.00017	0.001	4.33042E-06	0.00017	0.00017	0.001	4.2067E-05	0.00017	0.00017	0.001	4.94905E-05
1,3-dichlorobenzene	mg/L	0.0001238	0.00011	0.00011	0.001	2.80204E-06	0.00011	0.00011	0.001	2.72198E-05	0.00011	0.00011	0.001	3.20233E-05
1,3-Dichloropropene	mg/L	0.0005069	0.0005	0.0005	0.002	1.27365E-05	0.0005	0.0005	0.002	0.000123726	0.0005	0.0005	0.002	0.00014556
1,4-dichlorobenzene	mg/L	0.0002224	0.00021	0.00021	0.001	5.34934E-06	0.00021	0.00021	0.001	5.19651E-05	0.00021	0.00021	0.001	6.11354E-05
2,3,7,8-Tetrachlorooxanthrene	mg/L	2.01E-11				0				0				0
2,4,6-trichlorophenol	mg/L	0.0017166	0.0017	0.0017	0.0094	4.33042E-05	0.0018	0.0018	0.01	0.000445415	0.0017	0.0017	0.01	0.000494905
2,4-dichlorophenol	mg/L	0.0003413	0.00032	0.00032	0.0019	8.15138E-06	0.00035	0.00035	0.0021	8.66084E-05	0.00033	0.00033	0.002	9.60699E-05
2,4-dimethylphenol	mg/L	0.0008383	0.0008	0.0008	0.0094	2.03785E-05	0.00089	0.00089	0.01	0.000220233	0.00085	0.00085	0.01	0.000247453
2,4-dinitrophenol	mg/L	0.0059692	0.0058	0.0058	0.047	0.000147744	0.0064	0.0064	0.052	0.001583697	0.0061	0.0061	0.05	0.001775837
2,4-Dinitrotoluene	mg/L	0.0005400	0.00051	0.00051	0.0094	1.29913E-05	0.00056	0.00056	0.01	0.000138574	0.00054	0.00054	0.01	0.000157205
2,6-dichlorophenol	mg/L	0.0000153				0				0				0
2,6-dinitrotoluene	mg/L	0.0007941	0.00075	0.00075	0.0094	1.91048E-05	0.00083	0.00083	0.01	0.000205386	0.0008	0.0008	0.01	0.000232897
2-Chloroethylvinyl ether	mg/L	0.0003157	0.00025	0.00025	0.002	6.36827E-06	0.00025	0.00025	0.002	6.18632E-05	0.00025	0.00025	0.002	7.27802E-05
2-chloronaphthalene	mg/L	0.0001619	0.00014	0.00014	0.0019	3.56623E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00015	0.00015	0.002	4.36681E-05
2-chlorophenol	mg/L	0.0016471	0.0016	0.0016	0.0094	4.07569E-05	0.0017	0.0017	0.01	0.00042067	0.0017	0.0017	0.01	0.000494905
2-methylphenol	mg/L	0.0000769				0				0				0
2-nitrophenol	mg/L	0.0016718	0.0016	0.0016	0.0094	4.07569E-05	0.0018	0.0018	0.01	0.000445415	0.0017	0.0017	0.01	0.000494905
3,3-Dichlorobenzidine	mg/L	0.0011709	0.0011	0.0011	0.0094	2.80204E-05	0.0012	0.0012	0.01	0.000296943	0.0011	0.0011	0.01	0.000320233
3,4-Benzo-fluoranthene	mg/L	0.0001687	0.00015	0.00015	0.0019	3.82096E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00016	0.00016	0.002	4.65793E-05
4,4-DDE	mg/L	0.0000011	0.0000034	0.00000075	0.0000012	8.66084E-08	0.0000015	0.00000078	0.0000013	3.71179E-07	0.00000077	0.00000077	0.0000013	2.24163E-07
4,6-Dinitro-2-methylphenol	mg/L	0.0021649	0.0021	0.0021	0.047	5.34934E-05	0.0023	0.0023	0.052	0.000569141	0.0022	0.0022	0.05	0.000640466
4-bromophenyl phenyl ether	mg/L	0.0006341	0.0006	0.0006	0.0094	1.52838E-05	0.00066	0.00066	0.01	0.000163319	0.00064	0.00064	0.01	0.000186317
4-chlorophenyl phenyl ether	mg/L	0.0005042	0.00047	0.00047	0.0094	1.19723E-05	0.00052	0.00052	0.01	0.000128675	0.0005	0.0005	0.01	0.00014556
4-nitrophenol	mg/L	0.0063381	0.0061	0.0061	0.047	0.000155386	0.0067	0.0067	0.052	0.001657933	0.0065	0.0065	0.05	0.001892285
a-BHC	mg/L	0.0000030	0.0000098	0.00000063	0.0000012	2.49636E-07	0.0000074	0.00000063	0.0000013	1.83115E-06	0.0000014	0.00000063	0.0000012	4.07569E-07
Accrolein	mg/L	0.0027023	0.0026	0.0026	0.02	6.623E-05	0.0026	0.0026	0.02	0.000643377	0.0026	0.0026	0.02	0.000756914
Acenaphthene	mg/L	0.0001559	0.00014	0.00014	0.0019	3.56623E-06	0.00015	0.00015	0.0021	3.71179E-05	0.00014	0.00014	0.002	4.07569E-05
Acenaphthylene	mg/L	0.0001619	0.00014	0.00014	0.0019	3.56623E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00015	0.00015	0.002	4.36681E-05
Acrylonitrile	mg/L	0.0009074	0.00055	0.00055	0.02	1.40102E-05	0.00055	0.00055	0.02	0.000136099	0.0014	0.00055	0.02	0.000407569
Aldrin	mg/L	0.0000020	0.0000078	0.00000079	0.0000012	1.9869E-07	0.0000045	0.00000082	0.0000013	1.11354E-06	0.00000081	0.00000081	0.0000013	2.35808E-07
Alkalinity (Bicarbonate as CaCO3)	mg/L	97.0924309	600	0.41	5	15.28384279	210	0.41	5	51.9650655	68	0.41	5	19.79621543
Alkalinity (Carbonate as CaCO3)	mg/L	47.8974891	0.41	0.41	5	0.010443959	140	0.41	5	34.643377	0.41	0.41	5	0.119359534
Alkalinity (total) as CaCO3	mg/L	149.4905386	600	0.41	5	15.28384279	340	0.41	5	84.13391557	68	0.41	5	19.79621543
Aluminium	mg/L	1.1499374	0.24	0.24	0.3	0.006113537	0.53	0.024	0.3	0.131149927	2.9	0.0024	0.03	0.844250364
Ammonia	mg/L	0.0418996				0				0				0
Ammonia as N	mg/L	2.1587118	4.3	0.086	0.1	0.109534207	2.1	0.086	0.1	0.519650655	1.4	0.086	0.1	0.407569141
Anthracene	mg/L	0.0001657	0.00015	0.00015	0.0019	3.82096E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00015	0.00015	0.002	4.36681E-05
Antimony	mg/L	0.0039679	0.035	0.004	0.02	0.000891557	0.011	0.0004	0.02	0.00272198	0.00063	0.00004	0.002	0.000183406
Arochlor 1016	mg/L	0.0000028	0.0000024	0.0000024	0.0000095	6.11354E-08	0.0000025	0.0000025	0.0000099	6.18632E-07	0.0000025	0.0000025	0.0000098	7.27802E-07
Arochlor 1221	mg/L	0.0000052	0.0000024	0.0000024	0.0000095	6.11354E-08	0.0000025	0.0000025	0.0000099	6.18632E-07	0.0000024	0.0000024	0.0000098	6.9869E-07

		SCENARIO 1 RESULTS	BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000031	0.0000028	0.0000028	0.0000096	0.00E+00	0.0000028	0.0000028	0.0000096	1.01892E-06
Arochlor 1242	mg/L	0.0000023	0.0000018	0.0000018	0.0000096	0.00E+00	0.0000018	0.0000018	0.0000096	6.55022E-07
Arochlor 1248	mg/L	0.0000029	0.0000022	0.0000022	0.0000096	0.00E+00	0.0000022	0.0000022	0.0000096	8.00582E-07
Arochlor 1254	mg/L	0.0000018	0.0000013	0.0000013	0.0000096	0.00E+00	0.0000013	0.0000013	0.0000096	4.73071E-07
Arochlor 1260	mg/L	0.0000018	0.0000013	0.0000013	0.0000096	0.00E+00	0.0000013	0.0000013	0.0000096	4.73071E-07
Arsenic	mg/L	0.0230673	0.0072	0.00012	0.001	0.0000000	0.003	0.003	0.01	0.001091703
Azinophos methyl	mg/L	0.0001119	0.000022	0.000022	0.0002	0.0000000	0.000022	0.000022	0.00019	8.00582E-06
Barium	mg/L	0.2194811	0.11	0.000088	0.01	0.0000000	0.08	0.000088	0.01	0.029112082
b-BHC	mg/L	0.0000040	0.00000096	0.00000096	0.0000013	0.00E+00	0.00000096	0.00000096	0.0000013	3.49345E-07
Benz(a)anthracene	mg/L	0.0002203	0.00014	0.00014	0.0019	0.0000000	0.00014	0.00014	0.0019	5.09461E-05
Benzene	mg/L	0.0001254	0.00011	0.00011	0.001	0.0000000	0.00011	0.00011	0.001	4.00291E-05
Benzidine	mg/L	0.0339452	0.033	0.033	0.19	0.0000000	0.033	0.033	0.19	0.012008734
Benzo(a) pyrene	mg/L	0.0001460	0.00013	0.00013	0.0019	0.0000000	0.00013	0.00013	0.0019	4.73071E-05
Benzo(g,h,i)perylene	mg/L	0.0001619	0.00015	0.00015	0.0019	0.0000000	0.00014	0.00014	0.0019	5.09461E-05
Benzo(k)fluoranthene	mg/L	0.0005498	0.00053	0.00053	0.0019	0.0000000	0.00052	0.00052	0.0019	0.000189229
Beryllium	mg/L	0.0005439	0.00084	0.000036	0.001	0.0000000	0.000036	0.000036	0.001	1.31004E-05
Biochemical Oxygen Demand	mg/L	6.1580058	2	2	2	2	2	2	2	0.727802038
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.00056	0.00056	0.0096	0.0000000	0.00055	0.00055	0.0095	0.000200146
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.00024	0.00024	0.0019	0.0000000	0.00024	0.00024	0.0019	8.73362E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.00019	0.00019	0.0019	0.0000000	0.00019	0.00019	0.0019	6.91412E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.012	0.012	0.019	0.0000000	0.012	0.012	0.019	0.004366812
Bisphenol A	mg/L	0.0003117	0.0042	0.00032	0.001	0.0000000	0.00031	0.00031	0.00097	0.000112809
Boron	mg/L	36.6327802	0.16	0.00046	0.005	0.0000000	2.6	0.00061	0.2	0.946142649
Bromide	mg/L	70.3643377	0.19	0.19	0.5	0.0000000	5.3	0.19	0.5	1.9286754
Bromoform	mg/L	0.0002081	0.00019	0.00019	0.001	0.0000000	0.00019	0.00019	0.001	6.91412E-05
Butyl benzyl phthalate	mg/L	0.0014182	0.0014	0.0014	0.0096	0.0000000	0.0014	0.0014	0.0095	0.000509461
Cadmium	mg/L	0.0009789	0.00024	0.000074	0.001	0.0000000	0.00013	0.00013	0.005	4.73071E-05
Carbon tetrachloride	mg/L	0.0001519	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.09461E-05
Chemical Oxygen Demand	mg/L	73.4507278	6.1	2	10	0.0000000	11	2	10	4.002911208
chlordane	mg/L	0.0000044	0.0000016	0.0000016	0.000012	0.00E+00	0.0000016	0.0000016	0.000012	5.82242E-07
Chloride	mg/L	4288.6023290	22	0.2	1	0.0000000	310	2	10	112.8093159
Chlorine, Total Residual	mg/L	0.6244541	0.04			0.0000000	0			0
Chlorobenzene	mg/L	0.0001450	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.09461E-05
Chlorodibromomethane	mg/L	0.0003980	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.09461E-05
Chloroethane	mg/L	0.0002209	0.00021	0.00021	0.001	0.0000000	0.00021	0.00021	0.001	7.64192E-05
Chloroform	mg/L	0.0087341	0.00017	0.00017	0.001	0.0000000	0.00035	0.00017	0.001	0.000127365
Chlorpyrifos	mg/L	0.0001092	0.00002	0.00002	0.0002	0.0000000	0.000019	0.000019	0.00019	6.91412E-06
Chromium (Hexavalent)	mg/L	0.0063464	0.0023	0.0019	0.01	0.0000000	0.0019	0.0019	0.01	0.000691412
Chromium (Total)	mg/L	0.0031586	0.0013	0.00023	0.002	0.0000000	0.00092	0.00077	0.005	0.000334789
Chrysene	mg/L	0.0001514	0.00013	0.00013	0.0019	0.0000000	0.00013	0.00013	0.0019	4.73071E-05
cis-1,3-dichloropropene	mg/L	0.0002012	0.00019	0.00019	0.001	0.0000000	0.00019	0.00019	0.001	6.91412E-05
Cobalt	mg/L	0.0035488	0.00097	0.00005	0.0005	0.0000000	0.00063	0.00005	0.0005	0.000229258
Color	o	0.1382824				0				0
Copper	mg/L	0.0192408	0.0029	0.00027	0.002	0.0000000	0.015	0.0015	0.025	0.005458515
Cyanide (Total)	mg/L	0.0039196	0.0025	0.0025	0.01	0.0000000	0.0025	0.0025	0.01	0.000909753
d-BHC	mg/L	0.0000004	0.00000037	0.00000037	0.0000013	0.00E+00	0.00000037	0.00000037	0.0000013	1.34643E-07
DDD	mg/L	0.0000007	0.00000064	0.00000064	0.0000013	0.00E+00	0.00000064	0.00000064	0.0000013	2.32897E-07
DDT	mg/L	0.0000009	0.00000071	0.00000071	0.0000013	0.00E+00	0.00000071	0.00000071	0.0000013	2.5837E-07
Demeton (total)	mg/L	0.0000314	0.000032	0.000032	0.00039	0.0000000	0.000031	0.000031	0.00038	1.12809E-05

		SCENARIO 1 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	COAL YARD	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000031	0.0000028	0.0000028	0.0000097	0	0.0000029	0.0000029	0.0000099	0
Arochlor 1242	mg/L	0.0000023	0.0000018	0.0000018	0.0000097	0	0.0000018	0.0000018	0.0000099	0
Arochlor 1248	mg/L	0.0000029	0.0000022	0.0000022	0.0000097	0	0.0000023	0.0000023	0.0000099	0
Arochlor 1254	mg/L	0.0000018	0.0000013	0.0000013	0.0000097	0	0.0000013	0.0000013	0.0000099	0
Arochlor 1260	mg/L	0.0000018	0.0000013	0.0000013	0.0000097	0	0.0000013	0.0000013	0.0000099	0
Arsenic	mg/L	0.0230673	0.049	0.00012	0.001	0	0.034	0.00012	0.001	0
Azinophos methyl	mg/L	0.0001119	0.000022	0.000022	0.0002	0	0.000022	0.000022	0.0002	0
Barium	mg/L	0.2194811	0.084	0.000088	0.01	0	0.1	0.000088	0.01	0
b-BHC	mg/L	0.0000040	0.00000097	0.00000097	0.0000013	0	0.00000099	0.00000099	0.0000013	0
Benz(a)anthracene	mg/L	0.0002203	0.00015	0.00015	0.002	0	0.00014	0.00014	0.0019	0
Benzene	mg/L	0.0001254	0.00011	0.00011	0.001	0	0.00011	0.00011	0.001	0
Benzidine	mg/L	0.0339452	0.034	0.034	0.2	0	0.033	0.033	0.19	0
Benzo(a) pyrene	mg/L	0.0001460	0.00013	0.00013	0.002	0	0.00013	0.00013	0.0019	0
Benzo(g,h,i)perylene	mg/L	0.0001619	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0
Benzo(k)fluoranthene	mg/L	0.0005498	0.00054	0.00054	0.002	0	0.00053	0.00053	0.0019	0
Beryllium	mg/L	0.0005439	0.022	0.000036	0.001	0	0.000095	0.000036	0.001	0
Biochemical Oxygen Demand	mg/L	6.1580058	2.2	2	2	0	6.2	2	2	0
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.00058	0.00058	0.0099	0	0.00056	0.00056	0.0096	0
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.00025	0.00025	0.002	0	0.00024	0.00024	0.0019	0
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.0002	0.0002	0.002	0	0.00019	0.00019	0.0019	0
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.012	0.012	0.02	0	0.012	0.012	0.019	0
Bisphenol A	mg/L	0.0003117	0.00031	0.00031	0.00098	0	0.00031	0.00031	0.00097	0
Boron	mg/L	36.6327802	0.97	0.00046	0.005	0	0.49	0.00046	0.005	0
Bromide	mg/L	70.3643377	1.2	0.19	0.5	0	0.52	0.19	0.5	0
Bromoform	mg/L	0.0002081	0.00019	0.00019	0.001	0	0.00019	0.00019	0.001	0
Butyl benzyl phthalate	mg/L	0.0014182	0.0014	0.0014	0.0099	0	0.0014	0.0014	0.0096	0
Cadmium	mg/L	0.0009789	0.0063	0.000074	0.001	0	0.00011	0.000074	0.001	0
Carbon tetrachloride	mg/L	0.0001519	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0
Chemical Oxygen Demand	mg/L	73.4507278	120	4	20	0	130	4	20	0
chlordane	mg/L	0.0000044	0.0000061	0.0000016	0.000012	0	0.0000016	0.0000016	0.000012	0
Chloride	mg/L	4288.6023290	84	0.2	1	0	37	0.2	1	0
Chlorine, Total Residual	mg/L	0.6244541	0.44			0	0.04			0
Chlorobenzene	mg/L	0.0001450	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0
Chlorodibromomethane	mg/L	0.0003980	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0
Chloroethane	mg/L	0.0002209	0.00021	0.00021	0.001	0	0.00021	0.00021	0.001	0
Chloroform	mg/L	0.0087341	0.00017	0.00017	0.001	0	0.00018	0.00017	0.001	0
Chlorpyrifos	mg/L	0.0001092	0.00002	0.00002	0.0002	0	0.00002	0.00002	0.0002	0
Chromium (Hexavalent)	mg/L	0.0063464	0.2	0.048	0.25	0	0.0019	0.0019	0.01	0
Chromium (Total)	mg/L	0.0031586	0.039	0.00023	0.002	0	0.0016	0.00023	0.002	0
Chrysene	mg/L	0.0001514	0.00014	0.00014	0.002	0	0.00013	0.00013	0.0019	0
cis-1,3-dichloropropene	mg/L	0.0002012	0.00019	0.00019	0.001	0	0.00019	0.00019	0.001	0
Cobalt	mg/L	0.0035488	0.3	0.00005	0.0005	0	0.0012	0.00005	0.0005	0
Color	o	0.1382824				0				0
Copper	mg/L	0.0192408	0.38	0.00027	0.002	0	0.034	0.00027	0.002	0
Cyanide (Total)	mg/L	0.0039196	0.0025	0.0025	0.01	0	0.0025	0.0025	0.01	0
d-BHC	mg/L	0.0000004	0.00000052	0.00000036	0.0000012	0	0.0000025	0.00000038	0.0000013	0
DDD	mg/L	0.0000007	0.00000065	0.00000065	0.0000013	0	0.0000069	0.00000066	0.0000013	0
DDT	mg/L	0.0000009	0.00000072	0.00000072	0.0000013	0	0.0000018	0.00000073	0.0000013	0
Demeton (total)	mg/L	0.0000314	0.000032	0.000032	0.00039	0	0.000032	0.000032	0.00039	0

		SCENARIO 1 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000031	0.00002	0.00002	0.0005155	2.76565E-07	0.0000028	0.0000028	0.0000096	1.63028E-07
Arochlor 1242	mg/L	0.0000023	0.00004	0.00004	0.0005155	5.5313E-07	0.0000018	0.0000018	0.0000096	1.04803E-07
Arochlor 1248	mg/L	0.0000029	0.00005	0.00005	0.0005155	6.91412E-07	0.0000022	0.0000022	0.0000096	1.28093E-07
Arochlor 1254	mg/L	0.0000018	0.00004	0.00004	0.0005155	5.5313E-07	0.0000013	0.0000013	0.0000096	7.56914E-08
Arochlor 1260	mg/L	0.0000018	0.00004	0.00004	0.0002062	5.5313E-07	0.0000013	0.0000013	0.0000096	7.56914E-08
Arsenic	mg/L	0.0230673	0.0495	0.00061	0.001	0.000684498	0.0013	0.00012	0.001	7.56914E-05
Azinophos methyl	mg/L	0.0001119	0.0065		0.0065	8.98836E-05	0.000022	0.000022	0.00019	1.28093E-06
Barium	mg/L	0.2194811	0.193	0.002	0.01	0.00266885	0.065	0.000088	0.01	0.003784571
b-BHC	mg/L	0.0000040	0.000005	0.000005	0.00005155	6.91412E-08	0.00000096	0.00000096	0.0000013	5.58952E-08
Benz(a)anthracene	mg/L	0.0002203	0.00556	0.00556	0.005556	7.6885E-05	0.00014	0.00014	0.0019	8.15138E-06
Benzene	mg/L	0.0001254	0.001	0.001	0.005	1.38282E-05	0.00011	0.00011	0.001	6.40466E-06
Benzidine	mg/L	0.0339452	0.00556	0.00556	0.005556	7.6885E-05	0.033	0.033	0.19	0.001921397
Benzo(a) pyrene	mg/L	0.0001460	0.00111	0.00111	0.005556	1.53493E-05	0.00013	0.00013	0.0019	7.56914E-06
Benzo(g,h,i)perylene	mg/L	0.0001619	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.0019	8.73362E-06
Benzo(k)fluoranthene	mg/L	0.0005498	0.00111	0.00111	0.005556	1.53493E-05	0.00053	0.00053	0.0019	3.08588E-05
Beryllium	mg/L	0.0005439	0.002	0.002	0.004	2.76565E-05	0.000036	0.000036	0.001	2.09607E-06
Biochemical Oxygen Demand	mg/L	6.1580058	2.9	0.2	2	0.040101892	2	2	2	2
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.00111	0.00111	0.005556	1.53493E-05	0.00056	0.00056	0.0096	3.26055E-05
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.00111	0.00111	0.005556	1.53493E-05	0.00024	0.00024	0.0019	1.39738E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.00111	0.00111	0.005556	1.53493E-05	0.00019	0.00019	0.0019	1.10626E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.00111	0.00111	0.005556	1.53493E-05	0.012	0.012	0.019	0.00069869
Bisphenol A	mg/L	0.0003117				0	0.00032	0.00032	0.001	1.86317E-05
Boron	mg/L	36.6327802	3.76	0.05	0.05	0.051994178	0.5	0.00046	0.005	0.029112082
Bromide	mg/L	70.3643377	5	5	5	0.069141194	0.52	0.19	0.5	0.030276565
Bromoform	mg/L	0.0002081	0.0015	0.0015	0.005	2.07424E-05	0.00019	0.00019	0.001	1.10626E-05
Butyl benzyl phthalate	mg/L	0.0014182	0.00111	0.00111	0.005556	1.53493E-05	0.0014	0.0014	0.0096	8.15138E-05
Cadmium	mg/L	0.0009789	0.00011	0.00011	0.0003	1.52111E-06	0.000087	0.000074	0.001	5.0655E-06
Carbon tetrachloride	mg/L	0.0001519	0.001	0.001	0.005	1.38282E-05	0.00014	0.00014	0.001	8.15138E-06
Chemical Oxygen Demand	mg/L	73.4507278	12.7	10	10	0.175618632	16	2	10	0.931586608
chlordane	mg/L	0.0000044	0.000206	0.000206	0.0002062	2.84862E-06	0.0000016	0.0000016	0.000012	9.31587E-08
Chloride	mg/L	4288.6023290	52.4	10	10	0.724599709	6.8	0.2	1	0.395924309
Chlorine, Total Residual	mg/L	0.6244541				0	0.02			0.001164483
Chlorobenzene	mg/L	0.0001450	0.0005	0.0005	0.005	6.91412E-06	0.00014	0.00014	0.001	8.15138E-06
Chlorodibromomethane	mg/L	0.0003980	0.001	0.001	0.005	1.38282E-05	0.00014	0.00014	0.001	8.15138E-06
Chloroethane	mg/L	0.0002209	0.001	0.001	0.005	1.38282E-05	0.00021	0.00021	0.001	1.22271E-05
Chloroform	mg/L	0.0087341	0.001	0.001	0.005	1.38282E-05	0.00017	0.00017	0.001	9.89811E-06
Chlorpyrifos	mg/L	0.0001092	0.0065		0.0065	8.98836E-05	0.000019	0.000019	0.00019	1.10626E-06
Chromium (Hexavalent)	mg/L	0.0063464	0.061	0.1	0.003	0.000843523	0.044	0.0019	0.01	0.002561863
Chromium (Total)	mg/L	0.0031586	0.0355	0.001	0.01	0.000490902	0.00023	0.00023	0.002	1.33916E-05
Chrysene	mg/L	0.0001514	0.00111	0.00111	0.005556	1.53493E-05	0.00013	0.00013	0.0019	7.56914E-06
cis-1,3-dichloropropene	mg/L	0.0002012	0.001	0.001	0.005	1.38282E-05	0.00019	0.00019	0.001	1.10626E-05
Cobalt	mg/L	0.0035488	0.002	0.002	0.004	2.76565E-05	0.0014	0.00005	0.0005	8.15138E-05
Color	o	0.1382824	10	10	10	0.138282387				0
Copper	mg/L	0.0192408	0.00239	0.00022	0.001	3.30495E-05	0.00058	0.00027	0.002	3.377E-05
Cyanide (Total)	mg/L	0.0039196	0.01	0.01	0.01	0.000138282	0.0025	0.0025	0.01	0.00014556
d-BHC	mg/L	0.0000004	0.000005	0.000005	0.00005155	6.91412E-08	0.00000037	0.00000037	0.0000013	2.15429E-08
DDD	mg/L	0.0000007	0.000005	0.000005	0.00005155	6.91412E-08	0.00000064	0.00000064	0.0000013	3.72635E-08
DDT	mg/L	0.0000009	0.000005	0.000005	0.00005155	6.91412E-08	0.00000071	0.00000071	0.0000013	4.13392E-08
Demeton (total)	mg/L	0.0000314				0	0.000031	0.000031	0.00038	1.80495E-06

		SCENARIO 1 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000031	0.0000028	0.0000028	0.0000095	7.13246E-08	0.0000029	0.0000029	0.0000099	7.17613E-07	0.0000029	0.0000029	0.0000098	8.4425E-07
Arochlor 1242	mg/L	0.0000023	0.0000018	0.0000018	0.0000095	4.58515E-08	0.0000018	0.0000018	0.0000099	4.45415E-07	0.0000018	0.0000018	0.0000098	5.24017E-07
Arochlor 1248	mg/L	0.0000029	0.0000022	0.0000022	0.0000095	5.60408E-08	0.0000023	0.0000023	0.0000099	5.69141E-07	0.0000022	0.0000022	0.0000098	6.40466E-07
Arochlor 1254	mg/L	0.0000018	0.0000013	0.0000013	0.0000095	3.3115E-08	0.0000013	0.0000013	0.0000099	3.21689E-07	0.0000013	0.0000013	0.0000098	3.78457E-07
Arochlor 1260	mg/L	0.0000018	0.0000013	0.0000013	0.0000095	3.3115E-08	0.0000013	0.0000013	0.0000099	3.21689E-07	0.0000013	0.0000013	0.0000098	3.78457E-07
Arsenic	mg/L	0.0230673	0.17	0.012	0.01	0.004330422	0.06	0.0012	0.01	0.014847162	0.007	0.003	0.001	0.002037846
Azinophos methyl	mg/L	0.0001119	0.000022	0.000022	0.00019	5.60408E-07	0.000022	0.000022	0.0002	5.44396E-06	0.000023	0.000023	0.0002	6.69578E-06
Barium	mg/L	0.2194811	0.5	0.0088	1	0.012736536	0.28	0.00088	0.1	0.069286754	0.35	0.000088	0.01	0.101892285
b-BHC	mg/L	0.0000040	0.000012	0.00000095	0.0000012	3.05677E-07	0.000012	0.00000099	0.0000013	2.96943E-06	0.00000098	0.00000098	0.0000013	2.85298E-07
Benz(a)anthracene	mg/L	0.0002203	0.00014	0.00014	0.0019	3.56623E-06	0.00015	0.00015	0.0021	3.71179E-05	0.00015	0.00015	0.002	4.36681E-05
Benzene	mg/L	0.0001254	0.00023	0.00011	0.001	5.85881E-06	0.00011	0.00011	0.001	2.72198E-05	0.00011	0.00011	0.001	3.20233E-05
Benzidine	mg/L	0.0339452	0.033	0.033	0.19	0.000840611	0.036	0.036	0.21	0.008908297	0.035	0.035	0.2	0.010189229
Benzo(a) pyrene	mg/L	0.0001460	0.00013	0.00013	0.0019	3.3115E-06	0.00014	0.00014	0.0021	3.46434E-05	0.00013	0.00013	0.002	3.78457E-05
Benzo(g,h,i)perylene	mg/L	0.0001619	0.00014	0.00014	0.0019	3.56623E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00015	0.00015	0.002	4.36681E-05
Benzo(k)fluoranthene	mg/L	0.0005498	0.00052	0.00052	0.0019	1.3246E-05	0.00057	0.00057	0.0021	0.000141048	0.00055	0.00055	0.002	0.000160116
Beryllium	mg/L	0.0005439	0.0036	0.0036	0.01	9.17031E-05	0.00036	0.00036	0.01	8.9083E-05	0.0011	0.000036	0.001	0.000320233
Biochemical Oxygen Demand	mg/L	6.1580058	2	2	2	0.050946143	2	2	2	0.494905386	2.9	2	2	0.844250364
Bis(2-chloroethoxy) methane	mg/L	0.0005819	0.00055	0.00055	0.0094	1.40102E-05	0.00061	0.00061	0.01	0.000150946	0.00058	0.00058	0.01	0.00016885
Bis(2-chloroethyl)ether	mg/L	0.0002599	0.00024	0.00024	0.0019	6.11354E-06	0.00026	0.00026	0.0021	6.43377E-05	0.00025	0.00025	0.002	7.27802E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002106	0.00019	0.00019	0.0019	4.83988E-06	0.00021	0.00021	0.0021	5.19651E-05	0.0002	0.0002	0.002	5.82242E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0123880	0.012	0.012	0.019	0.000305677	0.013	0.013	0.021	0.003216885	0.013	0.013	0.02	0.003784571
Bisphenol A	mg/L	0.0003117	0.00031	0.00031	0.00098	7.89665E-06	0.00032	0.00032	0.001	7.91849E-05	0.00032	0.00032	0.00099	9.31587E-05
Boron	mg/L	36.6327802	230	0.46	0.5	5.858806405	120	0.046	0.5	29.69432314	0.18	0.00061	0.2	0.052401747
Bromide	mg/L	70.3643377	150	4.8		3.820960699	260	4.8	13	64.33770015	0.61		1.3	0.177583697
Bromoform	mg/L	0.0002081	0.00019	0.00019	0.001	4.83988E-06	0.00019	0.00019	0.001	4.7016E-05	0.00019	0.00019	0.001	5.5313E-05
Butyl benzyl phthalate	mg/L	0.0014182	0.0013	0.0013	0.0094	3.3115E-05	0.0015	0.0015	0.01	0.000371179	0.0014	0.0014	0.01	0.000407569
Cadmium	mg/L	0.0009789	0.011	0.0074	0.1	0.000280204	0.0023	0.00074	0.01	0.000569141	0.00026	0.000074	0.001	7.56914E-05
Carbon tetrachloride	mg/L	0.0001519	0.00014	0.00014	0.001	3.56623E-06	0.00014	0.00014	0.001	3.46434E-05	0.00014	0.00014	0.001	4.07569E-05
Chemical Oxygen Demand	mg/L	73.4507278	300	20	100	7.641921397	210	20	100	51.9650655	30	2	10	8.733624454
chlordane	mg/L	0.0000044	0.0000016	0.0000016	0.000012	4.07569E-08	0.0000016	0.0000016	0.000012	3.95924E-07	0.0000016	0.0000016	0.000012	4.65793E-07
Chloride	mg/L	4288.6023290	9600	49	250	244.5414847	14000	49	250	3464.3377	1600	4.9	25	465.7933042
Chlorine, Total Residual	mg/L	0.6244541	0.24			0.006113537	2.2			0.544395924	0.25			0.072780204
Chlorobenzene	mg/L	0.0001450	0.00014	0.00014	0.001	3.56623E-06	0.00014	0.00014	0.001	3.46434E-05	0.00014	0.00014	0.001	4.07569E-05
Chlorodibromomethane	mg/L	0.0003980	0.00014	0.00014	0.001	3.56623E-06	0.00077	0.00014	0.001	0.000190539	0.00045	0.00014	0.001	0.000131004
Chloroethane	mg/L	0.0002209	0.00021	0.00021	0.001	5.34934E-06	0.00021	0.00021	0.001	5.19651E-05	0.00021	0.00021	0.001	6.11354E-05
Chloroform	mg/L	0.0087341	0.0038	0.00017	0.001	9.67977E-05	0.019	0.00017	0.001	0.004701601	0.013	0.00017	0.001	0.003784571
Chlorpyrifos	mg/L	0.0001092	0.000019	0.000019	0.00019	4.83988E-07	0.00002	0.00002	0.0002	4.94905E-06	0.00002	0.00002	0.0002	5.82242E-06
Chromium (Hexavalent)	mg/L	0.0063464	0.023	0.0019		0.000585881	0.0019	0.0019	0.01	0.00047016	0.0041		0.01	0.001193595
Chromium (Total)	mg/L	0.0031586	0.023	0.023	0.2	0.000585881	0.0023	0.0023	0.02	0.000569141	0.004	0.00023	0.002	0.001164483
Chrysene	mg/L	0.0001514	0.00013	0.00013	0.0019	3.3115E-06	0.00015	0.00015	0.0021	3.71179E-05	0.00014	0.00014	0.002	4.07569E-05
cis-1,3-dichloropropene	mg/L	0.0002012	0.00019	0.00019	0.001	4.83988E-06	0.00019	0.00019	0.001	4.7016E-05	0.00019	0.00019	0.001	5.5313E-05
Cobalt	mg/L	0.0035488	0.021	0.005	0.05	0.000534934	0.0074	0.0005	0.005	0.00183115	0.0029	0.00005	0.0005	0.00084425
Color	o	0.1382824				0				0				0
Copper	mg/L	0.0192408	0.027	0.027	0.2	0.000687773	0.015	0.0027	0.02	0.00371179	0.032	0.00027	0.002	0.009315866
Cyanide (Total)	mg/L	0.0039196	0.0025	0.0025		6.36827E-05	0.0057	0.0025	0.01	0.00141048	0.0043		0.01	0.00125182
d-BHC	mg/L	0.0000004	0.00000036	0.00000036	0.0000012	9.17031E-09	0.00000038	0.00000038	0.0000013	9.4032E-08	0.00000037	0.00000037	0.0000013	1.07715E-07
DDD	mg/L	0.0000007	0.00000064	0.00000064	0.0000012	1.63028E-08	0.00000066	0.00000066	0.0000013	1.63319E-07	0.00000066	0.00000066	0.0000013	1.9214E-07
DDT	mg/L	0.0000009	0.0000041	0.0000007	0.0000012	1.0444E-07	0.00000073	0.00000073	0.0000013	1.8064E-07	0.00000073	0.00000073	0.0000013	2.12518E-07
Demeton (total)	mg/L	0.0000314	0.000031	0.000031	0.00038	7.89665E-07	0.000032	0.000032	0.00039	7.91849E-06	0.000033	0.000033	0.0004	9.60699E-06

		SCENARIO 1 RESULTS	BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Demeton-O	mg/L	0.0000899				0				0
Demeton-S	mg/L	0.0000899				0				0
Diazinon	mg/L	0.0001079	0.000018	0.000018	0.0002	0.0000000	0.000018	0.000018	0.00019	6.55022E-06
Dibenz(a,h)anthracene	mg/L	0.0001687	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.45852E-05
Dichlorobromomethane	mg/L	0.0014567	0.00013	0.00013	0.001	0.0000000	0.00013	0.00013	0.001	4.73071E-05
Dichlorodifluoromethane	mg/L	0.0000138				0				0
Dieldrin	mg/L	0.0000016	0.00000079	0.00000079	0.0000013	0.00E+00	0.00000079	0.00000079	0.0000013	2.87482E-07
Diesel Range Organics	mg/L	0.2197962				0	0.22	0.22	0.46	0.080058224
Diethylphthalate	mg/L	0.0014498	0.0014	0.0014	0.0096	0.0000000	0.0014	0.0014	0.0095	0.000509461
Dimethyl phthalate	mg/L	0.0007645	0.00074	0.00074	0.0096	0.0000000	0.00073	0.00073	0.0095	0.000265648
Di-n-butyl phthalate	mg/L	0.0012389	0.0012	0.0012	0.0096	0.0000000	0.0012	0.0012	0.0095	0.000436681
Di-n-octyl phthalate	mg/L	0.0020637	0.002	0.002	0.0096	0.0000000	0.002	0.002	0.0095	0.000727802
Diphenylhydrazine	mg/L	0.0007174	0.00063	0.00063	0.0096	0.0000000	0.00063	0.00063	0.0095	0.000229258
E. Coli	cfu/100 ml	0.0138282				0				0
EC (field)	µS/cm	6180.5458515	303			0.0000000	5695			2072.416303
Endosulfan I	mg/L	0.0000015	0.0000009	0.0000009	0.0000013	0.00E+00	0.0000009	0.0000009	0.0000013	3.27511E-07
Endosulfan II	mg/L	0.0000075	0.0000028	0.00000094	0.0000013	0.00E+00	0.00000094	0.00000094	0.0000013	3.42067E-07
Endosulfan sulphate	mg/L	0.0000349	0.00000055	0.00000055	0.0000013	0.00E+00	0.00000055	0.00000055	0.0000013	2.00146E-07
Endrin	mg/L	0.0000016	0.00000092	0.00000092	0.0000013	0.00E+00	0.00000092	0.00000092	0.0000013	3.34789E-07
Endrin aldehyde	mg/L	0.0000009	0.00000087	0.00000087	0.0000013	0.00E+00	0.00000087	0.00000087	0.0000013	3.16594E-07
Enterococci	MPN/100 ml	0.0138282				0				0
Ethylbenzene	mg/L	0.0002455	0.00023	0.00023	0.001	0.0000000	0.00023	0.00023	0.001	8.36972E-05
Fecal Coliforms	MPN/100 ml	0.0276565				0			0	0
Fluoranthene	mg/L	0.0001717	0.00016	0.00016	0.0019	0.0000000	0.00015	0.00015	0.0019	5.45852E-05
Fluorene	mg/L	0.0002301	0.00021	0.00021	0.0019	0.0000000	0.00021	0.00021	0.0019	7.64192E-05
Fluoride	mg/L	1.4253275	0.22	0.014	0.1	0.0000000	0.32	0.014	0.1	0.116448326
Gasoline Range Organics	mg/L	0.0347889				0	0.05	0.025	0.1	0.018195051
g-BHC (Lindane)	mg/L	0.0000010	0.00000077	0.00000077	0.0000013	0.00E+00	0.00000077	0.00000077	0.0000013	2.80204E-07
Hardness	mg/L	18.9446870				0				0
HEM	mg/L	1.1426492				0	1.7	1.7	5.8	0.618631732
Heptachlor	mg/L	0.0000261	0.00000095	0.00000095	0.0000013	0.00E+00	0.00000095	0.00000095	0.0000013	3.45706E-07
Heptachlor epoxide	mg/L	0.0000016	0.00000093	0.00000093	0.0000013	0.00E+00	0.00000093	0.00000093	0.0000013	3.38428E-07
Hexachlorobenzene	mg/L	0.0002145	0.00018	0.00018	0.0019	0.0000000	0.00017	0.00017	0.0019	6.18632E-05
Hexachlorobutadiene	mg/L	0.0001785	0.00016	0.00016	0.0019	0.0000000	0.00016	0.00016	0.0019	5.82242E-05
Hexachlorocyclopentadiene	mg/L	0.0005203	0.0005	0.0005	0.0096	0.0000000	0.00049	0.00049	0.0095	0.000178311
Hexachloroethane	mg/L	0.0006279	0.0006	0.0006	0.0096	0.0000000	0.0006	0.0006	0.0095	0.000218341
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002106	0.00019	0.00019	0.0019	0.0000000	0.00019	0.00019	0.0019	6.91412E-05
Iron	mg/L	1.2432195	0.37	0.0057	0.05	0.0000000	0.53	0.0095	0.1	0.19286754
Isophorone	mg/L	0.0006411	0.00062	0.00062	0.0096	0.0000000	0.00061	0.00061	0.0095	0.00022198
Kepone	mg/L	0.0094503	0.0093	0.0093	0.038	0.0000000	0.0092	0.0092	0.038	0.003347889
Lead	mg/L	0.0029869	0.00051	0.000057	0.001	0.0000000	0.0012	0.0012	0.01	0.000436681
Lithium	mg/L	0.0691077	0.02	0.00053	0.05	0.0000000	0.075	0.00053	0.05	0.027292576
Magnesium	mg/L	115.1251783	3.5	0.001	0.5	0.0000000	3.7	0.028	5	1.34643377
Malathion	mg/L	0.0000348	0.000021	0.000021	0.0002	0.0000000	0.000021	0.000021	0.00019	7.64192E-06
Manganese	mg/L	0.2209156	0.036	0.000046	0.005	0.0000000	0.024	0.00012	0.015	0.008733624
Mercury	mg/L	0.0000787	0.000045	0.000031	0.0002	0.0000000	0.000067	0.000031	0.0002	2.43814E-05
Methoxychlor	mg/L	0.0000001				0				0
Methyl Bromide	mg/L	0.0003195	0.00031	0.00031	0.001	0.0000000	0.00031	0.00031	0.001	0.000112809
Methyl Chloride	mg/L	0.0002969	0.00028	0.00028	0.001	0.0000000	0.00028	0.00028	0.001	0.000101892

		SCENARIO 1 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	COAL YARD	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Demeton-O	mg/L	0.0000899				0				0
Demeton-S	mg/L	0.0000899				0				0
Diazinon	mg/L	0.0001079	0.000018	0.000018	0.0002	0	0.000018	0.000018	0.0002	0
Dibenz(a,h)anthracene	mg/L	0.0001687	0.00015	0.00015	0.002	0	0.00015	0.00015	0.0019	0
Dichlorobromomethane	mg/L	0.0014567	0.00013	0.00013	0.001	0	0.00013	0.00013	0.001	0
Dichlorodifluoromethane	mg/L	0.0000138				0				0
Dieldrin	mg/L	0.0000016	0.0000008	0.0000008	0.0000013	0	0.000047	0.00000081	0.0000013	0
Diesel Range Organics	mg/L	0.2197962	0.31	0.24	0.5	0				0
Diethylphthalate	mg/L	0.0014498	0.0014	0.0014	0.0099	0	0.0014	0.0014	0.0096	0
Dimethyl phthalate	mg/L	0.0007645	0.00076	0.00076	0.0099	0	0.00074	0.00074	0.0096	0
Di-n-butyl phthalate	mg/L	0.0012389	0.0012	0.0012	0.0099	0	0.0012	0.0012	0.0096	0
Di-n-octyl phthalate	mg/L	0.0020637	0.002	0.002	0.0099	0	0.002	0.002	0.0096	0
Diphenylhydrazine	mg/L	0.0007174	0.00065	0.00065	0.0099	0	0.00063	0.00063	0.0096	0
E. Coli	cfu/100 ml	0.0138282				0				0
EC (field)	µS/cm	6180.5458515	1638			0	174			0
Endosulfan I	mg/L	0.0000015	0.00000091	0.00000091	0.0000013	0	0.00000093	0.00000093	0.0000013	0
Endosulfan II	mg/L	0.0000075	0.0000034	0.00000092	0.0000012	0	0.000039	0.00000097	0.0000013	0
Endosulfan sulphate	mg/L	0.0000349	0.00000055	0.00000055	0.0000013	0	0.00000056	0.00000056	0.0000013	0
Endrin	mg/L	0.0000016	0.00000093	0.00000093	0.0000013	0	0.00000095	0.00000095	0.0000013	0
Endrin aldehyde	mg/L	0.0000009	0.00000087	0.00000087	0.0000013	0	0.00000089	0.00000089	0.0000013	0
Enterococci	MPN/100 ml	0.0138282				0				0
Ethylbenzene	mg/L	0.0002455	0.00023	0.00023	0.001	0	0.00023	0.00023	0.001	0
Fecal Coliforms	MPN/100 ml	0.0276565				0				0
Fluoranthene	mg/L	0.0001717	0.00016	0.00016	0.002	0	0.00016	0.00016	0.0019	0
Fluorene	mg/L	0.0002301	0.00021	0.00021	0.002	0	0.00021	0.00021	0.0019	0
Fluoride	mg/L	1.4253275	0.18	0.014	0.1	0	0.53	0.014	0.1	0
Gasoline Range Organics	mg/L	0.0347889	0.05	0.025	0.1	0				0
g-BHC (Lindane)	mg/L	0.0000010	0.00000078	0.00000078	0.0000013	0	0.00000079	0.00000079	0.0000013	0
Hardness	mg/L	18.9446870				0				0
HEM	mg/L	1.1426492	1.8	1.6	5.2	0				0
Heptachlor	mg/L	0.0000261	0.00000096	0.00000096	0.0000013	0	0.00000098	0.00000098	0.0000013	0
Heptachlor epoxide	mg/L	0.0000016	0.00000094	0.00000094	0.0000013	0	0.00000096	0.00000096	0.0000013	0
Hexachlorobenzene	mg/L	0.0002145	0.00018	0.00018	0.002	0	0.00018	0.00018	0.0019	0
Hexachlorobutadiene	mg/L	0.0001785	0.00016	0.00016	0.002	0	0.00016	0.00016	0.0019	0
Hexachlorocyclopentadiene	mg/L	0.0005203	0.00051	0.00051	0.0099	0	0.0005	0.0005	0.0096	0
Hexachloroethane	mg/L	0.0006279	0.00062	0.00062	0.0099	0	0.0006	0.0006	0.0096	0
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002106	0.0002	0.0002	0.002	0	0.00019	0.00019	0.0019	0
Iron	mg/L	1.2432195	120	0.0057	0.05	0	1.4	0.0057	0.05	0
Isophorone	mg/L	0.0006411	0.00064	0.00064	0.0099	0	0.00062	0.00062	0.0096	0
Kepone	mg/L	0.0094503	0.0096	0.0096	0.04	0	0.0093	0.0093	0.038	0
Lead	mg/L	0.0029869	0.0075	0.0012	0.01	0	0.0032	0.000057	0.001	0
Lithium	mg/L	0.0691077	0.25	0.00053	0.05	0	0.05	0.00053	0.05	0
Magnesium	mg/L	115.1251783	27	0.001	0.5	0	15	0.001	0.5	0
Malathion	mg/L	0.0000348	0.000021	0.000021	0.0002	0	0.000021	0.000021	0.0002	0
Manganese	mg/L	0.2209156	2.7	0.000046	0.005	0	1.3	0.000046	0.005	0
Mercury	mg/L	0.0000787	0.000085	0.000031	0.0002	0	0.000031	0.000031	0.0002	0
Methoxychlor	mg/L	0.0000001				0				0
Methyl Bromide	mg/L	0.0003195	0.00031	0.00031	0.001	0	0.00031	0.00031	0.001	0
Methyl Chloride	mg/L	0.0002969	0.00028	0.00028	0.001	0	0.00028	0.00028	0.001	0

		SCENARIO 1 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Demeton-O	mg/L	0.0000899	0.0065		0.0065	8.98836E-05				0
Demeton-S	mg/L	0.0000899	0.0065		0.0065	8.98836E-05				0
Diazinon	mg/L	0.0001079	0.0065		0.0065	8.98836E-05	0.000018	0.000018	0.00019	1.04803E-06
Dibenz(a,h)anthracene	mg/L	0.0001687	0.00111	0.00111	0.005556	1.53493E-05	0.00015	0.00015	0.0019	8.73362E-06
Dichlorobromomethane	mg/L	0.0014567	0.001	0.001	0.005	1.38282E-05	0.00013	0.00013	0.001	7.56914E-06
Dichlorodifluoromethane	mg/L	0.0000138	0.001	0.001	0.005	1.38282E-05				0
Dieldrin	mg/L	0.0000016	0.000005	0.000005	0.00005155	6.91412E-08	0.00000079	0.00000079	0.0000013	4.59971E-08
Diesel Range Organics	mg/L	0.2197962				0				0
Diethylphthalate	mg/L	0.0014498	0.00111	0.00111	0.005556	1.53493E-05	0.0014	0.0014	0.0096	8.15138E-05
Dimethyl phthalate	mg/L	0.0007645	0.00111	0.00111	0.005556	1.53493E-05	0.00074	0.00074	0.0096	4.30859E-05
Di-n-butyl phthalate	mg/L	0.0012389	0.00222	0.00222	0.005556	3.06987E-05	0.0012	0.0012	0.0096	6.9869E-05
Di-n-octyl phthalate	mg/L	0.0020637	0.00111	0.00111	0.005556	1.53493E-05	0.002	0.002	0.0096	0.000116448
Diphenylhydrazine	mg/L	0.0007174	0.00526	0.00526	0.005556	7.27365E-05	0.00063	0.00063	0.0096	3.66812E-05
E. Coli	cfu/100 ml	0.0138282	1	1	1	0.013828239				0
EC (field)	µS/cm	6180.5458515				0	364			21.19359534
Endosulfan I	mg/L	0.0000015	0.000005	0.000005	0.00005155	6.91412E-08	0.0000009	0.0000009	0.0000013	5.24017E-08
Endosulfan II	mg/L	0.0000075	0.000005	0.000005	0.00005155	6.91412E-08	0.0000065	0.00000094	0.0000013	3.78457E-07
Endosulfan sulphate	mg/L	0.0000349	0.000005	0.000005	0.00005155	6.91412E-08	0.0000076	0.00000055	0.0000013	4.42504E-07
Endrin	mg/L	0.0000016	0.000005	0.000005	0.00005155	6.91412E-08	0.00000092	0.00000092	0.0000013	5.35662E-08
Endrin aldehyde	mg/L	0.0000009	0.000005	0.000005	0.00005155	6.91412E-08	0.00000087	0.00000087	0.0000013	5.0655E-08
Enterococci	MPN/100 ml	0.0138282	1	1	1	0.013828239				0
Ethylbenzene	mg/L	0.0002455	0.0005	0.0005	0.005	6.91412E-06	0.00023	0.00023	0.001	1.33916E-05
Fecal Coliforms	MPN/100 ml	0.0276565	2	2	2	0.027656477				0
Fluoranthene	mg/L	0.0001717	0.00111	0.00111	0.005556	1.53493E-05	0.00016	0.00016	0.0019	9.31587E-06
Fluorene	mg/L	0.0002301	0.00111	0.00111	0.005556	1.53493E-05	0.00021	0.00021	0.0019	1.22271E-05
Fluoride	mg/L	1.4253275	2.8	0.1	0.1	0.038719068	0.19	0.014	0.1	0.011062591
Gasoline Range Organics	mg/L	0.0347889				0				0
g-BHC (Lindane)	mg/L	0.0000010	0.000005	0.000005	0.00005155	6.91412E-08	0.00000077	0.00000077	0.0000013	4.48326E-08
Hardness	mg/L	18.9446870	1370	0.766	12.5	18.94468705				0
HEM	mg/L	1.1426492				0				0
Heptachlor	mg/L	0.0000261	0.000005	0.000005	0.00005155	6.91412E-08	0.00000095	0.00000095	0.0000013	5.5313E-08
Heptachlor epoxide	mg/L	0.0000016	0.000005	0.000005	0.00005155	6.91412E-08	0.00000093	0.00000093	0.0000013	5.41485E-08
Hexachlorobenzene	mg/L	0.0002145	0.00278	0.00278	0.002778	3.84425E-05	0.00018	0.00018	0.0019	1.04803E-05
Hexachlorobutadiene	mg/L	0.0001785	0.00111	0.00111	0.005556	1.53493E-05	0.00016	0.00016	0.0019	9.31587E-06
Hexachlorocyclopentadiene	mg/L	0.0005203	0.00111	0.00111	0.005556	1.53493E-05	0.0005	0.0005	0.0096	2.91121E-05
Hexachloroethane	mg/L	0.0006279	0.00111	0.00111	0.005556	1.53493E-05	0.0006	0.0006	0.0096	3.49345E-05
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002106	0.00111	0.00111	0.005556	1.53493E-05	0.00019	0.00019	0.0019	1.10626E-05
Iron	mg/L	1.2432195	0.0044	0.003	0.01	6.08443E-05	4.4	0.0057	0.05	0.256186317
Isophorone	mg/L	0.0006411	0.00111	0.00111	0.005556	1.53493E-05	0.00062	0.00062	0.0096	3.6099E-05
Kepone	mg/L	0.0094503	0.00222	0.00222	0.005556	3.06987E-05	0.0093	0.0093	0.038	0.000541485
Lead	mg/L	0.0029869	0.00016	0.00016	0.0005	2.21252E-06	0.000074	0.000057	0.001	4.30859E-06
Lithium	mg/L	0.0691077				0	0.0038	0.00053	0.05	0.000221252
Magnesium	mg/L	115.1251783	0.105	0.004	0.01	0.001451965	16	0.001	0.5	0.931586608
Malathion	mg/L	0.0000348	0.001	0.001	0.001	1.38282E-05	0.000021	0.000021	0.00019	1.22271E-06
Manganese	mg/L	0.2209156	0.002	0.002	0.01	2.76565E-05	1	0.000046	0.005	0.058224163
Mercury	mg/L	0.0000787	0.000023	0.000023	0.0002	3.18049E-07	0.000056	0.000031	0.0002	3.26055E-06
Methoxychlor	mg/L	0.0000001	0.000005	0.000005	0.00005155	6.91412E-08				0
Methyl Bromide	mg/L	0.0003195	0.001	0.001	0.005	1.38282E-05	0.00031	0.00031	0.001	1.80495E-05
Methyl Chloride	mg/L	0.0002969	0.0015	0.0015	0.005	2.07424E-05	0.00028	0.00028	0.001	1.63028E-05

		SCENARIO 1 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Demeton-O	mg/L	0.0000899				0			0	0				0
Demeton-S	mg/L	0.0000899				0				0				0
Diazinon	mg/L	0.0001079	0.000018	0.000018	0.00019	4.58515E-07	0.000018	0.000018	0.0002	4.45415E-06	0.000019	0.000019	0.0002	5.5313E-06
Dibenz(a,h)anthracene	mg/L	0.0001687	0.00015	0.00015	0.0019	3.82096E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00016	0.00016	0.002	4.65793E-05
Dichlorobromomethane	mg/L	0.0014567	0.00049	0.00013	0.001	1.24818E-05	0.0025	0.00013	0.001	0.000618632	0.0026	0.00013	0.001	0.000756914
Dichlorodifluoromethane	mg/L	0.0000138				0				0				0
Dieldrin	mg/L	0.0000016	0.0000051	0.00000078	0.0000012	1.29913E-07	0.0000032	0.00000081	0.0000013	7.91849E-07	0.0000008	0.0000008	0.0000013	2.32897E-07
Diesel Range Organics	mg/L	0.2197962				0				0	0.48	0.24	0.5	0.139737991
Diethylphthalate	mg/L	0.0014498	0.0014	0.0014	0.0094	3.56623E-05	0.0015	0.0015	0.01	0.000371179	0.0015	0.0015	0.01	0.000436681
Dimethyl phthalate	mg/L	0.0007645	0.00072	0.00072	0.0094	1.83406E-05	0.0008	0.0008	0.01	0.000197962	0.00077	0.00077	0.01	0.000224163
Di-n-butyl phthalate	mg/L	0.0012389	0.0012	0.0012	0.0094	3.05677E-05	0.0013	0.0013	0.01	0.000321689	0.0012	0.0012	0.01	0.000349345
Di-n-octyl phthalate	mg/L	0.0020637	0.0019	0.0019	0.0094	4.83988E-05	0.0022	0.0022	0.01	0.000544396	0.0021	0.0021	0.01	0.000611354
Diphenylhydrazine	mg/L	0.0007174	0.00062	0.00062	0.0094	1.57933E-05	0.00069	0.00069	0.01	0.000170742	0.00066	0.00066	0.01	0.00019214
E. Coli	cfu/100 ml	0.0138282				0				0				0
EC (field)	µS/cm	6180.5458515	48670			1239.774381	11080			2741.775837	362			105.3857351
Endosulfan I	mg/L	0.0000015	0.0000092	0.0000009	0.0000012	2.34352E-07	0.0000023	0.00000093	0.0000013	5.69141E-07	0.00000092	0.00000092	0.0000013	2.67831E-07
Endosulfan II	mg/L	0.0000075	0.000048	0.00000093	0.0000012	1.22271E-06	0.000019	0.00000097	0.0000013	4.7016E-06	0.0000026	0.00000093	0.0000012	7.56914E-07
Endosulfan sulphate	mg/L	0.0000349	0.000073	0.00000054	0.0000012	1.85953E-06	0.00013	0.00000055	0.0000013	3.21689E-05	0.00000056	0.00000056	0.0000013	1.63028E-07
Endrin	mg/L	0.0000016	0.0000028	0.00000091	0.0000012	7.13246E-08	0.0000033	0.00000095	0.0000013	8.16594E-07	0.00000094	0.00000094	0.0000013	2.73654E-07
Endrin aldehyde	mg/L	0.0000009	0.00000086	0.00000086	0.0000012	2.19068E-08	0.00000089	0.00000089	0.0000013	2.20233E-07	0.00000088	0.00000088	0.0000013	2.56186E-07
Enterococci	MPN/100 ml	0.0138282				0				0				0
Ethylbenzene	mg/L	0.0002455	0.00069	0.00023	0.001	1.75764E-05	0.00023	0.00023	0.001	5.69141E-05	0.00023	0.00023	0.001	6.69578E-05
Fecal Coliforms	MPN/100 ml	0.0276565				0				0				0
Fluoranthene	mg/L	0.0001717	0.00015	0.00015	0.0019	3.82096E-06	0.00017	0.00017	0.0021	4.2067E-05	0.00016	0.00016	0.002	4.65793E-05
Fluorene	mg/L	0.0002301	0.0002	0.0002	0.0019	5.09461E-06	0.00023	0.00023	0.0021	5.69141E-05	0.00022	0.00022	0.002	6.40466E-05
Fluoride	mg/L	1.4253275	3.2	0.35	2.5	0.081513828	4.5	0.35	2.5	1.113537118	0.22	0.035	0.25	0.064046579
Gasoline Range Organics	mg/L	0.0347889				0				0	0.057	0.025	0.1	0.016593886
g-BHC (Lindane)	mg/L	0.0000010	0.0000078	0.00000076	0.0000012	1.9869E-07	0.00000079	0.00000079	0.0000013	1.95488E-07	0.00000078	0.00000078	0.0000013	2.27074E-07
Hardness	mg/L	18.9446870				0				0				0
HEM	mg/L	1.1426492				0				0	1.8	1.8	6	0.524017467
Heptachlor	mg/L	0.0000261	0.0001	0.00000094	0.0000012	2.54731E-06	0.000092	0.00000098	0.0000013	2.27656E-05	0.00000097	0.00000097	0.0000013	2.82387E-07
Heptachlor epoxide	mg/L	0.0000016	0.0000045	0.00000092	0.0000012	1.14629E-07	0.000003	0.00000093	0.0000013	7.42358E-07	0.00000095	0.00000095	0.0000013	2.76565E-07
Hexachlorobenzene	mg/L	0.0002145	0.00017	0.00017	0.0019	4.33042E-06	0.00019	0.00019	0.0021	4.7016E-05	0.00018	0.00018	0.002	5.24017E-05
Hexachlorobutadiene	mg/L	0.0001785	0.00016	0.00016	0.0019	4.07569E-06	0.00017	0.00017	0.0021	4.2067E-05	0.00017	0.00017	0.002	4.94905E-05
Hexachlorocyclopentadiene	mg/L	0.0005203	0.00049	0.00049	0.0094	1.24818E-05	0.00054	0.00054	0.01	0.000133624	0.00052	0.00052	0.01	0.000151383
Hexachloroethane	mg/L	0.0006279	0.00059	0.00059	0.0094	1.50291E-05	0.00065	0.00065	0.01	0.000160844	0.00063	0.00063	0.01	0.000183406
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002106	0.00019	0.00019	0.0019	4.83988E-06	0.00021	0.00021	0.0021	5.19651E-05	0.0002	0.0002	0.002	5.82242E-05
Iron	mg/L	1.2432195	1.3	0.57	5	0.033114993	0.84	0.057	0.5	0.207860262	1.9	0.0057	0.05	0.553129549
Isophorone	mg/L	0.0006411	0.00061	0.00061	0.0094	1.55386E-05	0.00067	0.00067	0.01	0.000165793	0.00064	0.00064	0.01	0.000186317
Kepone	mg/L	0.0094503	0.0091	0.0091	0.038	0.000231805	0.01	0.01	0.042	0.002474527	0.0097	0.0097	0.04	0.002823872
Lead	mg/L	0.0029869	0.0058	0.0057	0.1	0.000147744	0.0018	0.00057	0.01	0.000445415	0.0067	0.0012	0.01	0.001950509
Lithium	mg/L	0.0691077	0.21	0.0026	0.25	0.005349345	0.13	0.0011	0.1	0.03216885	0.014	0.00053	0.05	0.004075691
Magnesium	mg/L	115.1251783	670	0.1	5	17.06695779	340	0.01	5	84.13391557	40	0.001	0.5	11.64483261
Malathion	mg/L	0.0000348	0.000021	0.000021	0.00019	5.34934E-07	0.000021	0.000021	0.0002	5.19651E-06	0.000022	0.000022	0.0002	6.40466E-06
Manganese	mg/L	0.2209156	1.3	0.0046	0.5	0.033114993	0.3	0.00046	0.05	0.074235808	0.16	0.00012	0.015	0.04657933
Mercury	mg/L	0.0000787	0.00022	0.000031	0.0002	5.60408E-06	0.0001	0.000031	0.0002	2.47453E-05	0.00007	0.000031	0.0002	2.03785E-05
Methoxychlor	mg/L	0.0000001				0				0				0
Methyl Bromide	mg/L	0.0003195	0.00031	0.00031	0.001	7.89665E-06	0.00031	0.00031	0.001	7.67103E-05	0.00031	0.00031	0.001	9.02475E-05
Methyl Chloride	mg/L	0.0002969	0.00028	0.00028	0.001	7.13246E-06	0.00028	0.00028	0.001	6.92868E-05	0.00028	0.00028	0.001	8.15138E-05

		SCENARIO 1 RESULTS	BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Methylene Chloride	mg/L	0.0002539	0.00016	0.00015	0.001	0.0000000	0.0002	0.00015	0.001	7.27802E-05
Mirex	mg/L	0.0000005	0.00000046	0.00000046	0.0000013	0.00E+00	0.00000046	0.00000046	0.0000013	1.67394E-07
Molybdenum	mg/L	0.0253879	0.023	0.00026	0.005	0.0000000	0.0027	0.00026	0.005	0.000982533
Naphthalene	mg/L	0.0002129	0.00013	0.00013	0.0019	0.0000000	0.00013	0.00013	0.0019	4.73071E-05
Nickel	mg/L	0.0228521	0.003	0.000093	0.001	0.0000000	0.0085	0.00051	0.04	0.003093159
Nitrate	mg/L	0.0055313				0				0
Nitrate (as N)	mg/L	15.0071325	0.22	0.0062	0.1	0.0000000	1	0.0062	0.1	0
Nitrite	mg/L	0.0011063				0				0
Nitrite (as N)	mg/L	0.2248326	0.15	0.024	0.05	0.0000000	0.44	0.024	0.05	0
Nitrobenzene	mg/L	0.0008978	0.00081	0.00081	0.019	0.0000000	0.0008	0.0008	0.019	0.000291121
Nitrogen (Organic)	mg/L	0.0082969		0	0	0				0
Nitrogen (Total Oxidised)	mg/L	0.0055313				0				0
Nitrogen (Total)	mg/L	0.0425910				0				0
N-Nitrosodimethylamine	mg/L	0.0007503	0.00071	0.00071	0.0019	0.0000000	0.0007	0.0007	0.0019	0.000254731
N-nitrosodi-n-propylamine	mg/L	0.0003305	0.0003	0.0003	0.0019	0.0000000	0.00029	0.00029	0.0019	0.000105531
n-Nitrosodiphenylamine	mg/L	0.0009075	0.00082	0.00082	0.0096	0.0000000	0.00081	0.00081	0.0095	0.00029476
Nonylphenol	mg/L	0.0000691				0				0
Nonylphenol Diethoxylate (Technica	mg/L	0.0019043	0.002	0.002	0.02	0.0000000	0.0019	0.0019	0.019	0.000691412
Nonylphenol Monoethoxylate (Tech	mg/L	0.0031168	0.0032	0.0032	0.01	0.0000000	0.0031	0.0031	0.0097	0.001128093
Oil and Grease	mg/L	1.0647744	1.5	1.5	4.3	0.0000000				0
para-tert-Octylphenol	mg/L	0.0003117	0.00032	0.00032	0.001	0.0000000	0.00031	0.00031	0.00097	0.000112809
Parathion	mg/L	0.0000449	0.000032	0.000032	0.0002	0.0000000	0.000031	0.000031	0.00019	1.12809E-05
P-Chloro-M-Cresol	mg/L	0.0008133	0.00073	0.00073	0.0096	0.0000000	0.00072	0.00072	0.0095	0.000262009
Pentachlorophenol	mg/L	0.0007223	0.00064	0.00064	0.0096	0.0000000	0.00063	0.00063	0.0095	0.000229258
pH (Field)	SU	9.2799127	9.24			0.0000000	10.97			3.991994178
Phenanthrene	mg/L	0.0004942	0.00041	0.00041	0.0019	0.0000000	0.00041	0.00041	0.0019	0.000149199
Phenol	mg/L	0.0015318	0.00056	0.00056	0.0019	0.0000000	0.00055	0.00055	0.0019	0.000200146
Phenolics Total	mg/L	0.0083333				0	0.0082	0.0082	0.01	0.002983988
Phosphorus	mg/L	0.3790539	0.081	0.05	0.1	0.0000000	0.057	0.05	0.1	0.020742358
p-Nonylphenol (Technical mixture)	mg/L	0.0015415	0.0016	0.0016	0.005	0.0000000	0.0015	0.0015	0.0048	0.000545852
Potassium	mg/L	29.7569141	2.7	0.017	0.5	0.0000000	6.9	0.017	0.5	2.510917031
Pyrene	mg/L	0.0002302	0.00015	0.00015	0.0019	0.0000000	0.00015	0.00015	0.0019	5.45852E-05
Radium-226	pCi/L	0.2496070	0.508	0.48	1	0.0000000	0.288	0.215	1	0.104803493
Radium-228	pCi/L	0.4050946	0.733	0.733	1	0.0000000	0.358	0.358	1	0.130276565
Redox	mV	129.0367540	92.3			0.0000000	92			33.47889374
Selenium	mg/L	0.0190702	0.0043	0.0002	0.005	0.0000000	0.012	0.0039	0.01	0.004366812
Silver	mg/L	0.0002699	0.000047	0.000047	0.001	0.0000000	0.000047	0.000047	0.001	1.71033E-05
Sodium	mg/L	345.8762737	13	0.011	0.5	0.0000000	78	0.011	0.5	28.38427948
Specific Conductivity (lab)	µS/cm	0.0000000				0				0
Sulfate	mg/L	1030.8267831	52	0.21	1	0.0000000	300	1.1	5	109.1703057
Sulfide	mg/L	0.8236900	0.41	0.41	1	0.0000000	0.41	0.41	1	0.149199418
sulfide (as H2S)	mg/L	0.6027656	0.41	0.41	1	0.0000000	0.41	0.41	1	0.149199418
Surfactants	mg/L	0.0013828				0				0
Temperature	oC	27.6409025	33.3			0.0000000	28.35			10.31659389
Tetrachloroethene	mg/L	0.0001618	0.00015	0.00015	0.001	0.0000000	0.00015	0.00015	0.001	5.45852E-05
Thallium	mg/L	0.0051653	0.00031	0.000013	0.001	0.0000000	0.011	0.000013	0.001	0.004002911
Tin	mg/L	0.0002766				0				0
Titanium	mg/L	0.0000691				0				0
Toluene	mg/L	0.0001618	0.00015	0.00015	0.001	0.0000000	0.00015	0.00015	0.001	5.45852E-05

		SCENARIO 1 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	COAL YARD	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Methylene Chloride	mg/L	0.0002539	0.0059	0.00015	0.001	0	0.00015	0.00015	0.001	0
Mirex	mg/L	0.0000005	0.00000047	0.00000047	0.0000013	0	0.00000048	0.00000048	0.0000013	0
Molybdenum	mg/L	0.0253879	0.013	0.00026	0.005	0	0.014	0.00026	0.005	0
Naphthalene	mg/L	0.0002129	0.0016	0.00014	0.002	0	0.00013	0.00013	0.0019	0
Nickel	mg/L	0.0228521	0.54	0.000093	0.001	0	0.014	0.000093	0.001	0
Nitrate	mg/L	0.0055313				0				0
Nitrate (as N)	mg/L	15.0071325	0.64	0.0062	0.1	0	0.54	0.0062	0.1	0
Nitrite	mg/L	0.0011063				0				0
Nitrite (as N)	mg/L	0.2248326	0.026	0.024	0.05	0	0.024	0.024	0.05	0
Nitrobenzene	mg/L	0.0008978	0.00083	0.00083	0.02	0	0.00081	0.00081	0.019	0
Nitrogen (Organic)	mg/L	0.0082969				0				0
Nitrogen (Total Oxidised)	mg/L	0.0055313				0				0
Nitrogen (Total)	mg/L	0.0425910				0				0
N-Nitrosodimethylamine	mg/L	0.0007503	0.00073	0.00073	0.002	0	0.00071	0.00071	0.0019	0
N-nitrosodi-n-propylamine	mg/L	0.0003305	0.0003	0.0003	0.002	0	0.0003	0.0003	0.0019	0
n-Nitrosodiphenylamine	mg/L	0.0009075	0.00084	0.00084	0.0099	0	0.00082	0.00082	0.0096	0
Nonylphenol	mg/L	0.0000691				0				0
Nonylphenol Diethoxylate (Technica	mg/L	0.0019043	0.0019	0.0019	0.02	0	0.0019	0.0019	0.019	0
Nonylphenol Monoethoxylate (Tech	mg/L	0.0031168	0.0031	0.0031	0.0098	0	0.0031	0.0031	0.0097	0
Oil and Grease	mg/L	1.0647744	1.6	1.6	4.5	0	1.5	1.5	4.3	0
para-tert-Octylphenol	mg/L	0.0003117	0.00031	0.00031	0.00098	0	0.00031	0.00031	0.00097	0
Parathion	mg/L	0.0000449	0.000032	0.000032	0.0002	0	0.000032	0.000032	0.0002	0
P-Chloro-M-Cresol	mg/L	0.0008133	0.00075	0.00075	0.0099	0	0.00073	0.00073	0.0096	0
Pentachlorophenol	mg/L	0.0007223	0.00066	0.00066	0.0099	0	0.00064	0.00064	0.0096	0
pH (Field)	SU	9.2799127	3.38			0	9.12			0
Phenanthrene	mg/L	0.0004942	0.00042	0.00042	0.002	0	0.00041	0.00041	0.0019	0
Phenol	mg/L	0.0015318	0.00058	0.00058	0.002	0	0.00056	0.00056	0.0019	0
Phenolics Total	mg/L	0.0083333	0.0082	0.0082	0.01	0				0
Phosphorus	mg/L	0.3790539	0.45	0.05	0.1	0	0.2	0.05	0.1	0
p-Nonylphenol (Technical mixture)	mg/L	0.0015415	0.0016	0.0016	0.0049	0	0.0016	0.0016	0.0049	0
Potassium	mg/L	29.7569141	4.9	0.017	0.5	0	6.1	0.017	0.5	0
Pyrene	mg/L	0.0002302	0.00016	0.00016	0.002	0	0.00015	0.00015	0.0019	0
Radium-226	pCi/L	0.2496070	0.707	0.445	1	0	0.348	0.191	1	0
Radium-228	pCi/L	0.4050946	0.706	0.681	1	0	0.326	0.326	1	0
Redox	mV	129.0367540	520.5			0	240.5			0
Selenium	mg/L	0.0190702	0.023	0.0002	0.005	0	0.00067	0.0002	0.005	0
Silver	mg/L	0.0002699	0.000047	0.000047	0.001	0	0.000047	0.000047	0.001	0
Sodium	mg/L	345.8762737	45	0.011	0.5	0	20	0.011	0.5	0
Specific Conductivity (lab)	µS/cm	0.0000000				0				0
Sulfate	mg/L	1030.8267831	1000	2.1	10	0	120	0.21	1	0
Sulfide	mg/L	0.8236900	0.47	0.47	3	0	1.5	0.47	3	0
sulfide (as H2S)	mg/L	0.6027656	0.41	0.41	1	0	0.41	0.41	1	0
Surfactants	mg/L	0.0013828				0				0
Temperature	oC	27.6409025	31.69			0	18.52			0
Tetrachloroethene	mg/L	0.0001618	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	0
Thallium	mg/L	0.0051653	0.0018	0.0018	0.02	0	0.00017	0.000013	0.001	0
Tin	mg/L	0.0002766				0				0
Titanium	mg/L	0.0000691				0				0
Toluene	mg/L	0.0001618	0.00016	0.00015	0.001	0	0.00015	0.00015	0.001	0

		SCENARIO 1 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Methylene Chloride	mg/L	0.0002539	0.005	0.005	0.005	6.91412E-05	0.00015	0.00015	0.001	8.73362E-06
Mirex	mg/L	0.0000005	0.000002	0.000002	0.00005155	2.76565E-08	0.00000046	0.00000046	0.0000013	2.67831E-08
Molybdenum	mg/L	0.0253879	0.55	0.05	0.05	0.007605531	0.0031	0.00026	0.005	0.000180495
Naphthalene	mg/L	0.0002129	0.00556	0.00556	0.005556	7.6885E-05	0.00013	0.00013	0.0019	7.56914E-06
Nickel	mg/L	0.0228521	0.00467	0.00032	0.001	6.45779E-05	0.00075	0.000093	0.001	4.36681E-05
Nitrate	mg/L	0.0055313	0.4			0.005531295				0
Nitrate (as N)	mg/L	15.0071325	0.4	0.07	0.15	0.005531295	0.59	0.0062	0.1	0.034352256
Nitrite	mg/L	0.0011063	0.08			0.001106259				0
Nitrite (as N)	mg/L	0.2248326	0.08	0.05	0.05	0.001106259	0.18	0.024	0.05	0.010480349
Nitrobenzene	mg/L	0.0008978	0.00556	0.00556	0.005556	7.6885E-05	0.00081	0.00081	0.019	4.71616E-05
Nitrogen (Organic)	mg/L	0.0082969	0.6	0.6	0.6	0.008296943				0
Nitrogen (Total Oxidised)	mg/L	0.0055313	0.4	0.02	0.1	0.005531295				0
Nitrogen (Total)	mg/L	0.0425910	3.08	0.2	0.5	0.042590975				0
N-Nitrosodimethylamine	mg/L	0.0007503	0.00222	0.00222	0.005556	3.06987E-05	0.00071	0.00071	0.0019	4.13392E-05
N-nitrosodi-n-propylamine	mg/L	0.0003305	0.00222	0.00222	0.005556	3.06987E-05	0.0003	0.0003	0.0019	1.74672E-05
n-Nitrosodiphenylamine	mg/L	0.0009075	0.00556	0.00556	0.005556	7.6885E-05	0.00082	0.00082	0.0096	4.77438E-05
Nonylphenol	mg/L	0.0000691	0.005	0.005	0.005	6.91412E-05				0
Nonylphenol Diethoxylate (Technica	mg/L	0.0019043				0	0.002	0.002	0.02	0.000116448
Nonylphenol Monoethoxylate (Tech	mg/L	0.0031168				0	0.0032	0.0032	0.01	0.000186317
Oil and Grease	mg/L	1.0647744	5	5	5	0.069141194	1.6	1.6	4.5	0.093158661
para-tert-Octylphenol	mg/L	0.0003117				0	0.00032	0.00032	0.001	1.86317E-05
Parathion	mg/L	0.0000449	0.001	0.001	0.001	1.38282E-05	0.000031	0.000031	0.00019	1.80495E-06
P-Chloro-M-Cresol	mg/L	0.0008133	0.00556	0.00556	0.005556	7.6885E-05	0.00073	0.00073	0.0096	4.25036E-05
Pentachlorophenol	mg/L	0.0007223	0.00556	0.00556	0.005556	7.6885E-05	0.00064	0.00064	0.0096	3.72635E-05
pH (Field)	SU	9.2799127				0	6.54			0.380786026
Phenanthrene	mg/L	0.0004942	0.00556	0.00556	0.005556	7.6885E-05	0.00041	0.00041	0.0019	2.38719E-05
Phenol	mg/L	0.0015318	0.00556	0.00556	0.005556	7.6885E-05	0.00056	0.00056	0.0019	3.26055E-05
Phenolics Total	mg/L	0.0083333	0.05	0.05	0.05	0.000691412				0
Phosphorus	mg/L	0.3790539	0.03	0.01	0.02	0.000414847	0.075	0.05	0.1	0.004366812
p-Nonylphenol (Technical mixture)	mg/L	0.0015415				0	0.0016	0.0016	0.005	9.31587E-05
Potassium	mg/L	29.7569141				0	3.7	0.017	0.5	0.215429403
Pyrene	mg/L	0.0002302	0.00556	0.00556	0.005556	7.6885E-05	0.00015	0.00015	0.0019	8.73362E-06
Radium-226	pCi/L	0.2496070				0	0.487	0.161	1	0.028355167
Radium-228	pCi/L	0.4050946				0	0.375	0.375	1	0.021834061
Redox	mV	129.0367540				0	5.1			0.296943231
Selenium	mg/L	0.0190702	0.344	0.0065	0.01	0.004756914	0.00033	0.0002	0.005	1.9214E-05
Silver	mg/L	0.0002699	0.000029	0.000029	0.0001	4.01019E-07	0.000047	0.000047	0.001	2.73654E-06
Sodium	mg/L	345.8762737				0	7.3	0.011	0.5	0.42503639
Specific Conductivity (lab)	µS/cm	0.0000000				0				0
Sulfate	mg/L	1030.8267831	984	200	200	13.6069869	57	0.21	1	3.318777293
Sulfide	mg/L	0.8236900	0.05	0.05	0.05	0.000691412	0.41	0.41	1	0.023871907
sulfide (as H2S)	mg/L	0.6027656				0	0.41	0.41	1	0.023871907
Surfactants	mg/L	0.0013828	0.1	0.1	0.1	0.001382824				0
Temperature	oC	27.6409025				0	19.24			1.120232897
Tetrachloroethene	mg/L	0.0001618	0.001	0.001	0.005	1.38282E-05	0.00015	0.00015	0.001	8.73362E-06
Thallium	mg/L	0.0051653	0.000058	0.000058	0.0001	8.02038E-07	0.000063	0.000013	0.001	3.66812E-06
Tin	mg/L	0.0002766	0.02	0.02	0.02	0.000276565				0
Titanium	mg/L	0.0000691	0.005	0.005	0.05	6.91412E-05				0
Toluene	mg/L	0.0001618	0.001	0.001	0.005	1.38282E-05	0.00015	0.00015	0.001	8.73362E-06

		SCENARIO 1 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Methylene Chloride	mg/L	0.0002539	0.00015	0.00015	0.001	3.82096E-06	0.00019	0.00015	0.001	4.7016E-05	0.00018	0.00015	0.001	5.24017E-05
Mirex	mg/L	0.0000005	0.00000046	0.00000046	0.0000012	1.17176E-08	0.00000048	0.00000048	0.0000013	1.18777E-07	0.00000047	0.00000047	0.0000013	1.36827E-07
Molybdenum	mg/L	0.0253879	0.081	0.0026	0.05	0.002063319	0.052	0.0026	0.05	0.01286754	0.0058	0.00026	0.005	0.001688501
Naphthalene	mg/L	0.0002129	0.00013	0.00013	0.0019	3.3115E-06	0.00015	0.00015	0.0021	3.71179E-05	0.00014	0.00014	0.002	4.07569E-05
Nickel	mg/L	0.0228521	0.18	0.0093	0.01	0.004585153	0.053	0.00093	0.01	0.013114993	0.0067	0.000093	0.001	0.001950509
Nitrate	mg/L	0.0055313				0				0				0
Nitrate (as N)	mg/L	15.0071325	35	0.16		0.891557496	55	0.16	2.5	13.60989811	1.6		0.25	0.465793304
Nitrite	mg/L	0.0011063				0				0				0
Nitrite (as N)	mg/L	0.2248326	0.6	0.6		0.015283843	0.6	0.6	1.3	0.148471616	0.17		0.05	0.049490539
Nitrobenzene	mg/L	0.0008978	0.0008	0.0008	0.019	2.03785E-05	0.00088	0.00088	0.021	0.000217758	0.00084	0.00084	0.02	0.000244541
Nitrogen (Organic)	mg/L	0.0082969				0				0				0
Nitrogen (Total Oxidised)	mg/L	0.0055313				0				0				0
Nitrogen (Total)	mg/L	0.0425910				0				0				0
N-Nitrosodimethylamine	mg/L	0.0007503	0.00069	0.00069	0.0019	1.75764E-05	0.00077	0.00077	0.0021	0.000190539	0.00074	0.00074	0.002	0.000215429
N-nitrosodi-n-propylamine	mg/L	0.0003305	0.00029	0.00029	0.0019	7.38719E-06	0.00032	0.00032	0.0021	7.91849E-05	0.00031	0.00031	0.002	9.02475E-05
n-Nitrosodiphenylamine	mg/L	0.0009075	0.0008	0.0008	0.0094	2.03785E-05	0.00089	0.00089	0.01	0.000220233	0.00085	0.00085	0.01	0.000247453
Nonylphenol	mg/L	0.0000691				0				0				0
Nonylphenol Diethoxylate (Technica	mg/L	0.0019043	0.0019	0.0019	0.02	4.83988E-05	0.002	0.002	0.02	0.000494905	0.0019	0.0019	0.02	0.00055313
Nonylphenol Monoethoxylate (Tech	mg/L	0.0031168	0.0031	0.0031	0.0098	7.89665E-05	0.0032	0.0032	0.01	0.000791849	0.0032	0.0032	0.0099	0.000931587
Oil and Grease	mg/L	1.0647744	1.6	1.6	4.6	0.040756914	1.6	1.6	4.5	0.395924309	1.6	1.6	4.6	0.465793304
para-tert-Octylphenol	mg/L	0.0003117	0.00031	0.00031	0.00098	7.89665E-06	0.00032	0.00032	0.001	7.91849E-05	0.00032	0.00032	0.00099	9.31587E-05
Parathion	mg/L	0.0000449	0.000031	0.000031	0.00019	7.89665E-07	0.000032	0.000032	0.0002	7.91849E-06	0.000032	0.000032	0.0002	9.31587E-06
P-Chloro-M-Cresol	mg/L	0.0008133	0.00071	0.00071	0.0094	1.80859E-05	0.00079	0.00079	0.01	0.000195488	0.00075	0.00075	0.01	0.000218341
Pentachlorophenol	mg/L	0.0007223	0.00063	0.00063	0.0094	1.6048E-05	0.00069	0.00069	0.01	0.000170742	0.00066	0.00066	0.01	0.00019214
pH (Field)	SU	9.2799127	8.44			0.214992722	8.75			2.165211063	8.68			2.526928675
Phenanthrene	mg/L	0.0004942	0.0004	0.0004	0.0019	1.01892E-05	0.00044	0.00044	0.0021	0.000108879	0.00043	0.00043	0.002	0.000125182
Phenol	mg/L	0.0015318	0.00055	0.00055	0.0019	1.40102E-05	0.0042	0.00056	0.0019	0.001039301	0.00058	0.00058	0.002	0.00016885
Phenolics Total	mg/L	0.0083333				0				0	0.016	0.0082	0.01	0.004657933
Phosphorus	mg/L	0.3790539	0.61	0.05	0.1	0.015538574	0.26	0.05	0.1	0.0643377	0.94	0.05	0.1	0.273653566
p-Nonylphenol (Technical mixture)	mg/L	0.0015415	0.0016	0.0016	0.0049	4.07569E-05	0.0016	0.0016	0.005	0.000395924	0.0016	0.0016	0.0049	0.000465793
Potassium	mg/L	29.7569141	120	1.7	5	3.056768559	71	0.17	5	17.56914119	22	0.017	0.5	6.404657933
Pyrene	mg/L	0.0002302	0.00015	0.00015	0.0019	3.82096E-06	0.00016	0.00016	0.0021	3.95924E-05	0.00016	0.00016	0.002	4.65793E-05
Radium-226	pCi/L	0.2496070	6.26	2.06	1	0	2.3	1.01	1	0	0.4	0.4	1	0.116448326
Radium-228	pCi/L	0.4050946	3.12,G	3.12	1	0	1.38	1.38	1	0	0.869	0.607	1	0.252983988
Redox	mV	129.0367540	147.5			3.75727802	225.9			55.89956332	122.3			35.60407569
Selenium	mg/L	0.0190702	0.044	0.002	0.05	0.001120815	0.031	0.002	0.05	0.007671033	0.0039	0.0039	0.01	0.001135371
Silver	mg/L	0.0002699	0.0047	0.0047	0.1	0.000119723	0.00047	0.00047	0.01	0.000116303	0.000047	0.000047	0.001	1.36827E-05
Sodium	mg/L	345.8762737	710	1.1	5	18.08588064	420	0.11	5	103.930131	670	0.011	0.5	195.0509461
Specific Conductivity (lab)	µS/cm	0.0000000				0				0				0
Sulfate	mg/L	1030.8267831	660	5.4		16.81222707	1000	5.4	25	247.4526929	2200		25	640.4657933
Sulfide	mg/L	0.8236900	8.2	8.2		0.208879185	1.3	0.47	3	0.321688501	0.41		1	0.119359534
sulfide (as H2S)	mg/L	0.6027656	8.2	8.2	20	0.208879185	0.41	0.41	1	0.101455604	0.41	0.41	1	0.119359534
Surfactants	mg/L	0.0013828				0				0				0
Temperature	oC	27.6409025	38.8			0.988355167	22.16			5.483551674	33.43			9.73216885
Tetrachloroethene	mg/L	0.0001618	0.00015	0.00015	0.001	3.82096E-06	0.00015	0.00015	0.001	3.71179E-05	0.00015	0.00015	0.001	4.36681E-05
Thallium	mg/L	0.0051653	0.0038	0.0013	0.01	9.67977E-05	0.0017	0.00013	0.01	0.00042067	0.0022	0.0018	0.02	0.000640466
Tin	mg/L	0.0002766				0				0				0
Titanium	mg/L	0.0000691				0				0				0
Toluene	mg/L	0.0001618	0.00015	0.00015	0.001	3.82096E-06	0.00015	0.00015	0.001	3.71179E-05	0.00015	0.00015	0.001	4.36681E-05

		SCENARIO 1 RESULTS	BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Total Dissolved Solids	mg/L	4478.4570597	150	10	10	0.0000000	1100	20	20	400.2911208
Total Kjeldahl Nitrogen	mg/L	8.3045852	2.2	1.7	5	0.0000000	3.9	1.7	5	1.419213974
Total Organic Carbon	mg/L	5.0234352	1.6	0.19	1	0.0000000	1.7	0.19	1	0.618631732
Total Suspended Solids	mg/L	88.9877001	110	1	1	0.0000000	40	0.5	0.5	14.55604076
Toxaphene	mg/L	0.0000206	0.000018	0.000018	0.000048	0.0000000	0.000018	0.000018	0.000048	6.55022E-06
trans-1,2-Dibromoethene	mg/L	0.0000138				0				0
trans-1,3-dichloropropene	mg/L	0.0001618	0.00015	0.00015	0.001	0.0000000	0.00015	0.00015	0.001	5.45852E-05
Tributyltin	mg/L	0.0000464	0.000043	0.000043	0.000043	0.0000000	0.000043	0.000043	0.000043	1.56477E-05
Trichloroethene	mg/L	0.0001519	0.00014	0.00014	0.001	0.0000000	0.00014	0.00014	0.001	5.09461E-05
Trichlorofluoromethane	mg/L	0.0000138				0				0
Turbidity	NTU	22.5786026	170	0.25	4.3	0.0000000	19	0.05	0.85	6.91411936
Vinyl chloride	mg/L	0.0002406	0.00023	0.00023	0.001	0.0000000	0.00023	0.00023	0.001	8.36972E-05
Zinc	mg/L	0.0271714	0.02	0.0004	0.005	0.0000000	0.0063	0.0004	0.005	0.002292576

Value above RL

Value < RL but >= MDL (J-qualifier)

	Qi (MGD)	(Q1/∑Qi)
Bottom Ash	0	0
S-Ditch	0	0
Master Sump	4	0.291120815
FGD Yard	3.4	0.247452693
FGD Plant	0.35	0.025473071
Leachate	0.19	0.013828239
LAP / UAP Toe D	0.8	0.058224163
Metals Pond	5	0.363901019
Coal Yard	0	0
Totals (∑Qi)	13.74	MGD

		SCENARIO 1 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	COAL YARD	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Total Dissolved Solids	mg/L	4478.4570597	1500	20	20	0	330	10	10	0
Total Kjeldahl Nitrogen	mg/L	8.3045852	2.2	1.7	5	0	1.7	1.7	5	0
Total Organic Carbon	mg/L	5.0234352	4	0.19	1	0	7.3	0.19	1	0
Total Suspended Solids	mg/L	88.9877001	330	5	5	0	49	1	1	0
Toxaphene	mg/L	0.0000206	0.000018	0.000018	0.000049	0	0.000018	0.000018	0.00005	0
trans-1,2-Dibromoethene	mg/L	0.0000138				0				0
trans-1,3-dichloropropene	mg/L	0.0001618	0.00015	0.00015	0.001	0	0.00015	0.00015	0.001	0
Tributyltin	mg/L	0.0000464	0.000044	0.000044	0.000044	0	0.000043	0.000043	0.000043	0
Trichloroethene	mg/L	0.0001519	0.00014	0.00014	0.001	0	0.00014	0.00014	0.001	0
Trichlorofluoromethane	mg/L	0.0000138				0				0
Turbidity	NTU	22.5786026	320	1.3	21	0	77	0.25	4.3	0
Vinyl chloride	mg/L	0.0002406	0.00023	0.00023	0.001	0	0.00023	0.00023	0.001	0
Zinc	mg/L	0.0271714	1.8	0.0004	0.005	0	0.094	0.0004	0.005	0

Value above RL

Value < RL but >= MDL (J-qualifier)

	Qi (MGD)	(Q1/∑Qi)
Bottom Ash	0	0
S-Ditch	0	0
Master Sump	4	0.291120815
FGD Yard	3.4	0.247452693
FGD Plant	0.35	0.025473071
Leachate	0.19	0.013828239
LAP / UAP Toe D	0.8	0.058224163
Metals Pond	5	0.363901019
Coal Yard	0	0
Totals (∑Qi)	13.74	MGD

		SCENARIO 1 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	P TOE DRAIN_MDL	P TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Total Dissolved Solids	mg/L	4478.4570597				0	230	10	10	13.3915575
Total Kjeldahl Nitrogen	mg/L	8.3045852				0	3.4	1.7	5	0.197962154
Total Organic Carbon	mg/L	5.0234352	1.8	1	1	0.02489083	3.4	0.19	1	0.197962154
Total Suspended Solids	mg/L	88.9877001	18.4	1	1	0.254439592	7.8	1	1	0.454148472
Toxaphene	mg/L	0.0000206	0.000206	0.000206	0.001031	2.84862E-06	0.000018	0.000018	0.000048	1.04803E-06
trans-1,2-Dibromoethene	mg/L	0.0000138	0.001	0.001	0.005	1.38282E-05				0
trans-1,3-dichloropropene	mg/L	0.0001618	0.001	0.001	0.005	1.38282E-05	0.00015	0.00015	0.001	8.73362E-06
Tributyltin	mg/L	0.0000464	0.00003	0.00003	0.00003	4.14847E-07	0.000043	0.000043	0.000043	2.50364E-06
Trichloroethene	mg/L	0.0001519	0.001	0.001	0.005	1.38282E-05	0.00014	0.00014	0.001	8.15138E-06
Trichlorofluoromethane	mg/L	0.0000138	0.001	0.001	0.005	1.38282E-05				0
Turbidity	NTU	22.5786026				0	23	0.05	0.85	1.33915575
Vinyl chloride	mg/L	0.0002406	0.001	0.001	0.005	1.38282E-05	0.00023	0.00023	0.001	1.33916E-05
Zinc	mg/L	0.0271714	0.00571	0.0016	0.005	7.89592E-05	0.025	0.0004	0.005	0.001455604

Value above RL

Value < RL but >= MDL (J-qualifier)

	Qi (MGD)	(Q1/∑Qi)
Bottom Ash	0	0
S-Ditch	0	0
Master Sump	4	0.291120815
FGD Yard	3.4	0.247452693
FGD Plant	0.35	0.025473071
Leachate	0.19	0.013828239
LAP / UAP Toe D	0.8	0.058224163
Metals Pond	5	0.363901019
Coal Yard	0	0
Totals (∑Qi)	13.74	MGD

		SCENARIO 1 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Total Dissolved Solids	mg/L	4478.4570597	31000	200	200	789.6652111	9000	100	100	2227.074236	3600	40	40	1048.034934
Total Kjeldahl Nitrogen	mg/L	8.3045852	9.5	1.7	5	0.241994178	8.4	1.7	5	2.07860262	15	1.7	5	4.366812227
Total Organic Carbon	mg/L	5.0234352	36	3.8	20	0.917030568	9.9	0.19	1	2.449781659	2.8	0.19	1	0.815138282
Total Suspended Solids	mg/L	88.9877001	3.3	0.52		0.084061135	27	1	1	6.681222707	230		5	66.95778748
Toxaphene	mg/L	0.0000206	0.000018	0.000018	0.000048	4.58515E-07	0.000018	0.000018	0.00005	4.45415E-06	0.000018	0.000018	0.000049	5.24017E-06
trans-1,2-Dibromoethene	mg/L	0.0000138				0				0				0
trans-1,3-dichloropropene	mg/L	0.0001618	0.00015	0.00015	0.001	3.82096E-06	0.00015	0.00015	0.001	3.71179E-05	0.00015	0.00015	0.001	4.36681E-05
Tributyltin	mg/L	0.0000464	0.000043	0.000043	0.000043	1.09534E-06	0.000047	0.000047	0.000047	1.16303E-05	0.000052	0.000052	0.000052	1.51383E-05
Trichloroethene	mg/L	0.0001519	0.00014	0.00014	0.001	3.56623E-06	0.00014	0.00014	0.001	3.46434E-05	0.00014	0.00014	0.001	4.07569E-05
Trichlorofluoromethane	mg/L	0.0000138			0	0				0				0
Turbidity	NTU	22.5786026	1.8	0.05	0.85	0.045851528	33	0.05	0.85	8.165938865	21	0.05	0.85	6.113537118
Vinyl chloride	mg/L	0.0002406	0.00023	0.00023	0.001	5.85881E-06	0.00023	0.00023	0.001	5.69141E-05	0.00023	0.00023	0.001	6.69578E-05
Zinc	mg/L	0.0271714	0.061	0.04	0.5	0.001553857	0.041	0.004	0.05	0.01014556	0.04	0.001	0.02	0.011644833

Value above RL

Value < RL but >= MDL (J-qualifier)

	Qi (MGD)	(Q1/∑Qi)
Bottom Ash	0	0
S-Ditch	0	0
Master Sump	4	0.291120815
FGD Yard	3.4	0.247452693
FGD Plant	0.35	0.025473071
Leachate	0.19	0.013828239
LAP / UAP Toe D	0.8	0.058224163
Metals Pond	5	0.363901019
Coal Yard	0	0
Totals (∑Qi)	13.74	MGD

		SCENARIO 2 RESULTS		BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	µg/L	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002943	0.29427	0.00029	0.00029	0.001	0.0000175	0.00029	0.00029	0.001	0
1,1,2,2-tetrachloroethane	mg/L	0.0002078	0.20783	0.0002	0.0002	0.001	0.0000120	0.0002	0.0002	0.001	0
1,1,2-trichloroethane	mg/L	0.0002048	0.20482	0.0002	0.0002	0.001	0.0000120	0.0002	0.0002	0.001	0
1,1-dichloroethane	mg/L	0.0001253	0.12530	0.00012	0.00012	0.001	0.0000072	0.00012	0.00012	0.001	0
1,1-dichloroethene	mg/L	0.0003042	0.30421	0.0003	0.0003	0.001	0.0000181	0.0003	0.0003	0.001	0
1,2,4-trichlorobenzene	mg/L	0.0007160	0.71605	0.00068	0.00068	0.0019	0.0000409	0.00068	0.00068	0.0019	0
1,2-dichlorobenzene	mg/L	0.0001558	0.15578	0.00015	0.00015	0.001	0.0000090	0.00015	0.00015	0.001	0
1,2-dichloroethane	mg/L	0.0002178	0.21777	0.00021	0.00021	0.001	0.0000126	0.00021	0.00021	0.001	0
1,2-dichloropropane	mg/L	0.0001035	0.10346	0.000095	0.000095	0.001	0.0000057	0.000095	0.000095	0.001	0
1,2-Trans-dichloroethene	mg/L	0.0001750	0.17500	0.00017	0.00017	0.001	0.0000102	0.00017	0.00017	0.001	0
1,3-dichlorobenzene	mg/L	0.0001160	0.11602	0.00011	0.00011	0.001	0.0000066	0.00011	0.00011	0.001	0
1,3-Dichloropropene	mg/L	0.0005030	0.50301	0.0005	0.0005	0.002	0.0000301	0.0005	0.0005	0.002	0
1,4-dichlorobenzene	mg/L	0.0002154	0.21542	0.00021	0.00021	0.001	0.0000126	0.00021	0.00021	0.001	0
2,3,7,8-Tetrachlorooxanthrene	mg/L	8.73E-12	0.00000				0				0
2,4,6-trichlorophenol	mg/L	0.0017115	1.71150	0.0017	0.0017	0.0096	0.0001023	0.0017	0.0017	0.0095	0
2,4-dichlorophenol	mg/L	0.0003358	0.33582	0.00032	0.00032	0.0019	0.0000193	0.00032	0.00032	0.0019	0
2,4-dimethylphenol	mg/L	0.0008466	0.84664	0.00082	0.00082	0.0096	0.0000494	0.00081	0.00081	0.0095	0
2,4-dinitrophenol	mg/L	0.0060732	6.07320	0.0059	0.0059	0.048	0.0003552	0.0058	0.0058	0.048	0
2,4-Dinitrotoluene	mg/L	0.0005408	0.54078	0.00052	0.00052	0.0096	0.0000313	0.00051	0.00051	0.0095	0
2,6-dichlorophenol	mg/L	0.0000067	0.00668				0				0
2,6-dinitrotoluene	mg/L	0.0007987	0.79874	0.00077	0.00077	0.0096	0.0000464	0.00076	0.00076	0.0095	0
2-Chloroethylvinyl ether	mg/L	0.0002786	0.27859	0.00025	0.00025	0.002	0.0000150	0.00025	0.00025	0.002	0
2-chloronaphthalene	mg/L	0.0001572	0.15720	0.00015	0.00015	0.0019	0.0000090	0.00014	0.00014	0.0019	0
2-chlorophenol	mg/L	0.0016595	1.65950	0.0016	0.0016	0.0096	0.0000963	0.0016	0.0016	0.0095	0
2-methylphenol	mg/L	0.0000335	0.03347				0				0
2-nitrophenol	mg/L	0.0016926	1.69261	0.0016	0.0016	0.0096	0.0000963	0.0016	0.0016	0.0095	0
3,3-Dichlorobenzidine	mg/L	0.0011352	1.13515	0.0011	0.0011	0.0096	0.0000662	0.0011	0.0011	0.0095	0
3,4-Benzo-fluoranthene	mg/L	0.0001638	0.16383	0.00015	0.00015	0.0019	0.0000090	0.00015	0.00015	0.0019	0
4,4-DDE	mg/L	0.0000009	0.00093	0.00000076	0.00000076	0.0000013	4.57E-08	0.00000076	0.00000076	0.0000013	0
4,6-Dinitro-2-methylphenol	mg/L	0.0021896	2.18960	0.0021	0.0021	0.048	0.0001264	0.0021	0.0021	0.048	0
4-bromophenyl phenyl ether	mg/L	0.0006383	0.63828	0.00061	0.00061	0.0096	0.0000367	0.0006	0.0006	0.0095	0
4-chlorophenyl phenyl ether	mg/L	0.0005028	0.50282	0.00048	0.00048	0.0096	0.0000289	0.00048	0.00048	0.0095	0
4-nitrophenol	mg/L	0.0064221	6.42211	0.0062	0.0062	0.048	0.0003732	0.0062	0.0062	0.048	0
a-BHC	mg/L	0.0000024	0.00236	0.00000063	0.00000063	0.0000013	3.79E-08	0.00000063	0.00000063	0.0000013	0
Accrolein	mg/L	0.0026445	2.64454	0.0026	0.0026	0.02	0.0001565	0.0026	0.0026	0.02	0
Acenaphthene	mg/L	0.0001473	0.14734	0.00014	0.00014	0.0019	0.0000084	0.00014	0.00014	0.0019	0
Acenaphthylene	mg/L	0.0001572	0.15720	0.00015	0.00015	0.0019	0.0000090	0.00014	0.00014	0.0019	0
Acrylonitrile	mg/L	0.0010008	1.00079	0.00055	0.00055	0.02	0.0000331	0.00055	0.00055	0.02	0
Aldrin	mg/L	0.0000014	0.00145	0.0000008	0.0000008	0.0000013	4.82E-08	0.0000008	0.0000008	0.0000013	0
Alkalinity (Bicarbonate as CaCO3	mg/L	89.3441685	89344.16855	60	0.41	5	3.6117381	0.41	0.41	5	0
Alkalinity (Carbonate as CaCO3)	mg/L	22.3527540	22352.75395	16	0.41	5	0.9631302	36	0.41	5	0
Alkalinity (total) as CaCO3	mg/L	109.1485327	109148.53273	64	0.41	5	3.8525207	56	0.41	5	0
Aluminium	mg/L	9.5237502	9523.75019	0.92	0.0024	0.03	0.0553800	0.42	0.0024	0.03	0
Ammonia	mg/L	0.0182393	18.23928				0				0
Ammonia as N	mg/L	1.4139503	1413.95034	0.65	0.086	0.1	0.0391272	2.6	0.086	0.1	0
Anthracene	mg/L	0.0001573	0.15728	0.00015	0.00015	0.0019	0.0000090	0.00015	0.00015	0.0019	0
Antimony	mg/L	0.0024721	2.47210	0.0011	0.00004	0.002	0.0000662	0.00032	0.00004	0.002	0
Arochlor 1016	mg/L	0.0000026	0.00263	0.0000024	0.0000024	0.0000096	0.0000001	0.0000024	0.0000024	0.0000096	0
Arochlor 1221	mg/L	0.0000036	0.00361	0.0000024	0.0000024	0.0000096	0.0000001	0.0000024	0.0000024	0.0000096	0

		SCENARIO 2 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002943	0.00029	0.00029	0.001	5.23702E-05	0.00029	0.00029	0.001	1.74567E-05
1,1,2,2-tetrachloroethane	mg/L	0.0002078	0.0002	0.0002	0.001	3.61174E-05	0.0002	0.0002	0.001	1.20391E-05
1,1,2-trichloroethane	mg/L	0.0002048	0.0002	0.0002	0.001	3.61174E-05	0.0002	0.0002	0.001	1.20391E-05
1,1-dichloroethane	mg/L	0.0001253	0.00012	0.00012	0.001	2.16704E-05	0.00012	0.00012	0.001	7.22348E-06
1,1-dichloroethene	mg/L	0.0003042	0.0003	0.0003	0.001	5.41761E-05	0.0003	0.0003	0.001	1.80587E-05
1,2,4-trichlorobenzene	mg/L	0.0007160	0.0007	0.0007	0.002	0.000126411	0.00068	0.00068	0.0019	4.0933E-05
1,2-dichlorobenzene	mg/L	0.0001558	0.00015	0.00015	0.001	2.7088E-05	0.00015	0.00015	0.001	9.02935E-06
1,2-dichloroethane	mg/L	0.0002178	0.00021	0.00021	0.001	3.79233E-05	0.00021	0.00021	0.001	1.26411E-05
1,2-dichloropropane	mg/L	0.0001035	0.000095	0.000095	0.001	1.71558E-05	0.000095	0.000095	0.001	5.71859E-06
1,2-Trans-dichloroethene	mg/L	0.0001750	0.00017	0.00017	0.001	3.06998E-05	0.00017	0.00017	0.001	1.02333E-05
1,3-dichlorobenzene	mg/L	0.0001160	0.00011	0.00011	0.001	1.98646E-05	0.00011	0.00011	0.001	6.62152E-06
1,3-Dichloropropene	mg/L	0.0005030	0.0005	0.0005	0.002	9.02935E-05	0.0005	0.0005	0.002	3.00978E-05
1,4-dichlorobenzene	mg/L	0.0002154	0.00021	0.00021	0.001	3.79233E-05	0.00021	0.00021	0.001	1.26411E-05
2,3,7,8-Tetrachlorooxanthrene	mg/L	8.73E-12				0				0
2,4,6-trichlorophenol	mg/L	0.0017115	0.0017	0.0017	0.0099	0.000306998	0.0017	0.0017	0.0096	0.000102333
2,4-dichlorophenol	mg/L	0.0003358	0.00033	0.00033	0.002	5.95937E-05	0.00032	0.00032	0.0019	1.92626E-05
2,4-dimethylphenol	mg/L	0.0008466	0.00084	0.00084	0.0099	0.000151693	0.00082	0.00082	0.0096	4.93604E-05
2,4-dinitrophenol	mg/L	0.0060732	0.0061	0.0061	0.05	0.00110158	0.0059	0.0059	0.048	0.000355154
2,4-Dinitrotoluene	mg/L	0.0005408	0.00053	0.00053	0.0099	9.57111E-05	0.00052	0.00052	0.0096	3.13017E-05
2,6-dichlorophenol	mg/L	0.0000067				0				0
2,6-dinitrotoluene	mg/L	0.0007987	0.00079	0.00079	0.0099	0.000142664	0.00077	0.00077	0.0096	4.63506E-05
2-Chloroethylvinyl ether	mg/L	0.0002786	0.00025	0.00025	0.002	4.51467E-05	0.00025	0.00025	0.002	1.50489E-05
2-chloronaphthalene	mg/L	0.0001572	0.00015	0.00015	0.002	2.7088E-05	0.00015	0.00015	0.0019	9.02935E-06
2-chlorophenol	mg/L	0.0016595	0.0016	0.0016	0.0099	0.000288939	0.0016	0.0016	0.0096	9.6313E-05
2-methylphenol	mg/L	0.0000335				0				0
2-nitrophenol	mg/L	0.0016926	0.0017	0.0017	0.0099	0.000306998	0.0016	0.0016	0.0096	9.6313E-05
3,3-Dichlorobenzidine	mg/L	0.0011352	0.0011	0.0011	0.0099	0.000198646	0.0011	0.0011	0.0096	6.62152E-05
3,4-Benzo-fluoranthene	mg/L	0.0001638	0.00016	0.00016	0.002	2.88939E-05	0.00015	0.00015	0.0019	9.02935E-06
4,4-DDE	mg/L	0.0000009	0.00000077	7.7E-07	1.3E-06	1.39052E-07	0.00000078	0.00000078	0.0000013	4.69526E-08
4,6-Dinitro-2-methylphenol	mg/L	0.0021896	0.0022	0.0022	0.05	0.000397291	0.0021	0.0021	0.048	0.000126411
4-bromophenyl phenyl ether	mg/L	0.0006383	0.00063	0.00063	0.0099	0.00011377	0.00061	0.00061	0.0096	3.67193E-05
4-chlorophenyl phenyl ether	mg/L	0.0005028	0.0005	0.0005	0.0099	9.02935E-05	0.00048	0.00048	0.0096	2.88939E-05
4-nitrophenol	mg/L	0.0064221	0.0064	0.0064	0.05	0.001155756	0.0062	0.0062	0.048	0.000373213
a-BHC	mg/L	0.0000024	0.000001	6.3E-07	1.2E-06	1.80587E-07	0.0000021	0.00000065	0.0000013	1.26411E-07
Accrolein	mg/L	0.0026445	0.0026	0.0026	0.02	0.000469526	0.0026	0.0026	0.02	0.000156509
Acenaphthene	mg/L	0.0001473	0.00014	0.00014	0.002	2.52822E-05	0.00014	0.00014	0.0019	8.42739E-06
Acenaphthylene	mg/L	0.0001572	0.00015	0.00015	0.002	2.7088E-05	0.00015	0.00015	0.0019	9.02935E-06
Acrylonitrile	mg/L	0.0010008	0.00055	0.00055	0.02	9.93228E-05	0.00055	0.00055	0.02	3.31076E-05
Aldrin	mg/L	0.0000014	0.00000081	8.1E-07	1.3E-06	1.46275E-07	0.00000082	0.00000082	0.0000013	4.93604E-08
Alkalinity (Bicarbonate as CaCO3	mg/L	89.3441685	0.41	0.41	5	0.074040632	110	0.41	5	6.62151994
Alkalinity (Carbonate as CaCO3)	mg/L	22.3527540	0.41	0.41	5	0.074040632	0.41	0.41	5	0.024680211
Alkalinity (total) as CaCO3	mg/L	109.1485327	0.41	0.41	5	0.074040632	110	0.41	5	6.62151994
Aluminium	mg/L	9.5237502	44	0.0024	0.03	7.945823928	0.98	0.0024	0.03	0.058991723
Ammonia	mg/L	0.0182393				0				0
Ammonia as N	mg/L	1.4139503	0.99	0.086	0.1	0.178781038	0.4	0.086	0.1	0.024078254
Anthracene	mg/L	0.0001573	0.00015	0.00015	0.002	2.7088E-05	0.00015	0.00015	0.0019	9.02935E-06
Antimony	mg/L	0.0024721	0.00058	0.00004	0.002	0.00010474	0.00049	0.00004	0.002	2.94959E-05
Arochlor 1016	mg/L	0.0000026	0.0000024	0.0000024	9.7E-06	4.33409E-07	0.0000025	0.0000025	0.0000099	1.50489E-07
Arochlor 1221	mg/L	0.0000036	0.0000024	0.0000024	9.7E-06	4.33409E-07	0.0000025	0.0000025	0.0000099	1.50489E-07

		SCENARIO 2 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	UPPER TOE DRAIN_MDL	UPPER TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002943	0.001	0.001	0.005	6.01956E-06	0.00029	0.00029	0.001	1.74567E-05
1,1,2,2-tetrachloroethane	mg/L	0.0002078	0.0015	0.0015	0.005	9.02935E-06	0.0002	0.0002	0.001	1.20391E-05
1,1,2-trichloroethane	mg/L	0.0002048	0.001	0.001	0.005	6.01956E-06	0.0002	0.0002	0.001	1.20391E-05
1,1-dichloroethane	mg/L	0.0001253	0.001	0.001	0.005	6.01956E-06	0.00012	0.00012	0.001	7.22348E-06
1,1-dichloroethene	mg/L	0.0003042	0.001	0.001	0.005	6.01956E-06	0.0003	0.0003	0.001	1.80587E-05
1,2,4-trichlorobenzene	mg/L	0.0007160	0.00222	0.00222	0.005556	1.33634E-05	0.00068	0.00068	0.0019	4.0933E-05
1,2-dichlorobenzene	mg/L	0.0001558	0.00111	0.00111	0.005556	6.68172E-06	0.00015	0.00015	0.001	9.02935E-06
1,2-dichloroethane	mg/L	0.0002178	0.0015	0.0015	0.005	9.02935E-06	0.00021	0.00021	0.001	1.26411E-05
1,2-dichloropropane	mg/L	0.0001035	0.0015	0.0015	0.005	9.02935E-06	0.000095	0.000095	0.001	5.71859E-06
1,2-Trans-dichloroethene	mg/L	0.0001750	0.001	0.001	0.005	6.01956E-06	0.00017	0.00017	0.001	1.02333E-05
1,3-dichlorobenzene	mg/L	0.0001160	0.00111	0.00111	0.005556	6.68172E-06	0.00011	0.00011	0.001	6.62152E-06
1,3-Dichloropropene	mg/L	0.0005030	0.001	0.001	0.01	6.01956E-06	0.0005	0.0005	0.002	3.00978E-05
1,4-dichlorobenzene	mg/L	0.0002154	0.00111	0.00111	0.005556	6.68172E-06	0.00021	0.00021	0.001	1.26411E-05
2,3,7,8-Tetrachlorooxanthrene	mg/L	8.73E-12	1.45E-09	1.45E-09	0.000000011	8.72837E-12				0
2,4,6-trichlorophenol	mg/L	0.0017115	0.00111	0.00111	0.005556	6.68172E-06	0.0017	0.0017	0.0096	0.000102333
2,4-dichlorophenol	mg/L	0.0003358	0.00111	0.00111	0.005556	6.68172E-06	0.00032	0.00032	0.0019	1.92626E-05
2,4-dimethylphenol	mg/L	0.0008466	0.00056	0.00056	0.005556	3.37096E-06	0.00082	0.00082	0.0096	4.93604E-05
2,4-dinitrophenol	mg/L	0.0060732	0.00056	0.00056	0.005556	3.37096E-06	0.0059	0.0059	0.048	0.000355154
2,4-Dinitrotoluene	mg/L	0.0005408	0.00111	0.00111	0.005556	6.68172E-06	0.00052	0.00052	0.0096	3.13017E-05
2,6-dichlorophenol	mg/L	0.0000067	0.00111	0.00111	0.005556	6.68172E-06				0
2,6-dinitrotoluene	mg/L	0.0007987	0.00111	0.00111	0.005556	6.68172E-06	0.00077	0.00077	0.0096	4.63506E-05
2-Chloroethylvinyl ether	mg/L	0.0002786	0.005	0.005	0.005	3.00978E-05	0.00025	0.00025	0.002	1.50489E-05
2-chloronaphthalene	mg/L	0.0001572	0.00111	0.00111	0.005556	6.68172E-06	0.00015	0.00015	0.0019	9.02935E-06
2-chlorophenol	mg/L	0.0016595	0.00111	0.00111	0.005556	6.68172E-06	0.0016	0.0016	0.0096	9.6313E-05
2-methylphenol	mg/L	0.0000335	0.00556	0.00556	0.005556	3.34688E-05				0
2-nitrophenol	mg/L	0.0016926	0.00111	0.00111	0.005556	6.68172E-06	0.0016	0.0016	0.0096	9.6313E-05
3,3-Dichlorobenzidine	mg/L	0.0011352	0.00444	0.00444	0.005556	2.67269E-05	0.0011	0.0011	0.0096	6.62152E-05
3,4-Benzo-fluoranthene	mg/L	0.0001638	0.00111	0.00111	0.005556	6.68172E-06	0.00015	0.00015	0.0019	9.02935E-06
4,4-DDE	mg/L	0.0000009	0.000005	0.000005	0.00005155	3.00978E-08	0.00000076	7.6E-07	1.3E-06	4.57487E-08
4,6-Dinitro-2-methylphenol	mg/L	0.0021896	0.00111	0.00111	0.005556	6.68172E-06	0.0021	0.0021	0.048	0.000126411
4-bromophenyl phenyl ether	mg/L	0.0006383	0.00111	0.00111	0.005556	6.68172E-06	0.00061	0.00061	0.0096	3.67193E-05
4-chlorophenyl phenyl ether	mg/L	0.0005028	0.00111	0.00111	0.005556	6.68172E-06	0.00048	0.00048	0.0096	2.88939E-05
4-nitrophenol	mg/L	0.0064221	0.00111	0.00111	0.005556	6.68172E-06	0.0062	0.0062	0.048	0.000373213
a-BHC	mg/L	0.0000024	0.00002	0.005	0.00005155	1.20391E-07	0.00000063	6.3E-07	1.3E-06	3.79233E-08
Accrolein	mg/L	0.0026445	0.01	0.01	0.01	6.01956E-05	0.0026	0.0026	0.02	0.000156509
Acenaphthene	mg/L	0.0001473	0.00111	0.00111	0.005556	6.68172E-06	0.00014	0.00014	0.0019	8.42739E-06
Acenaphthylene	mg/L	0.0001572	0.00111	0.00111	0.005556	6.68172E-06	0.00015	0.00015	0.0019	9.02935E-06
Acrylonitrile	mg/L	0.0010008	0.0085	0.0085	0.01	5.11663E-05	0.00055	0.00055	0.02	3.31076E-05
Aldrin	mg/L	0.0000014	0.000005	0.000005	0.00005155	3.00978E-08	0.0000008	0.0000008	1.3E-06	4.81565E-08
Alkalinity (Bicarbonate as CaCO3	mg/L	89.3441685				0	170	0.41	5	10.23325809
Alkalinity (Carbonate as CaCO3)	mg/L	22.3527540				0	0.41	0.41	5	0.024680211
Alkalinity (total) as CaCO3	mg/L	109.1485327				0	170	0.41	5	10.23325809
Aluminium	mg/L	9.5237502	1.09	0.02	0.05	0.006561324	0.0088	0.0024	0.03	0.000529722
Ammonia	mg/L	0.0182393	3.03			0.018239278				0
Ammonia as N	mg/L	1.4139503	3.03	0.05	0.1	0.018239278	2.3	0.086	0.1	0.138449962
Anthracene	mg/L	0.0001573	0.00111	0.00111	0.005556	6.68172E-06	0.00015	0.00015	0.0019	9.02935E-06
Antimony	mg/L	0.0024721	0.00344	0.00011	0.002	2.07073E-05	0.00012	0.00004	0.002	7.22348E-06
Arochlor 1016	mg/L	0.0000026	0.00003	0.00003	0.0005155	1.80587E-07	0.0000024	0.0000024	9.6E-06	1.4447E-07
Arochlor 1221	mg/L	0.0000036	0.0002	0.0002	0.0005155	1.20391E-06	0.0000024	0.0000024	9.6E-06	1.4447E-07

		SCENARIO 2 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
1,1,1-trichloroethane	mg/L	0.0002943	0.00029	0.00029	0.001	2.4003E-06	0.00029	0.00029	0.001	4.36418E-05	0.00029	0.00029	0.001	0.000137472
1,1,2,2-tetrachloroethane	mg/L	0.0002078	0.0002	0.0002	0.001	1.65538E-06	0.0002	0.0002	0.001	3.00978E-05	0.0002	0.0002	0.001	9.48081E-05
1,1,2-trichloroethane	mg/L	0.0002048	0.0002	0.0002	0.001	1.65538E-06	0.0002	0.0002	0.001	3.00978E-05	0.0002	0.0002	0.001	9.48081E-05
1,1-dichloroethane	mg/L	0.0001253	0.00012	0.00012	0.001	9.93228E-07	0.00012	0.00012	0.001	1.80587E-05	0.00012	0.00012	0.001	5.68849E-05
1,1-dichloroethene	mg/L	0.0003042	0.0003	0.0003	0.001	2.48307E-06	0.0003	0.0003	0.001	4.51467E-05	0.0003	0.0003	0.001	0.000142212
1,2,4-trichlorobenzene	mg/L	0.0007160	0.00067	0.00067	0.0019	5.54552E-06	0.00074	0.00074	0.0021	0.000111362	0.00071	0.00071	0.002	0.000336569
1,2-dichlorobenzene	mg/L	0.0001558	0.00015	0.00015	0.001	1.24153E-06	0.00015	0.00015	0.001	2.25734E-05	0.00015	0.00015	0.001	7.11061E-05
1,2-dichloroethane	mg/L	0.0002178	0.00021	0.00021	0.001	1.73815E-06	0.00021	0.00021	0.001	3.16027E-05	0.00021	0.00021	0.001	9.95485E-05
1,2-dichloropropane	mg/L	0.0001035	0.000095	0.000095	0.001	7.86305E-07	0.000095	0.000095	0.001	1.42965E-05	0.000095	0.000095	0.001	4.50339E-05
1,2-Trans-dichloroethene	mg/L	0.0001750	0.00017	0.00017	0.001	1.40707E-06	0.00017	0.00017	0.001	2.55831E-05	0.00017	0.00017	0.001	8.05869E-05
1,3-dichlorobenzene	mg/L	0.0001160	0.00011	0.00011	0.001	9.10459E-07	0.00011	0.00011	0.001	1.65538E-05	0.00011	0.00011	0.001	5.21445E-05
1,3-Dichloropropene	mg/L	0.0005030	0.0005	0.0005	0.002	4.13845E-06	0.0005	0.0005	0.002	7.52445E-05	0.0005	0.0005	0.002	0.00023702
1,4-dichlorobenzene	mg/L	0.0002154	0.00021	0.00021	0.001	1.73815E-06	0.00021	0.00021	0.001	3.16027E-05	0.00021	0.00021	0.001	9.95485E-05
2,3,7,8-Tetrachlorooxanthrene	mg/L	8.73E-12				0				0				0
2,4,6-trichlorophenol	mg/L	0.0017115	0.0017	0.0017	0.0094	1.40707E-05	0.0018	0.0018	0.01	0.00027088	0.0017	0.0017	0.01	0.000805869
2,4-dichlorophenol	mg/L	0.0003358	0.00032	0.00032	0.0019	2.64861E-06	0.00035	0.00035	0.0021	5.26712E-05	0.00033	0.00033	0.002	0.000156433
2,4-dimethylphenol	mg/L	0.0008466	0.0008	0.0008	0.0094	6.62152E-06	0.00089	0.00089	0.01	0.000133935	0.00085	0.00085	0.01	0.000402935
2,4-dinitrophenol	mg/L	0.0060732	0.0058	0.0058	0.047	4.8006E-05	0.0064	0.0064	0.052	0.00096313	0.0061	0.0061	0.05	0.002891648
2,4-Dinitrotoluene	mg/L	0.0005408	0.00051	0.00051	0.0094	4.22122E-06	0.00056	0.00056	0.01	8.42739E-05	0.00054	0.00054	0.01	0.000255982
2,6-dichlorophenol	mg/L	0.0000067				0				0				0
2,6-dinitrotoluene	mg/L	0.0007987	0.00075	0.00075	0.0094	6.20767E-06	0.00083	0.00083	0.01	0.000124906	0.0008	0.0008	0.01	0.000379233
2-Chloroethylvinyl ether	mg/L	0.0002786	0.00025	0.00025	0.002	2.06922E-06	0.00025	0.00025	0.002	3.76223E-05	0.00025	0.00025	0.002	0.00011851
2-chloronaphthalene	mg/L	0.0001572	0.00014	0.00014	0.0019	1.15877E-06	0.00016	0.00016	0.0021	2.40783E-05	0.00015	0.00015	0.002	7.11061E-05
2-chlorophenol	mg/L	0.0016595	0.0016	0.0016	0.0094	1.3243E-05	0.0017	0.0017	0.01	0.000255831	0.0017	0.0017	0.01	0.000805869
2-methylphenol	mg/L	0.0000335				0				0				0
2-nitrophenol	mg/L	0.0016926	0.0016	0.0016	0.0094	1.3243E-05	0.0018	0.0018	0.01	0.00027088	0.0017	0.0017	0.01	0.000805869
3,3-Dichlorobenzidine	mg/L	0.0011352	0.0011	0.0011	0.0094	9.10459E-06	0.0012	0.0012	0.01	0.000180587	0.0011	0.0011	0.01	0.000521445
3,4-Benzo-fluoranthene	mg/L	0.0001638	0.00015	0.00015	0.0019	1.24153E-06	0.00016	0.00016	0.0021	2.40783E-05	0.00016	0.00016	0.002	7.58465E-05
4,4-DDE	mg/L	0.0000009	0.0000034	0.00000075	0.0000012	2.81415E-08	1.5E-06	7.8E-07	0.0000013	2.25734E-07	0.00000077	0.00000077	0.0000013	3.65011E-07
4,6-Dinitro-2-methylphenol	mg/L	0.0021896	0.0021	0.0021	0.047	1.73815E-05	0.0023	0.0023	0.052	0.000346125	0.0022	0.0022	0.05	0.001042889
4-bromophenyl phenyl ether	mg/L	0.0006383	0.0006	0.0006	0.0094	4.96614E-06	0.00066	0.00066	0.01	9.93228E-05	0.00064	0.00064	0.01	0.000303386
4-chlorophenyl phenyl ether	mg/L	0.0005028	0.00047	0.00047	0.0094	3.89014E-06	0.00052	0.00052	0.01	7.82543E-05	0.0005	0.0005	0.01	0.00023702
4-nitrophenol	mg/L	0.0064221	0.0061	0.0061	0.047	5.04891E-05	0.0067	0.0067	0.052	0.001008277	0.0065	0.0065	0.05	0.003081264
a-BHC	mg/L	0.0000024	0.0000098	0.00000063	0.0000012	8.11136E-08	7.4E-06	6.3E-07	0.0000013	1.11362E-06	0.0000014	0.00000063	0.0000012	6.63657E-07
Accrolein	mg/L	0.0026445	0.0026	0.0026	0.02	2.15199E-05	0.0026	0.0026	0.02	0.000391272	0.0026	0.0026	0.02	0.001232506
Acenaphthene	mg/L	0.0001473	0.00014	0.00014	0.0019	1.15877E-06	0.00015	0.00015	0.0021	2.25734E-05	0.00014	0.00014	0.002	6.63657E-05
Acenaphthylene	mg/L	0.0001572	0.00014	0.00014	0.0019	1.15877E-06	0.00016	0.00016	0.0021	2.40783E-05	0.00015	0.00015	0.002	7.11061E-05
Acrylonitrile	mg/L	0.0010008	0.00055	0.00055	0.02	4.55229E-06	0.00055	0.00055	0.02	8.2769E-05	0.0014	0.00055	0.02	0.000663657
Aldrin	mg/L	0.0000014	0.0000078	0.00000079	0.0000012	6.45598E-08	0.0000045	8.2E-07	0.0000013	6.77201E-07	0.00000081	0.00000081	0.0000013	3.83973E-07
Alkalinity (Bicarbonate as CaCO3	mg/L	89.3441685	600	0.41	5	4.966139955	210	0.41	5	31.6027088	68	0.41	5	32.23476298
Alkalinity (Carbonate as CaCO3)	mg/L	22.3527540	0.41	0.41	5	0.003393529	140	0.41	5	21.06847254	0.41	0.41	5	0.194356659
Alkalinity (total) as CaCO3	mg/L	109.1485327	600	0.41	5	4.966139955	340	0.41	5	51.16629044	68	0.41	5	32.23476298
Aluminium	mg/L	9.5237502	0.24	0.24	0.3	0.001986456	0.53	0.024	0.3	0.079759217	2.9	0.0024	0.03	1.374717833
Ammonia	mg/L	0.0182393				0				0				0
Ammonia as N	mg/L	1.4139503	4.3	0.086	0.1	0.03559067	2.1	0.086	0.1	0.316027088	1.4	0.086	0.1	0.663656885
Anthracene	mg/L	0.0001573	0.00015	0.00015	0.0019	1.24153E-06	0.00016	0.00016	0.0021	2.40783E-05	0.00015	0.00015	0.002	7.11061E-05
Antimony	mg/L	0.0024721	0.035	0.004	0.02	0.000289691	0.011	0.0004	0.02	0.00165538	0.00063	0.00004	0.002	0.000298646
Arochlor 1016	mg/L	0.0000026	0.0000024	0.0000024	0.0000095	1.98646E-08	2.5E-06	2.5E-06	0.0000099	3.76223E-07	0.0000025	0.0000025	0.0000098	1.1851E-06
Arochlor 1221	mg/L	0.0000036	0.0000024	0.0000024	0.0000095	1.98646E-08	2.5E-06	2.5E-06	0.0000099	3.76223E-07	0.0000024	0.0000024	0.0000098	1.1377E-06

		SCENARIO 2 RESULTS		BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	µg/L	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000030	0.00297	0.0000028	0.0000028	0.0000096	0.0000002	0.0000028	0.0000028	0.0000096	0
Arochlor 1242	mg/L	0.0000020	0.00203	0.0000018	0.0000018	0.0000096	0.0000001	0.0000018	0.0000018	0.0000096	0
Arochlor 1248	mg/L	0.0000025	0.00251	0.0000022	0.0000022	0.0000096	0.0000001	0.0000022	0.0000022	0.0000096	0
Arochlor 1254	mg/L	0.0000015	0.00153	0.0000013	0.0000013	0.0000096	0.0000001	0.0000013	0.0000013	0.0000096	0
Arochlor 1260	mg/L	0.0000015	0.00153	0.0000013	0.0000013	0.0000096	0.0000001	0.0000013	0.0000013	0.0000096	0
Arsenic	mg/L	0.0254597	25.45974	0.0072	0.00012	0.001	0.0004334	0.003	0.003	0.01	0
Azinophos methyl	mg/L	0.0000615	0.06147	0.000022	0.000022	0.0002	0.0000013	0.000022	0.000022	0.00019	0
Barium	mg/L	0.2450745	245.07449	0.11	0.000088	0.01	0.0066215	0.08	0.000088	0.01	0
b-BHC	mg/L	0.0000028	0.00275	0.00000096	0.00000096	0.0000013	0.0000001	0.00000096	0.00000096	0.0000013	0
Benz(a)anthracene	mg/L	0.0001807	0.18068	0.00014	0.00014	0.0019	0.0000084	0.00014	0.00014	0.0019	0
Benzene	mg/L	0.0001164	0.11635	0.00011	0.00011	0.001	0.0000066	0.00011	0.00011	0.001	0
Benzidine	mg/L	0.0344150	34.41496	0.033	0.033	0.19	0.0019865	0.033	0.033	0.19	0
Benzo(a) pyrene	mg/L	0.0001374	0.13740	0.00013	0.00013	0.0019	0.0000078	0.00013	0.00013	0.0019	0
Benzo(g,h,i)perylene	mg/L	0.0001572	0.15720	0.00015	0.00015	0.0019	0.0000090	0.00014	0.00014	0.0019	0
Benzo(k)fluoranthene	mg/L	0.0005507	0.55071	0.00053	0.00053	0.0019	0.0000319	0.00052	0.00052	0.0019	0
Beryllium	mg/L	0.0046488	4.64882	0.00084	0.000036	0.001	0.0000506	0.000036	0.000036	0.001	0
Biochemical Oxygen Demand	mg/L	6.4802107	6480.21068	2	2	2	2	2	2	2	0
Bis(2-chloroethoxy) methane	mg/L	0.0005838	0.58384	0.00056	0.00056	0.0096	0.0000337	0.00055	0.00055	0.0095	0
Bis(2-chloroethyl)ether	mg/L	0.0002548	0.25479	0.00024	0.00024	0.0019	0.0000144	0.00024	0.00024	0.0019	0
Bis(2-chloroisopropyl) ether	mg/L	0.0002051	0.20509	0.00019	0.00019	0.0019	0.0000114	0.00019	0.00019	0.0019	0
Bis(2-ethylhexyl) phthalate	mg/L	0.0125590	12.55898	0.012	0.012	0.019	0.0007223	0.012	0.012	0.019	0
Bisphenol A	mg/L	0.0005491	0.54914	0.0042	0.00032	0.001	0.0002528	0.00031	0.00031	0.00097	0
Boron	mg/L	20.3147329	20314.73288	0.16	0.00046	0.005	0.0096313	2.6	0.00061	0.2	0
Bromide	mg/L	40.9787058	40978.70579	0.19	0.19	0.5	0.0114372	5.3	0.19	0.5	0
Bromoform	mg/L	0.0001979	0.19789	0.00019	0.00019	0.001	0.0000114	0.00019	0.00019	0.001	0
Butyl benzyl phthalate	mg/L	0.0014125	1.41248	0.0014	0.0014	0.0096	0.0000843	0.0014	0.0014	0.0095	0
Cadmium	mg/L	0.0017251	1.72509	0.00024	0.000074	0.001	0.0000144	0.00013	0.00013	0.005	0
Carbon tetrachloride	mg/L	0.0001452	0.14518	0.00014	0.00014	0.001	0.0000084	0.00014	0.00014	0.001	0
Chemical Oxygen Demand	mg/L	79.2096313	79209.63130	6.1	2	10	0.3671934	11	2	10	0
chlordane	mg/L	0.0000036	0.00364	0.0000016	0.0000016	0.000012	0.0000001	0.0000016	0.0000016	0.000012	0
Chloride	mg/L	231.4004515	231400	22	0.2	1	1.3243040	310	2	10	0
Chlorine, Total Residual	mg/L	0.0182167	18.21670	0			0.0000000	0			0
Chlorobenzene	mg/L	0.0001422	0.14217	0.00014	0.00014	0.001	0.0000084	0.00014	0.00014	0.001	0
Chlorodibromomethane	mg/L	0.0003869	0.38694	0.00014	0.00014	0.001	0.0000084	0.00014	0.00014	0.001	0
Chloroethane	mg/L	0.0002148	0.21476	0.00021	0.00021	0.001	0.0000126	0.00021	0.00021	0.001	0
Chloroform	mg/L	0.0091213	9.12129	0.00017	0.00017	0.001	0.0000102	0.00035	0.00017	0.001	0
Chlorpyrifos	mg/L	0.0000589	0.05894	0.00002	0.00002	0.0002	0.0000012	0.000019	0.000019	0.00019	0
Chromium (Hexavalent)	mg/L	0.0418059	41.80587	0.0023	0.0019	0.01	0.0001384	0.0019	0.0019	0.01	0
Chromium (Total)	mg/L	0.0098777	9.87765	0.0013	0.00023	0.002	0.0000783	0.00092	0.00077	0.005	0
Chrysene	mg/L	0.0001455	0.14546	0.00013	0.00013	0.0019	0.0000078	0.00013	0.00013	0.0019	0
cis-1,3-dichloropropene	mg/L	0.0001949	0.19488	0.00019	0.00019	0.001	0.0000114	0.00019	0.00019	0.001	0
Cobalt	mg/L	0.0570652	57.06516	0.00097	0.00005	0.0005	0.0000584	0.00063	0.00005	0.0005	0
Color	o	0.0601956					0				0
Copper	mg/L	0.0885437	88.54366	0.0029	0.00027	0.002	0.0001746	0.015	0.0015	0.025	0
Cyanide (Total)	mg/L	0.0038800	3.87998	0.0025	0.0025	0.01	0.0001505	0.0025	0.0025	0.01	0
d-BHC	mg/L	0.0000006	0.00055	0.00000037	0.00000037	0.0000013	2.23E-08	0.00000037	0.00000037	0.0000013	0
DDD	mg/L	0.0000011	0.00106	0.00000064	0.00000064	0.0000013	3.85E-08	0.00000064	0.00000064	0.0000013	0
DDT	mg/L	0.0000008	0.00084	0.00000071	0.00000071	0.0000013	4.27E-08	0.00000071	0.00000071	0.0000013	0
Demeton (total)	mg/L	0.0000322	0.03221	0.000032	0.000032	0.00039	0.0000019	0.000031	0.000031	0.00038	0

		SCENARIO 2 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000030	0.0000028	0.0000028	9.7E-06	5.05643E-07	0.0000029	0.0000029	0.0000099	1.74567E-07
Arochlor 1242	mg/L	0.0000020	0.0000018	0.0000018	9.7E-06	3.25056E-07	0.0000018	0.0000018	0.0000099	1.08352E-07
Arochlor 1248	mg/L	0.0000025	0.0000022	0.0000022	9.7E-06	3.97291E-07	0.0000023	0.0000023	0.0000099	1.3845E-07
Arochlor 1254	mg/L	0.0000015	0.0000013	0.0000013	9.7E-06	2.34763E-07	0.0000013	0.0000013	0.0000099	7.82543E-08
Arochlor 1260	mg/L	0.0000015	0.0000013	0.0000013	9.7E-06	2.34763E-07	0.0000013	0.0000013	0.0000099	7.82543E-08
Arsenic	mg/L	0.0254597	0.049	0.00012	0.001	0.008848758	0.034	0.00012	0.001	0.002046652
Azinophos methyl	mg/L	0.0000615	0.000022	0.000022	0.0002	3.97291E-06	0.000022	0.000022	0.0002	1.3243E-06
Barium	mg/L	0.2450745	0.084	0.000088	0.01	0.0151693	0.1	0.000088	0.01	0.006019564
b-BHC	mg/L	0.0000028	0.00000097	9.7E-07	1.3E-06	1.75169E-07	0.00000099	0.00000099	0.0000013	5.95937E-08
Benz(a)anthracene	mg/L	0.0001807	0.00015	0.00015	0.002	2.7088E-05	0.00014	0.00014	0.0019	8.42739E-06
Benzene	mg/L	0.0001164	0.00011	0.00011	0.001	1.98646E-05	0.00011	0.00011	0.001	6.62152E-06
Benzidine	mg/L	0.0344150	0.034	0.034	0.2	0.006139955	0.033	0.033	0.19	0.001986456
Benzo(a) pyrene	mg/L	0.0001374	0.00013	0.00013	0.002	2.34763E-05	0.00013	0.00013	0.0019	7.82543E-06
Benzo(g,h,i)perylene	mg/L	0.0001572	0.00015	0.00015	0.002	2.7088E-05	0.00015	0.00015	0.0019	9.02935E-06
Benzo(k)fluoranthene	mg/L	0.0005507	0.00054	0.00054	0.002	9.75169E-05	0.00053	0.00053	0.0019	3.19037E-05
Beryllium	mg/L	0.0046488	0.022	0.000036	0.001	0.003972912	0.000095	0.000036	0.001	5.71859E-06
Biochemical Oxygen Demand	mg/L	6.4802107	2.2	2	2	0.397291196	6.2	2	2	0.373212942
Bis(2-chloroethoxy) methane	mg/L	0.0005838	0.00058	0.00058	0.0099	0.00010474	0.00056	0.00056	0.0096	3.37096E-05
Bis(2-chloroethyl)ether	mg/L	0.0002548	0.00025	0.00025	0.002	4.51467E-05	0.00024	0.00024	0.0019	1.4447E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002051	0.0002	0.0002	0.002	3.61174E-05	0.00019	0.00019	0.0019	1.14372E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0125590	0.012	0.012	0.02	0.002167043	0.012	0.012	0.019	0.000722348
Bisphenol A	mg/L	0.0005491	0.00031	0.00031	0.00098	5.59819E-05	0.00031	0.00031	0.00097	1.86606E-05
Boron	mg/L	20.3147329	0.97	0.00046	0.005	0.1751693	0.49	0.00046	0.005	0.029495862
Bromide	mg/L	40.9787058	1.2	0.19	0.5	0.216704289	0.52	0.19	0.5	0.031301731
Bromoform	mg/L	0.0001979	0.00019	0.00019	0.001	3.43115E-05	0.00019	0.00019	0.001	1.14372E-05
Butyl benzyl phthalate	mg/L	0.0014125	0.0014	0.0014	0.0099	0.000252822	0.0014	0.0014	0.0096	8.42739E-05
Cadmium	mg/L	0.0017251	0.0063	0.000074	0.001	0.001137698	0.00011	0.000074	0.001	6.62152E-06
Carbon tetrachloride	mg/L	0.0001452	0.00014	0.00014	0.001	2.52822E-05	0.00014	0.00014	0.001	8.42739E-06
Chemical Oxygen Demand	mg/L	79.2096313	120	4	20	21.67042889	130	4	20	7.825432656
chlordane	mg/L	0.0000036	0.0000061	0.0000016	1.2E-05	1.10158E-06	0.0000016	0.0000016	0.000012	9.6313E-08
Chloride	mg/L	231.4004515	84	0.2	1	15.16930023	37	0.2	1	2.227238525
Chlorine, Total Residual	mg/L	0.0182167	0			0	0.04			0.002407825
Chlorobenzene	mg/L	0.0001422	0.00014	0.00014	0.001	2.52822E-05	0.00014	0.00014	0.001	8.42739E-06
Chlorodibromomethane	mg/L	0.0003869	0.00014	0.00014	0.001	2.52822E-05	0.00014	0.00014	0.001	8.42739E-06
Chloroethane	mg/L	0.0002148	0.00021	0.00021	0.001	3.79233E-05	0.00021	0.00021	0.001	1.26411E-05
Chloroform	mg/L	0.0091213	0.00017	0.00017	0.001	3.06998E-05	0.00018	0.00017	0.001	1.08352E-05
Chlorpyrifos	mg/L	0.0000589	0.00002	0.00002	0.0002	3.61174E-06	0.00002	0.00002	0.0002	1.20391E-06
Chromium (Hexavalent)	mg/L	0.0418059	0.2	0.048	0.25	0.036117381	0.0019	0.0019	0.01	0.000114372
Chromium (Total)	mg/L	0.0098777	0.039	0.00023	0.002	0.007042889	0.0016	0.00023	0.002	9.6313E-05
Chrysene	mg/L	0.0001455	0.00014	0.00014	0.002	2.52822E-05	0.00013	0.00013	0.0019	7.82543E-06
cis-1,3-dichloropropene	mg/L	0.0001949	0.00019	0.00019	0.001	3.43115E-05	0.00019	0.00019	0.001	1.14372E-05
Cobalt	mg/L	0.0570652	0.3	0.00005	0.0005	0.054176072	0.0012	0.00005	0.0005	7.22348E-05
Color	o	0.0601956				0				0
Copper	mg/L	0.0885437	0.38	0.00027	0.002	0.068623025	0.034	0.00027	0.002	0.002046652
Cyanide (Total)	mg/L	0.0038800	0.0025	0.0025	0.01	0.000451467	0.0025	0.0025	0.01	0.000150489
d-BHC	mg/L	0.0000006	0.00000052	3.6E-07	1.2E-06	9.39052E-08	0.0000025	0.00000038	0.0000013	1.50489E-07
DDD	mg/L	0.0000011	0.00000065	6.5E-07	1.3E-06	1.17381E-07	0.0000069	0.00000066	0.0000013	4.1535E-07
DDT	mg/L	0.0000008	0.00000072	7.2E-07	1.3E-06	1.30023E-07	0.0000018	0.00000073	0.0000013	1.08352E-07
Demeton (total)	mg/L	0.0000322	0.000032	0.000032	0.00039	5.77878E-06	0.000032	0.000032	0.00039	1.92626E-06

		SCENARIO 2 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	UPPER TOE DRAIN_MDL	UPPER TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000030	0.00002	0.00002	0.0005155	1.20391E-07	0.0000028	0.0000028	9.6E-06	1.68548E-07
Arochlor 1242	mg/L	0.0000020	0.00004	0.00004	0.0005155	2.40783E-07	0.0000018	0.0000018	9.6E-06	1.08352E-07
Arochlor 1248	mg/L	0.0000025	0.00005	0.00005	0.0005155	3.00978E-07	0.0000022	0.0000022	9.6E-06	1.3243E-07
Arochlor 1254	mg/L	0.0000015	0.00004	0.00004	0.0005155	2.40783E-07	0.0000013	0.0000013	9.6E-06	7.82543E-08
Arochlor 1260	mg/L	0.0000015	0.00004	0.00004	0.0002062	2.40783E-07	0.0000013	0.0000013	9.6E-06	7.82543E-08
Arsenic	mg/L	0.0254597	0.0495	0.00061	0.001	0.000297968	0.0013	0.00012	0.001	7.82543E-05
Azinophos methyl	mg/L	0.0000615	0.0065		0.0065	3.91272E-05	0.000022	0.000022	0.00019	1.3243E-06
Barium	mg/L	0.2450745	0.193	0.002	0.01	0.001161776	0.065	0.000088	0.01	0.003912716
b-BHC	mg/L	0.0000028	0.000005	0.000005	0.00005155	3.00978E-08	0.00000096	9.6E-07	1.3E-06	5.77878E-08
Benz(a)anthracene	mg/L	0.0001807	0.00556	0.00556	0.005556	3.34688E-05	0.00014	0.00014	0.0019	8.42739E-06
Benzene	mg/L	0.0001164	0.001	0.001	0.005	6.01956E-06	0.00011	0.00011	0.001	6.62152E-06
Benzidine	mg/L	0.0344150	0.00556	0.00556	0.005556	3.34688E-05	0.033	0.033	0.19	0.001986456
Benzo(a) pyrene	mg/L	0.0001374	0.00111	0.00111	0.005556	6.68172E-06	0.00013	0.00013	0.0019	7.82543E-06
Benzo(g,h,i)perylene	mg/L	0.0001572	0.00111	0.00111	0.005556	6.68172E-06	0.00015	0.00015	0.0019	9.02935E-06
Benzo(k)fluoranthene	mg/L	0.0005507	0.00111	0.00111	0.005556	6.68172E-06	0.00053	0.00053	0.0019	3.19037E-05
Beryllium	mg/L	0.0046488	0.002	0.002	0.004	1.20391E-05	0.000036	0.000036	0.001	2.16704E-06
Biochemical Oxygen Demand	mg/L	6.4802107	2.9	0.2	2	0.017456734	2	2	2	2
Bis(2-chloroethoxy) methane	mg/L	0.0005838	0.00111	0.00111	0.005556	6.68172E-06	0.00056	0.00056	0.0096	3.37096E-05
Bis(2-chloroethyl)ether	mg/L	0.0002548	0.00111	0.00111	0.005556	6.68172E-06	0.00024	0.00024	0.0019	1.4447E-05
Bis(2-chloroisopropyl) ether	mg/L	0.0002051	0.00111	0.00111	0.005556	6.68172E-06	0.00019	0.00019	0.0019	1.14372E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0125590	0.00111	0.00111	0.005556	6.68172E-06	0.012	0.012	0.019	0.000722348
Bisphenol A	mg/L	0.0005491				0	0.00032	0.00032	0.001	1.92626E-05
Boron	mg/L	20.3147329	3.76	0.05	0.05	0.022633559	0.5	0.00046	0.005	0.030097818
Bromide	mg/L	40.9787058	5	5	5	0.030097818	0.52	0.19	0.5	0.031301731
Bromoform	mg/L	0.0001979	0.0015	0.0015	0.005	9.02935E-06	0.00019	0.00019	0.001	1.14372E-05
Butyl benzyl phthalate	mg/L	0.0014125	0.00111	0.00111	0.005556	6.68172E-06	0.0014	0.0014	0.0096	8.42739E-05
Cadmium	mg/L	0.0017251	0.00011	0.00011	0.0003	6.62152E-07	0.000087	0.000074	0.001	5.23702E-06
Carbon tetrachloride	mg/L	0.0001452	0.001	0.001	0.005	6.01956E-06	0.00014	0.00014	0.001	8.42739E-06
Chemical Oxygen Demand	mg/L	79.2096313	12.7	10	10	0.076448457	16	2	10	0.963130173
chlordane	mg/L	0.0000036	0.000206	0.000206	0.0002062	1.24003E-06	0.0000016	0.0000016	1.2E-05	9.6313E-08
Chloride	mg/L	231.4004515	52.4	10	10	0.315425132	6.8	0.2	1	0.409330324
Chlorine, Total Residual	mg/L	0.0182167				0	0			0
Chlorobenzene	mg/L	0.0001422	0.0005	0.0005	0.005	3.00978E-06	0.00014	0.00014	0.001	8.42739E-06
Chlorodibromomethane	mg/L	0.0003869	0.001	0.001	0.005	6.01956E-06	0.00014	0.00014	0.001	8.42739E-06
Chloroethane	mg/L	0.0002148	0.001	0.001	0.005	6.01956E-06	0.00021	0.00021	0.001	1.26411E-05
Chloroform	mg/L	0.0091213	0.001	0.001	0.005	6.01956E-06	0.00017	0.00017	0.001	1.02333E-05
Chlorpyrifos	mg/L	0.0000589	0.0065		0.0065	3.91272E-05	0.000019	0.000019	0.00019	1.14372E-06
Chromium (Hexavalent)	mg/L	0.0418059	0.061	0.1	0.003	0.000367193	0.044	0.0019	0.01	0.002648608
Chromium (Total)	mg/L	0.0098777	0.0355	0.001	0.01	0.000213695	0.00023	0.00023	0.002	1.3845E-05
Chrysene	mg/L	0.0001455	0.00111	0.00111	0.005556	6.68172E-06	0.00013	0.00013	0.0019	7.82543E-06
cis-1,3-dichloropropene	mg/L	0.0001949	0.001	0.001	0.005	6.01956E-06	0.00019	0.00019	0.001	1.14372E-05
Cobalt	mg/L	0.0570652	0.002	0.002	0.004	1.20391E-05	0.0014	0.00005	0.0005	8.42739E-05
Color	o	0.0601956	10	10	10	0.060195636				0
Copper	mg/L	0.0885437	0.00239	0.00022	0.001	1.43868E-05	0.00058	0.00027	0.002	3.49135E-05
Cyanide (Total)	mg/L	0.0038800	0.01	0.01	0.01	6.01956E-05	0.0025	0.0025	0.01	0.000150489
d-BHC	mg/L	0.0000006	0.000005	0.000005	0.00005155	3.00978E-08	0.00000037	3.7E-07	1.3E-06	2.22724E-08
DDD	mg/L	0.0000011	0.000005	0.000005	0.00005155	3.00978E-08	0.00000064	6.4E-07	1.3E-06	3.85252E-08
DDT	mg/L	0.0000008	0.000005	0.000005	0.00005155	3.00978E-08	0.00000071	7.1E-07	1.3E-06	4.27389E-08
Demeton (total)	mg/L	0.0000322				0	0.000031	0.000031	0.00038	1.86606E-06

		SCENARIO 2 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Arochlor 1232	mg/L	0.0000030	0.0000028	0.0000028	0.0000095	2.31753E-08	2.9E-06	2.9E-06	0.0000099	4.36418E-07	0.0000029	0.0000029	0.0000098	1.37472E-06
Arochlor 1242	mg/L	0.0000020	0.0000018	0.0000018	0.0000095	1.48984E-08	1.8E-06	1.8E-06	0.0000099	2.7088E-07	0.0000018	0.0000018	0.0000098	8.53273E-07
Arochlor 1248	mg/L	0.0000025	0.0000022	0.0000022	0.0000095	1.82092E-08	2.3E-06	2.3E-06	0.0000099	3.46125E-07	0.0000022	0.0000022	0.0000098	1.04289E-06
Arochlor 1254	mg/L	0.0000015	0.0000013	0.0000013	0.0000095	1.076E-08	1.3E-06	1.3E-06	0.0000099	1.95636E-07	0.0000013	0.0000013	0.0000098	6.16253E-07
Arochlor 1260	mg/L	0.0000015	0.0000013	0.0000013	0.0000095	1.076E-08	1.3E-06	1.3E-06	0.0000099	1.95636E-07	0.0000013	0.0000013	0.0000098	6.16253E-07
Arsenic	mg/L	0.0254597	0.17	0.012	0.01	0.001407073	0.06	0.0012	0.01	0.009029345	0.007	0.003	0.001	0.003318284
Azinophos methyl	mg/L	0.0000615	0.000022	0.000022	0.00019	1.82092E-07	0.000022	0.000022	0.0002	3.31076E-06	0.000023	0.000023	0.0002	1.09029E-05
Barium	mg/L	0.2450745	0.5	0.0088	1	0.00413845	0.28	0.00088	0.1	0.042136945	0.35	0.000088	0.01	0.165914221
b-BHC	mg/L	0.0000028	0.000012	0.00000095	0.0000012	9.93228E-08	0.000012	9.9E-07	0.0000013	1.80587E-06	0.00000098	0.00000098	0.0000013	4.6456E-07
Benz(a)anthracene	mg/L	0.0001807	0.00014	0.00014	0.0019	1.15877E-06	0.00015	0.00015	0.0021	2.25734E-05	0.00015	0.00015	0.002	7.11061E-05
Benzene	mg/L	0.0001164	0.00023	0.00011	0.001	1.90369E-06	0.00011	0.00011	0.001	1.65538E-05	0.00011	0.00011	0.001	5.21445E-05
Benzidine	mg/L	0.0344150	0.033	0.033	0.19	0.000273138	0.036	0.036	0.21	0.005417607	0.035	0.035	0.2	0.016591422
Benzo(a) pyrene	mg/L	0.0001374	0.00013	0.00013	0.0019	1.076E-06	0.00014	0.00014	0.0021	2.10685E-05	0.00013	0.00013	0.002	6.16253E-05
Benzo(g,h,i)perylene	mg/L	0.0001572	0.00014	0.00014	0.0019	1.15877E-06	0.00016	0.00016	0.0021	2.40783E-05	0.00015	0.00015	0.002	7.11061E-05
Benzo(k)fluoranthene	mg/L	0.0005507	0.00052	0.00052	0.0019	4.30399E-06	0.00057	0.00057	0.0021	8.57788E-05	0.00055	0.00055	0.002	0.000260722
Beryllium	mg/L	0.0046488	0.0036	0.0036	0.01	2.97968E-05	0.00036	0.00036	0.01	5.41761E-05	0.0011	0.000036	0.001	0.000521445
Biochemical Oxygen Demand	mg/L	6.4802107	2	2	2	0.0165538	2	2	2	0.300978179	2.9	2	2	1.374717833
Bis(2-chloroethoxy) methane	mg/L	0.0005838	0.00055	0.00055	0.0094	4.55229E-06	0.00061	0.00061	0.01	9.17983E-05	0.00058	0.00058	0.01	0.000274944
Bis(2-chloroethyl)ether	mg/L	0.0002548	0.00024	0.00024	0.0019	1.98646E-06	0.00026	0.00026	0.0021	3.91272E-05	0.00025	0.00025	0.002	0.00011851
Bis(2-chloroisopropyl) ether	mg/L	0.0002051	0.00019	0.00019	0.0019	1.57261E-06	0.00021	0.00021	0.0021	3.16027E-05	0.0002	0.0002	0.002	9.48081E-05
Bis(2-ethylhexyl) phthalate	mg/L	0.0125590	0.012	0.012	0.019	9.93228E-05	0.013	0.013	0.021	0.001956358	0.013	0.013	0.02	0.006162528
Bisphenol A	mg/L	0.0005491	0.00031	0.00031	0.00098	2.56584E-06	0.00032	0.00032	0.001	4.81565E-05	0.00032	0.00032	0.00099	0.000151693
Boron	mg/L	20.3147329	230	0.46	0.5	1.903686983	120	0.046	0.5	18.05869074	0.18	0.00061	0.2	0.085327314
Bromide	mg/L	40.9787058	150	4.8		1.241534989	260	4.8	13	39.12716328	0.61		1.3	0.289164786
Bromoform	mg/L	0.0001979	0.00019	0.00019	0.001	1.57261E-06	0.00019	0.00019	0.001	2.85929E-05	0.00019	0.00019	0.001	9.00677E-05
Butyl benzyl phthalate	mg/L	0.0014125	0.0013	0.0013	0.0094	1.076E-05	0.0015	0.0015	0.01	0.000225734	0.0014	0.0014	0.01	0.000663657
Cadmium	mg/L	0.0017251	0.011	0.0074	0.1	9.10459E-05	0.0023	0.00074	0.01	0.000346125	0.00026	0.000074	0.001	0.000123251
Carbon tetrachloride	mg/L	0.0001452	0.00014	0.00014	0.001	1.15877E-06	0.00014	0.00014	0.001	2.10685E-05	0.00014	0.00014	0.001	6.63657E-05
Chemical Oxygen Demand	mg/L	79.2096313	300	20	100	2.483069977	210	20	100	31.6027088	30	2	10	14.22121896
chlordane	mg/L	0.0000036	0.0000016	0.0000016	0.000012	1.3243E-08	1.6E-06	1.6E-06	0.000012	2.40783E-07	0.0000016	0.0000016	0.000012	7.58465E-07
Chloride	mg/L	231.4004515	23100	49	250	191.1963883	82.5	49	250	12.41534989	17.6	4.9	25	8.343115124
Chlorine, Total Residual	mg/L	0.0182167	1.91			0.015808879	0			0	0			0
Chlorobenzene	mg/L	0.0001422	0.00014	0.00014	0.001	1.15877E-06	0.00014	0.00014	0.001	2.10685E-05	0.00014	0.00014	0.001	6.63657E-05
Chlorodibromomethane	mg/L	0.0003869	0.00014	0.00014	0.001	1.15877E-06	0.00077	0.00014	0.001	0.000115877	0.00045	0.00014	0.001	0.000213318
Chloroethane	mg/L	0.0002148	0.00021	0.00021	0.001	1.73815E-06	0.00021	0.00021	0.001	3.16027E-05	0.00021	0.00021	0.001	9.95485E-05
Chloroform	mg/L	0.0091213	0.0038	0.00017	0.001	3.14522E-05	0.019	0.00017	0.001	0.002859293	0.013	0.00017	0.001	0.006162528
Chlorpyrifos	mg/L	0.0000589	0.000019	0.000019	0.00019	1.57261E-07	0.00002	0.00002	0.0002	3.00978E-06	0.00002	0.00002	0.0002	9.48081E-06
Chromium (Hexavalent)	mg/L	0.0418059	0.023	0.0019		0.000190369	0.0019	0.0019	0.01	0.000285929	0.0041		0.01	0.001943567
Chromium (Total)	mg/L	0.0098777	0.023	0.023	0.2	0.000190369	0.0023	0.0023	0.02	0.000346125	0.004	0.00023	0.002	0.001896163
Chrysene	mg/L	0.0001455	0.00013	0.00013	0.0019	1.076E-06	0.00015	0.00015	0.0021	2.25734E-05	0.00014	0.00014	0.002	6.63657E-05
cis-1,3-dichloropropene	mg/L	0.0001949	0.00019	0.00019	0.001	1.57261E-06	0.00019	0.00019	0.001	2.85929E-05	0.00019	0.00019	0.001	9.00677E-05
Cobalt	mg/L	0.0570652	0.021	0.005	0.05	0.000173815	0.0074	0.0005	0.005	0.001113619	0.0029	0.00005	0.0005	0.001374718
Color	o	0.0601956				0				0				0
Copper	mg/L	0.0885437	0.027	0.027	0.2	0.000223476	0.015	0.0027	0.02	0.002257336	0.032	0.00027	0.002	0.0151693
Cyanide (Total)	mg/L	0.0038800	0.0025	0.0025		2.06922E-05	0.0057	0.0025	0.01	0.000857788	0.0043		0.01	0.002038375
d-BHC	mg/L	0.0000006	0.00000036	0.00000036	0.0000012	2.97968E-09	3.8E-07	3.8E-07	0.0000013	5.71859E-08	0.00000037	0.00000037	0.0000013	1.75395E-07
DDD	mg/L	0.0000011	0.00000064	0.00000064	0.0000012	5.29722E-09	6.6E-07	6.6E-07	0.0000013	9.93228E-08	0.00000066	0.00000066	0.0000013	3.12867E-07
DDT	mg/L	0.0000008	0.0000041	0.0000007	0.0000012	3.39353E-08	7.3E-07	7.3E-07	0.0000013	1.09857E-07	0.00000073	0.00000073	0.0000013	3.4605E-07
Demeton (total)	mg/L	0.0000322	0.000031	0.000031	0.00038	2.56584E-07	0.000032	0.000032	0.00039	4.81565E-06	0.000033	0.000033	0.0004	1.56433E-05

		SCENARIO 2 RESULTS		BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	µg/L	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Demeton-O	mg/L	0.0000391	0.03913				0				0
Demeton-S	mg/L	0.0000391	0.03913				0				0
Diazinon	mg/L	0.0000575	0.05749	0.000018	0.000018	0.0002	0.0000011	0.000018	0.000018	0.00019	0
Dibenz(a,h)anthracene	mg/L	0.0001620	0.16202	0.00015	0.00015	0.0019	0.0000090	0.00015	0.00015	0.0019	0
Dichlorobromomethane	mg/L	0.0016658	1.66576	0.00013	0.00013	0.001	0.0000078	0.00013	0.00013	0.001	0
Dichlorodifluoromethane	mg/L	0.0000060	0.00602				0				0
Dieldrin	mg/L	0.0000040	0.00400	0.00000079	0.00000079	0.0000013	4.76E-08	0.00000079	0.00000079	0.0000013	0
Diesel Range Organics	mg/L	0.2835214	283.52144				0	0.22	0.22	0.46	0
Diethylphthalate	mg/L	0.0014607	1.46071	0.0014	0.0014	0.0096	0.0000843	0.0014	0.0014	0.0095	0
Dimethyl phthalate	mg/L	0.0007689	0.76892	0.00074	0.00074	0.0096	0.0000445	0.00073	0.00073	0.0095	0
Di-n-butyl phthalate	mg/L	0.0012212	1.22119	0.0012	0.0012	0.0096	0.0000722	0.0012	0.0012	0.0095	0
Di-n-octyl phthalate	mg/L	0.0020713	2.07132	0.002	0.002	0.0096	0.0001204	0.002	0.002	0.0095	0
Diphenylhydrazine	mg/L	0.0006847	0.68465	0.00063	0.00063	0.0096	0.0000379	0.00063	0.00063	0.0095	0
E. Coli	cfu/100 ml	0.0060196					0				0
EC (field)	µS/cm	2588.2844244		303			18.2392777	5695			0
Endosulfan I	mg/L	0.0000012	0.00122	0.0000009	0.0000009	0.0000013	0.0000001	0.0000009	0.0000009	0.0000013	0
Endosulfan II	mg/L	0.0000080	0.00804	0.0000028	0.00000094	0.0000013	0.0000002	0.00000094	0.00000094	0.0000013	0
Endosulfan sulphate	mg/L	0.0000211	0.02109	0.00000055	0.00000055	0.0000013	3.31E-08	0.00000055	0.00000055	0.0000013	0
Endrin	mg/L	0.0000013	0.00133	0.00000092	0.00000092	0.0000013	0.0000001	0.00000092	0.00000092	0.0000013	0
Endrin aldehyde	mg/L	0.0000009	0.00090	0.00000087	0.00000087	0.0000013	0.0000001	0.00000087	0.00000087	0.0000013	0
Enterococci	MPN/100 m	0.0060196					0				0
Ethylbenzene	mg/L	0.0002354	0.23543	0.00023	0.00023	0.001	0.0000138	0.00023	0.00023	0.001	0
Fecal Coliforms	MPN/100 m	0.0120391					0			0	0
Fluoranthene	mg/L	0.0001671	0.16714	0.00016	0.00016	0.0019	0.0000096	0.00015	0.00015	0.0019	0
Fluorene	mg/L	0.0002231	0.22309	0.00021	0.00021	0.0019	0.0000126	0.00021	0.00021	0.0019	0
Fluoride	mg/L	0.9139202	913.92024	0.22	0.014	0.1	0.0132430	0.32	0.014	0.1	0
Gasoline Range Organics	mg/L	0.0360497	36.04966				0	0.05	0.025	0.1	0
g-BHC (Lindane)	mg/L	0.0000009	0.00086	0.00000077	0.00000077	0.0000013	4.64E-08	0.00000077	0.00000077	0.0000013	0
Hardness	mg/L	8.2468021	8246.80211				0				0
HEM	mg/L	1.1783296	1178.32957				0	1.7	1.7	5.8	0
Heptachlor	mg/L	0.0000155	0.01551	0.00000095	0.00000095	0.0000013	0.0000001	0.00000095	0.00000095	0.0000013	0
Heptachlor epoxide	mg/L	0.0000013	0.00131	0.00000093	0.00000093	0.0000013	0.0000001	0.00000093	0.00000093	0.0000013	0
Hexachlorobenzene	mg/L	0.0001971	0.19707	0.00018	0.00018	0.0019	0.0000108	0.00017	0.00017	0.0019	0
Hexachlorobutadiene	mg/L	0.0001720	0.17196	0.00016	0.00016	0.0019	0.0000096	0.00016	0.00016	0.0019	0
Hexachlorocyclopentadiene	mg/L	0.0005209	0.52090	0.0005	0.0005	0.0096	0.0000301	0.00049	0.00049	0.0095	0
Hexachloroethane	mg/L	0.0006283	0.62834	0.0006	0.0006	0.0096	0.0000361	0.0006	0.0006	0.0095	0
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002051	0.20509	0.00019	0.00019	0.0019	0.0000114	0.00019	0.00019	0.0019	0
Iron	mg/L	23.0797105	23079.71046	0.37	0.0057	0.05	0.0222724	0.53	0.0095	0.1	0
Isophorone	mg/L	0.0006435	0.64348	0.00062	0.00062	0.0096	0.0000373	0.00061	0.00061	0.0095	0
Kepone	mg/L	0.0096049	9.60486	0.0093	0.0093	0.038	0.0005598	0.0092	0.0092	0.038	0
Lead	mg/L	0.0050781	5.07810	0.00051	0.000057	0.001	0.0000307	0.0012	0.0012	0.01	0
Lithium	mg/L	0.0775275	77.52746	0.02	0.00053	0.05	0.0012039	0.075	0.00053	0.05	0
Magnesium	mg/L	82.6266667	82626.66667	3.5	0.001	0.5	0.2106847	3.7	0.028	5	0
Malathion	mg/L	0.0000274	0.02737	0.000021	0.000021	0.0002	0.0000013	0.000021	0.000021	0.00019	0
Manganese	mg/L	0.7599669	759.96689	0.036	0.000046	0.005	0.0021670	0.024	0.00012	0.015	0
Mercury	mg/L	0.0000735	0.07349	0.000045	0.000031	0.0002	0.0000027	0.000067	0.000031	0.0002	0
Methoxychlor	mg/L	3.01E-08	0.00003				0				0
Methyl Bromide	mg/L	0.0003142	0.31415	0.00031	0.00031	0.001	0.0000187	0.00031	0.00031	0.001	0
Methyl Chloride	mg/L	0.0002873	0.28734	0.00028	0.00028	0.001	0.0000169	0.00028	0.00028	0.001	0

		SCENARIO 2 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Demeton-O	mg/L	0.0000391				0				0
Demeton-S	mg/L	0.0000391				0				0
Diazinon	mg/L	0.0000575	0.000018	0.000018	0.0002	3.25056E-06	0.000018	0.000018	0.0002	1.08352E-06
Dibenz(a,h)anthracene	mg/L	0.0001620	0.00015	0.00015	0.002	2.7088E-05	0.00015	0.00015	0.0019	9.02935E-06
Dichlorobromomethane	mg/L	0.0016658	0.00013	0.00013	0.001	2.34763E-05	0.00013	0.00013	0.001	7.82543E-06
Dichlorodifluoromethane	mg/L	0.0000060				0				0
Dieldrin	mg/L	0.0000040	0.0000008	0.0000008	1.3E-06	1.4447E-07	0.000047	0.00000081	0.0000013	2.82919E-06
Diesel Range Organics	mg/L	0.2835214	0.31	0.24	0.5	0.055981941				0
Diethylphthalate	mg/L	0.0014607	0.0014	0.0014	0.0099	0.000252822	0.0014	0.0014	0.0096	8.42739E-05
Dimethyl phthalate	mg/L	0.0007689	0.00076	0.00076	0.0099	0.000137246	0.00074	0.00074	0.0096	4.45448E-05
Di-n-butyl phthalate	mg/L	0.0012212	0.0012	0.0012	0.0099	0.000216704	0.0012	0.0012	0.0096	7.22348E-05
Di-n-octyl phthalate	mg/L	0.0020713	0.002	0.002	0.0099	0.000361174	0.002	0.002	0.0096	0.000120391
Diphenylhydrazine	mg/L	0.0006847	0.00065	0.00065	0.0099	0.000117381	0.00063	0.00063	0.0096	3.79233E-05
E. Coli	cfu/100 ml	0.0060196				0				0
EC (field)	µS/cm	2588.2844244	1638			295.8013544	174			10.47404063
Endosulfan I	mg/L	0.0000012	0.00000091	9.1E-07	1.3E-06	1.64334E-07	0.00000093	0.00000093	0.0000013	5.59819E-08
Endosulfan II	mg/L	0.0000080	0.0000034	9.2E-07	1.2E-06	6.13995E-07	0.000039	0.00000097	0.0000013	2.34763E-06
Endosulfan sulphate	mg/L	0.0000211	0.00000055	5.5E-07	1.3E-06	9.93228E-08	0.00000056	0.00000056	0.0000013	3.37096E-08
Endrin	mg/L	0.0000013	0.00000093	9.3E-07	1.3E-06	1.67946E-07	0.00000095	0.00000095	0.0000013	5.71859E-08
Endrin aldehyde	mg/L	0.0000009	0.00000087	8.7E-07	1.3E-06	1.57111E-07	0.00000089	0.00000089	0.0000013	5.35741E-08
Enterococci	MPN/100 m	0.0060196				0				0
Ethylbenzene	mg/L	0.0002354	0.00023	0.00023	0.001	4.1535E-05	0.00023	0.00023	0.001	1.3845E-05
Fecal Coliforms	MPN/100 m	0.0120391				0				0
Fluoranthene	mg/L	0.0001671	0.00016	0.00016	0.002	2.88939E-05	0.00016	0.00016	0.0019	9.6313E-06
Fluorene	mg/L	0.0002231	0.00021	0.00021	0.002	3.79233E-05	0.00021	0.00021	0.0019	1.26411E-05
Fluoride	mg/L	0.9139202	0.18	0.014	0.1	0.032505643	0.53	0.014	0.1	0.031903687
Gasoline Range Organics	mg/L	0.0360497	0.05	0.025	0.1	0.009029345				0
g-BHC (Lindane)	mg/L	0.0000009	0.00000078	7.8E-07	1.3E-06	1.40858E-07	0.00000079	0.00000079	0.0000013	4.75546E-08
Hardness	mg/L	8.2468021				0				0
HEM	mg/L	1.1783296	1.8	1.6	5.2	0.325056433				0
Heptachlor	mg/L	0.0000155	0.00000096	9.6E-07	1.3E-06	1.73363E-07	0.00000098	0.00000098	0.0000013	5.89917E-08
Heptachlor epoxide	mg/L	0.0000013	0.00000094	9.4E-07	1.3E-06	1.69752E-07	0.00000096	0.00000096	0.0000013	5.77878E-08
Hexachlorobenzene	mg/L	0.0001971	0.00018	0.00018	0.002	3.25056E-05	0.00018	0.00018	0.0019	1.08352E-05
Hexachlorobutadiene	mg/L	0.0001720	0.00016	0.00016	0.002	2.88939E-05	0.00016	0.00016	0.0019	9.6313E-06
Hexachlorocyclopentadiene	mg/L	0.0005209	0.00051	0.00051	0.0099	9.20993E-05	0.0005	0.0005	0.0096	3.00978E-05
Hexachloroethane	mg/L	0.0006283	0.00062	0.00062	0.0099	0.000111964	0.0006	0.0006	0.0096	3.61174E-05
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002051	0.0002	0.0002	0.002	3.61174E-05	0.00019	0.00019	0.0019	1.14372E-05
Iron	mg/L	23.0797105	120	0.0057	0.05	21.67042889	1.4	0.0057	0.05	0.08427389
Isophorone	mg/L	0.0006435	0.00064	0.00064	0.0099	0.000115576	0.00062	0.00062	0.0096	3.73213E-05
Kepone	mg/L	0.0096049	0.0096	0.0096	0.04	0.001733634	0.0093	0.0093	0.038	0.000559819
Lead	mg/L	0.0050781	0.0075	0.0012	0.01	0.001354402	0.0032	0.000057	0.001	0.000192626
Lithium	mg/L	0.0775275	0.25	0.00053	0.05	0.045146727	0.05	0.00053	0.05	0.003009782
Magnesium	mg/L	82.6266667	27	0.001	0.5	4.875846501	15	0.001	0.5	0.902934537
Malathion	mg/L	0.0000274	0.000021	0.000021	0.0002	3.79233E-06	0.000021	0.000021	0.0002	1.26411E-06
Manganese	mg/L	0.7599669	2.7	0.000046	0.005	0.48758465	1.3	0.000046	0.005	0.078254327
Mercury	mg/L	0.0000735	0.000085	0.000031	0.0002	1.53499E-05	0.000031	0.000031	0.0002	1.86606E-06
Methoxychlor	mg/L	3.01E-08				0				0
Methyl Bromide	mg/L	0.0003142	0.00031	0.00031	0.001	5.59819E-05	0.00031	0.00031	0.001	1.86606E-05
Methyl Chloride	mg/L	0.0002873	0.00028	0.00028	0.001	5.05643E-05	0.00028	0.00028	0.001	1.68548E-05

		SCENARIO 2 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	UPPER TOE DRAIN_MDL	UPPER TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Demeton-O	mg/L	0.0000391	0.0065		0.0065	3.91272E-05				0
Demeton-S	mg/L	0.0000391	0.0065		0.0065	3.91272E-05				0
Diazinon	mg/L	0.0000575	0.0065		0.0065	3.91272E-05	0.000018	0.000018	0.00019	1.08352E-06
Dibenz(a,h)anthracene	mg/L	0.0001620	0.00111	0.00111	0.005556	6.68172E-06	0.00015	0.00015	0.0019	9.02935E-06
Dichlorobromomethane	mg/L	0.0016658	0.001	0.001	0.005	6.01956E-06	0.00013	0.00013	0.001	7.82543E-06
Dichlorodifluoromethane	mg/L	0.0000060	0.001	0.001	0.005	6.01956E-06				0
Dieldrin	mg/L	0.0000040	0.000005	0.000005	0.00005155	3.00978E-08	0.00000079	7.9E-07	1.3E-06	4.75546E-08
Diesel Range Organics	mg/L	0.2835214				0				0
Diethylphthalate	mg/L	0.0014607	0.00111	0.00111	0.005556	6.68172E-06	0.0014	0.0014	0.0096	8.42739E-05
Dimethyl phthalate	mg/L	0.0007689	0.00111	0.00111	0.005556	6.68172E-06	0.00074	0.00074	0.0096	4.45448E-05
Di-n-butyl phthalate	mg/L	0.0012212	0.00222	0.00222	0.005556	1.33634E-05	0.0012	0.0012	0.0096	7.22348E-05
Di-n-octyl phthalate	mg/L	0.0020713	0.00111	0.00111	0.005556	6.68172E-06	0.002	0.002	0.0096	0.000120391
Diphenylhydrazine	mg/L	0.0006847	0.00526	0.00526	0.005556	3.16629E-05	0.00063	0.00063	0.0096	3.79233E-05
E. Coli	cfu/100 ml	0.0060196	1	1	1	0.006019564				0
EC (field)	µS/cm	2588.2844244				0	364			21.91121144
Endosulfan I	mg/L	0.0000012	0.000005	0.000005	0.00005155	3.00978E-08	0.0000009	0.0000009	1.3E-06	5.41761E-08
Endosulfan II	mg/L	0.0000080	0.000005	0.000005	0.00005155	3.00978E-08	0.0000065	9.4E-07	1.3E-06	3.91272E-07
Endosulfan sulphate	mg/L	0.0000211	0.000005	0.000005	0.00005155	3.00978E-08	0.0000076	5.5E-07	1.3E-06	4.57487E-07
Endrin	mg/L	0.0000013	0.000005	0.000005	0.00005155	3.00978E-08	0.00000092	9.2E-07	1.3E-06	5.538E-08
Endrin aldehyde	mg/L	0.0000009	0.000005	0.000005	0.00005155	3.00978E-08	0.00000087	8.7E-07	1.3E-06	5.23702E-08
Enterococci	MPN/100 m	0.0060196	1	1	1	0.006019564				0
Ethylbenzene	mg/L	0.0002354	0.0005	0.0005	0.005	3.00978E-06	0.00023	0.00023	0.001	1.3845E-05
Fecal Coliforms	MPN/100 m	0.0120391	2	2	2	0.012039127				0
Fluoranthene	mg/L	0.0001671	0.00111	0.00111	0.005556	6.68172E-06	0.00016	0.00016	0.0019	9.6313E-06
Fluorene	mg/L	0.0002231	0.00111	0.00111	0.005556	6.68172E-06	0.00021	0.00021	0.0019	1.26411E-05
Fluoride	mg/L	0.9139202	2.8	0.1	0.1	0.016854778	0.19	0.014	0.1	0.011437171
Gasoline Range Organics	mg/L	0.0360497				0				0
g-BHC (Lindane)	mg/L	0.0000009	0.000005	0.000005	0.00005155	3.00978E-08	0.00000077	7.7E-07	1.3E-06	4.63506E-08
Hardness	mg/L	8.2468021	1370	0.766	12.5	8.246802107				0
HEM	mg/L	1.1783296				0				0
Heptachlor	mg/L	0.0000155	0.000005	0.000005	0.00005155	3.00978E-08	0.00000095	9.5E-07	1.3E-06	5.71859E-08
Heptachlor epoxide	mg/L	0.0000013	0.000005	0.000005	0.00005155	3.00978E-08	0.00000093	9.3E-07	1.3E-06	5.59819E-08
Hexachlorobenzene	mg/L	0.0001971	0.00278	0.00278	0.002778	1.67344E-05	0.00018	0.00018	0.0019	1.08352E-05
Hexachlorobutadiene	mg/L	0.0001720	0.00111	0.00111	0.005556	6.68172E-06	0.00016	0.00016	0.0019	9.6313E-06
Hexachlorocyclopentadiene	mg/L	0.0005209	0.00111	0.00111	0.005556	6.68172E-06	0.0005	0.0005	0.0096	3.00978E-05
Hexachloroethane	mg/L	0.0006283	0.00111	0.00111	0.005556	6.68172E-06	0.0006	0.0006	0.0096	3.61174E-05
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002051	0.00111	0.00111	0.005556	6.68172E-06	0.00019	0.00019	0.0019	1.14372E-05
Iron	mg/L	23.0797105	0.0044	0.003	0.01	2.64861E-05	4.4	0.0057	0.05	0.264860798
Isophorone	mg/L	0.0006435	0.00111	0.00111	0.005556	6.68172E-06	0.00062	0.00062	0.0096	3.73213E-05
Kepone	mg/L	0.0096049	0.00222	0.00222	0.005556	1.33634E-05	0.0093	0.0093	0.038	0.000559819
Lead	mg/L	0.0050781	0.00016	0.00016	0.0005	9.6313E-07	0.000074	0.000057	0.001	4.45448E-06
Lithium	mg/L	0.0775275				0	0.0038	0.00053	0.05	0.000228743
Magnesium	mg/L	82.6266667	0.105	0.004	0.01	0.000632054	16	0.001	0.5	0.963130173
Malathion	mg/L	0.0000274	0.001	0.001	0.001	6.01956E-06	0.000021	0.000021	0.00019	1.26411E-06
Manganese	mg/L	0.7599669	0.002	0.002	0.01	1.20391E-05	1	0.000046	0.005	0.060195636
Mercury	mg/L	0.0000735	0.000023	0.000023	0.0002	1.3845E-07	0.000056	0.000031	0.0002	3.37096E-06
Methoxychlor	mg/L	3.01E-08	0.000005	0.000005	0.00005155	3.00978E-08				0
Methyl Bromide	mg/L	0.0003142	0.001	0.001	0.005	6.01956E-06	0.00031	0.00031	0.001	1.86606E-05
Methyl Chloride	mg/L	0.0002873	0.0015	0.0015	0.005	9.02935E-06	0.00028	0.00028	0.001	1.68548E-05

		SCENARIO 2 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Demeton-O	mg/L	0.0000391				0			0	0				0
Demeton-S	mg/L	0.0000391				0				0				0
Diazinon	mg/L	0.0000575	0.000018	0.000018	0.00019	1.48984E-07	0.000018	0.000018	0.0002	2.7088E-06	0.000019	0.000019	0.0002	9.00677E-06
Dibenz(a,h)anthracene	mg/L	0.0001620	0.00015	0.00015	0.0019	1.24153E-06	0.00016	0.00016	0.0021	2.40783E-05	0.00016	0.00016	0.002	7.58465E-05
Dichlorobromomethane	mg/L	0.0016658	0.00049	0.00013	0.001	4.05568E-06	0.0025	0.00013	0.001	0.000376223	0.0026	0.00013	0.001	0.001232506
Dichlorodifluoromethane	mg/L	0.0000060				0				0				0
Dieldrin	mg/L	0.0000040	0.0000051	0.00000078	0.0000012	4.22122E-08	0.0000032	8.1E-07	0.0000013	4.81565E-07	0.0000008	0.0000008	0.0000013	3.79233E-07
Diesel Range Organics	mg/L	0.2835214				0				0	0.48	0.24	0.5	0.227539503
Diethylphthalate	mg/L	0.0014607	0.0014	0.0014	0.0094	1.15877E-05	0.0015	0.0015	0.01	0.000225734	0.0015	0.0015	0.01	0.000711061
Dimethyl phthalate	mg/L	0.0007689	0.00072	0.00072	0.0094	5.95937E-06	0.0008	0.0008	0.01	0.000120391	0.00077	0.00077	0.01	0.000365011
Di-n-butyl phthalate	mg/L	0.0012212	0.0012	0.0012	0.0094	9.93228E-06	0.0013	0.0013	0.01	0.000195636	0.0012	0.0012	0.01	0.000568849
Di-n-octyl phthalate	mg/L	0.0020713	0.0019	0.0019	0.0094	1.57261E-05	0.0022	0.0022	0.01	0.000331076	0.0021	0.0021	0.01	0.000995485
Diphenylhydrazine	mg/L	0.0006847	0.00062	0.00062	0.0094	5.13168E-06	0.00069	0.00069	0.01	0.000103837	0.00066	0.00066	0.01	0.000312867
E. Coli	cfu/100 ml	0.0060196				0				0				0
EC (field)	µS/cm	2588.2844244	48670			402.8367193	11080			1667.419112	362			171.6027088
Endosulfan I	mg/L	0.0000012	0.0000092	0.0000009	0.0000012	7.61475E-08	2.3E-06	9.3E-07	0.0000013	3.46125E-07	0.00000092	0.00000092	0.0000013	4.36117E-07
Endosulfan II	mg/L	0.0000080	0.000048	0.00000093	0.0000012	3.97291E-07	0.000019	9.7E-07	0.0000013	2.85929E-06	0.0000026	0.00000093	0.0000012	1.23251E-06
Endosulfan sulphate	mg/L	0.0000211	0.000073	0.00000054	0.0000012	6.04214E-07	0.00013	5.5E-07	0.0000013	1.95636E-05	0.00000056	0.00000056	0.0000013	2.65463E-07
Endrin	mg/L	0.0000013	0.0000028	0.00000091	0.0000012	2.31753E-08	0.0000033	9.5E-07	0.0000013	4.96614E-07	0.00000094	0.00000094	0.0000013	4.45598E-07
Endrin aldehyde	mg/L	0.0000009	0.00000086	0.00000086	0.0000012	7.11813E-09	8.9E-07	8.9E-07	0.0000013	1.33935E-07	0.00000088	0.00000088	0.0000013	4.17156E-07
Enterococci	MPN/100 m	0.0060196				0				0				0
Ethylbenzene	mg/L	0.0002354	0.00069	0.00023	0.001	5.71106E-06	0.00023	0.00023	0.001	3.46125E-05	0.00023	0.00023	0.001	0.000109029
Fecal Coliforms	MPN/100 m	0.0120391				0				0				0
Fluoranthene	mg/L	0.0001671	0.00015	0.00015	0.0019	1.24153E-06	0.00017	0.00017	0.0021	2.55831E-05	0.00016	0.00016	0.002	7.58465E-05
Fluorene	mg/L	0.0002231	0.0002	0.0002	0.0019	1.65538E-06	0.00023	0.00023	0.0021	3.46125E-05	0.00022	0.00022	0.002	0.000104289
Fluoride	mg/L	0.9139202	3.2	0.35	2.5	0.02648608	4.5	0.35	2.5	0.677200903	0.22	0.035	0.25	0.104288939
Gasoline Range Organics	mg/L	0.0360497				0				0	0.057	0.025	0.1	0.027020316
g-BHC (Lindane)	mg/L	0.0000009	0.0000078	0.00000076	0.0000012	6.45598E-08	7.9E-07	7.9E-07	0.0000013	1.18886E-07	0.00000078	0.00000078	0.0000013	3.69752E-07
Hardness	mg/L	8.2468021				0				0				0
HEM	mg/L	1.1783296				0				0	1.8	1.8	6	0.853273138
Heptachlor	mg/L	0.0000155	0.0001	0.00000094	0.0000012	8.2769E-07	0.000092	9.8E-07	0.0000013	1.3845E-05	0.00000097	0.00000097	0.0000013	4.59819E-07
Heptachlor epoxide	mg/L	0.0000013	0.0000045	0.00000092	0.0000012	3.7246E-08	0.000003	9.3E-07	0.0000013	4.51467E-07	0.00000095	0.00000095	0.0000013	4.50339E-07
Hexachlorobenzene	mg/L	0.0001971	0.00017	0.00017	0.0019	1.40707E-06	0.00019	0.00019	0.0021	2.85929E-05	0.00018	0.00018	0.002	8.53273E-05
Hexachlorobutadiene	mg/L	0.0001720	0.00016	0.00016	0.0019	1.3243E-06	0.00017	0.00017	0.0021	2.55831E-05	0.00017	0.00017	0.002	8.05869E-05
Hexachlorocyclopentadiene	mg/L	0.0005209	0.00049	0.00049	0.0094	4.05568E-06	0.00054	0.00054	0.01	8.12641E-05	0.00052	0.00052	0.01	0.000246501
Hexachloroethane	mg/L	0.0006283	0.00059	0.00059	0.0094	4.88337E-06	0.00065	0.00065	0.01	9.78179E-05	0.00063	0.00063	0.01	0.000298646
Indeno(1,2,3-c,d)pyrene	mg/L	0.0002051	0.00019	0.00019	0.0019	1.57261E-06	0.00021	0.00021	0.0021	3.16027E-05	0.0002	0.0002	0.002	9.48081E-05
Iron	mg/L	23.0797105	1.3	0.57	5	0.01075997	0.84	0.057	0.5	0.126410835	1.9	0.0057	0.05	0.900677201
Isophorone	mg/L	0.0006435	0.00061	0.00061	0.0094	5.04891E-06	0.00067	0.00067	0.01	0.000100828	0.00064	0.00064	0.01	0.000303386
Kepone	mg/L	0.0096049	0.0091	0.0091	0.038	7.53198E-05	0.01	0.01	0.042	0.001504891	0.0097	0.0097	0.04	0.004598194
Lead	mg/L	0.0050781	0.0058	0.0057	0.1	4.8006E-05	0.0018	0.00057	0.01	0.00027088	0.0067	0.0012	0.01	0.003176072
Lithium	mg/L	0.0775275	0.21	0.0026	0.25	0.001738149	0.13	0.0011	0.1	0.019563582	0.014	0.00053	0.05	0.006636569
Magnesium	mg/L	82.6266667	670	0.1	5	5.54552295	340	0.01	5	51.16629044	40	0.001	0.5	18.96162528
Malathion	mg/L	0.0000274	0.000021	0.000021	0.00019	1.73815E-07	0.000021	0.000021	0.0002	3.16027E-06	0.000022	0.000022	0.0002	1.04289E-05
Manganese	mg/L	0.7599669	1.3	0.0046	0.5	0.01075997	0.3	0.00046	0.05	0.045146727	0.16	0.00012	0.015	0.075846501
Mercury	mg/L	0.0000735	0.00022	0.000031	0.0002	1.82092E-06	0.0001	0.000031	0.0002	1.50489E-05	0.00007	0.000031	0.0002	3.31828E-05
Methoxychlor	mg/L	3.01E-08				0				0				0
Methyl Bromide	mg/L	0.0003142	0.00031	0.00031	0.001	2.56584E-06	0.00031	0.00031	0.001	4.66516E-05	0.00031	0.00031	0.001	0.000146953
Methyl Chloride	mg/L	0.0002873	0.00028	0.00028	0.001	2.31753E-06	0.00028	0.00028	0.001	4.21369E-05	0.00028	0.00028	0.001	0.000132731

		SCENARIO 2 RESULTS		BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	µg/L	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Methylene Chloride	mg/L	0.0012384	1.23841	0.00016	0.00015	0.001	0.0000096	0.0002	0.00015	0.001	0
Mirex	mg/L	0.0000005	0.00048	0.00000046	0.00000046	0.0000013	2.77E-08	0.00000046	0.00000046	0.0000013	0
Molybdenum	mg/L	0.0193175	19.31753	0.023	0.00026	0.005	0.0013845	0.0027	0.00026	0.005	0
Naphthalene	mg/L	0.0004359	0.43590	0.00013	0.00013	0.0019	0.0000078	0.00013	0.00013	0.0019	0
Nickel	mg/L	0.1112553	111.25535	0.003	0.000093	0.001	0.0001806	0.0085	0.00051	0.04	0
Nitrate	mg/L	0.0024078	2.40783				0				0
Nitrate (as N)	mg/L	9.5243040	9524.30399	0.22	0.0062	0.1	0.0132430	1	0.0062	0.1	0
Nitrite	mg/L	0.0004816	0.48157				0				0
Nitrite (as N)	mg/L	0.2023326	202.33258	0.15	0.024	0.05	0.0090293	0.44	0.024	0.05	0
Nitrobenzene	mg/L	0.0008669	0.86688	0.00081	0.00081	0.019	0.0000488	0.0008	0.0008	0.019	0
Nitrogen (Organic)	mg/L	0.0036117	3.61174		0	0	0				0
Nitrogen (Total Oxidised)	mg/L	0.0024078	2.40783				0				0
Nitrogen (Total)	mg/L	0.0185403	18.54026				0				0
N-Nitrosodimethylamine	mg/L	0.0007458	0.74579	0.00071	0.00071	0.0019	0.0000427	0.0007	0.0007	0.0019	0
N-nitrosodi-n-propylamine	mg/L	0.0003192	0.31922	0.0003	0.0003	0.0019	0.0000181	0.00029	0.00029	0.0019	0
n-Nitrosodiphenylamine	mg/L	0.0008767	0.87673	0.00082	0.00082	0.0096	0.0000494	0.00081	0.00081	0.0095	0
Nonylphenol	mg/L	0.0000301	0.03010				0				0
Nonylphenol Diethoxylate (Tech	mg/L	0.0019157	1.91565	0.002	0.002	0.02	0.0001204	0.0019	0.0019	0.019	0
Nonylphenol Monoethoxylate (T	mg/L	0.0031558	3.15583	0.0032	0.0032	0.01	0.0001926	0.0031	0.0031	0.0097	0
Oil and Grease	mg/L	1.6084274	1608.42739	1.5	1.5	4.3	0.0902935				0
para-tert-Octylphenol	mg/L	0.0003156	0.31558	0.00032	0.00032	0.001	0.0000193	0.00031	0.00031	0.00097	0
Parathion	mg/L	0.0000378	0.03776	0.000032	0.000032	0.0002	0.0000019	0.000031	0.000031	0.00019	0
P-Chloro-M-Cresol	mg/L	0.0007810	0.78103	0.00073	0.00073	0.0096	0.0000439	0.00072	0.00072	0.0095	0
Pentachlorophenol	mg/L	0.0006902	0.69015	0.00064	0.00064	0.0096	0.0000385	0.00063	0.00063	0.0095	0
pH (Field)	SU	7.6105643		9.24			0.5562077	10.97			0
Phenanthrene	mg/L	0.0004567	0.45672	0.00041	0.00041	0.0019	0.0000247	0.00041	0.00041	0.0019	0
Phenol	mg/L	0.0011509	1.15089	0.00056	0.00056	0.0019	0.0000337	0.00055	0.00055	0.0019	0
Phenolics Total	mg/L	0.0093664	9.36644				0	0.0082	0.0082	0.01	0
Phosphorus	mg/L	0.5926486	592.64861	0.081	0.05	0.1	0.0048758	0.057	0.05	0.1	0
p-Nonylphenol (Technical mixtu	mg/L	0.0015904	1.59037	0.0016	0.0016	0.005	0.0000963	0.0015	0.0015	0.0048	0
Potassium	mg/L	23.7441685	23744.16855	2.7	0.017	0.5	0.1625282	6.9	0.017	0.5	0
Pyrene	mg/L	0.0001906	0.19062	0.00015	0.00015	0.0019	0.0000090	0.00015	0.00015	0.0019	0
Radium-226	pCi/L	0.3981339		0.508	0.48	1	0.0305794	0.288	0.215	1	0
Radium-228	pCi/L	0.6257562		0.733	0.733	1	0.0441234	0.358	0.358	1	0
Redox	mV	207.5270880		92.3			5.5560572	92			0
Selenium	mg/L	0.0134214	13.42137	0.0043	0.0002	0.005	0.0002588	0.012	0.0039	0.01	0
Silver	mg/L	0.0001491	0.14906	0.000047	0.000047	0.001	0.0000028	0.000047	0.000047	0.001	0
Sodium	mg/L	397.2415350	397241.53499	13	0.011	0.5	0.7825433	78	0.011	0.5	0
Specific Conductivity (lab)	µS/cm	0.0000000					0				0
Sulfate	mg/L	1399.1361926	1399136.19263	52	0.21	1	3.1301731	300	1.1	5	0
Sulfide	mg/L	0.6826938	682.69375	0.41	0.41	1	0.0246802	0.41	0.41	1	0
sulfide (as H2S)	mg/L	0.4720090	472.00903	0.41	0.41	1	0.0246802	0.41	0.41	1	0
Surfactants	mg/L	0.0006020	0.60196				0.0000000				0
Temperature	oC	29.5034612		33.3			2.0045147	28.35			0
Tetrachloroethene	mg/L	0.0001551	0.15512	0.00015	0.00015	0.001	0.0000090	0.00015	0.00015	0.001	0
Thallium	mg/L	0.0016883	1.68826	0.00031	0.000013	0.001	0.0000187	0.011	0.000013	0.001	0
Tin	mg/L	0.0001204	0.12039				0				0
Titanium	mg/L	0.0000301	0.03010				0				0
Toluene	mg/L	0.0001569	0.15692	0.00015	0.00015	0.001	0.0000090	0.00015	0.00015	0.001	0

		SCENARIO 2 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Methylene Chloride	mg/L	0.0012384	0.0059	0.00015	0.001	0.001065463	0.00015	0.00015	0.001	9.02935E-06
Mirex	mg/L	0.0000005	0.00000047	4.7E-07	1.3E-06	8.48758E-08	0.00000048	0.00000048	0.0000013	2.88939E-08
Molybdenum	mg/L	0.0193175	0.013	0.00026	0.005	0.00234763	0.014	0.00026	0.005	0.000842739
Naphthalene	mg/L	0.0004359	0.0016	0.00014	0.002	0.000288939	0.00013	0.00013	0.0019	7.82543E-06
Nickel	mg/L	0.1112553	0.54	0.000093	0.001	0.09751693	0.014	0.000093	0.001	0.000842739
Nitrate	mg/L	0.0024078				0				0
Nitrate (as N)	mg/L	9.5243040	0.64	0.0062	0.1	0.115575621	0.54	0.0062	0.1	0.032505643
Nitrite	mg/L	0.0004816				0				0
Nitrite (as N)	mg/L	0.2023326	0.026	0.024	0.05	0.00469526	0.024	0.024	0.05	0.001444695
Nitrobenzene	mg/L	0.0008669	0.00083	0.00083	0.02	0.000149887	0.00081	0.00081	0.019	4.87585E-05
Nitrogen (Organic)	mg/L	0.0036117				0				0
Nitrogen (Total Oxidised)	mg/L	0.0024078				0				0
Nitrogen (Total)	mg/L	0.0185403				0				0
N-Nitrosodimethylamine	mg/L	0.0007458	0.00073	0.00073	0.002	0.000131828	0.00071	0.00071	0.0019	4.27389E-05
N-nitrosodi-n-propylamine	mg/L	0.0003192	0.0003	0.0003	0.002	5.41761E-05	0.0003	0.0003	0.0019	1.80587E-05
n-Nitrosodiphenylamine	mg/L	0.0008767	0.00084	0.00084	0.0099	0.000151693	0.00082	0.00082	0.0096	4.93604E-05
Nonylphenol	mg/L	0.0000301				0				0
Nonylphenol Diethoxylate (Tech	mg/L	0.0019157	0.0019	0.0019	0.02	0.000343115	0.0019	0.0019	0.019	0.000114372
Nonylphenol Monoethoxylate (T	mg/L	0.0031558	0.0031	0.0031	0.0098	0.000559819	0.0031	0.0031	0.0097	0.000186606
Oil and Grease	mg/L	1.6084274	1.6	1.6	4.5	0.288939052	1.5	1.5	4.3	0.090293454
para-tert-Octylphenol	mg/L	0.0003156	0.00031	0.00031	0.00098	5.59819E-05	0.00031	0.00031	0.00097	1.86606E-05
Parathion	mg/L	0.0000378	0.000032	0.000032	0.0002	5.77878E-06	0.000032	0.000032	0.0002	1.92626E-06
P-Chloro-M-Cresol	mg/L	0.0007810	0.00075	0.00075	0.0099	0.00013544	0.00073	0.00073	0.0096	4.39428E-05
Pentachlorophenol	mg/L	0.0006902	0.00066	0.00066	0.0099	0.000119187	0.00064	0.00064	0.0096	3.85252E-05
pH (Field)	SU	7.6105643	3.38			0.610383747	9.12			0.548984199
Phenanthrene	mg/L	0.0004567	0.00042	0.00042	0.002	7.58465E-05	0.00041	0.00041	0.0019	2.46802E-05
Phenol	mg/L	0.0011509	0.00058	0.00058	0.002	0.00010474	0.00056	0.00056	0.0019	3.37096E-05
Phenolics Total	mg/L	0.0093664	0.0082	0.0082	0.01	0.001480813				0
Phosphorus	mg/L	0.5926486	0.45	0.05	0.1	0.081264108	0.2	0.05	0.1	0.012039127
p-Nonylphenol (Technical mixtu	mg/L	0.0015904	0.0016	0.0016	0.0049	0.000288939	0.0016	0.0016	0.0049	9.6313E-05
Potassium	mg/L	23.7441685	4.9	0.017	0.5	0.884875847	6.1	0.017	0.5	0.367193378
Pyrene	mg/L	0.0001906	0.00016	0.00016	0.002	2.88939E-05	0.00015	0.00015	0.0019	9.02935E-06
Radium-226	pCi/L	0.3981339	0.707	0.445	1	0.127674944	0.348	0.191	1	0.020948081
Radium-228	pCi/L	0.6257562	0.706	0.681	1	0.127494357	0.326	0.326	1	0.019623777
Redox	mV	207.5270880	520.5			93.99548533	240.5			14.47705041
Selenium	mg/L	0.0134214	0.023	0.0002	0.005	0.004153499	0.00067	0.0002	0.005	4.03311E-05
Silver	mg/L	0.0001491	0.000047	0.000047	0.001	8.48758E-06	0.000047	0.000047	0.001	2.82919E-06
Sodium	mg/L	397.2415350	45	0.011	0.5	8.126410835	20	0.011	0.5	1.203912716
Specific Conductivity (lab)	µS/cm	0.0000000				0				0
Sulfate	mg/L	1399.1361926	1000	2.1	10	180.5869074	120	0.21	1	7.223476298
Sulfide	mg/L	0.6826938	0.47	0.47	3	0.084875847	1.5	0.47	3	0.090293454
sulfide (as H2S)	mg/L	0.4720090	0.41	0.41	1	0.074040632	0.41	0.41	1	0.024680211
Surfactants	mg/L	0.0006020				0				0
Temperature	oC	29.5034612	31.69			5.722799097	18.52			1.114823175
Tetrachloroethene	mg/L	0.0001551	0.00015	0.00015	0.001	2.7088E-05	0.00015	0.00015	0.001	9.02935E-06
Thallium	mg/L	0.0016883	0.0018	0.0018	0.02	0.000325056	0.00017	0.000013	0.001	1.02333E-05
Tin	mg/L	0.0001204				0				0
Titanium	mg/L	0.0000301				0				0
Toluene	mg/L	0.0001569	0.00016	0.00015	0.001	2.88939E-05	0.00015	0.00015	0.001	9.02935E-06

		SCENARIO 2 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	UPPER TOE DRAIN_MDL	UPPER TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Methylene Chloride	mg/L	0.0012384	0.005	0.005	0.005	3.00978E-05	0.00015	0.00015	0.001	9.02935E-06
Mirex	mg/L	0.0000005	0.000002	0.000002	0.00005155	1.20391E-08	0.00000046	4.6E-07	1.3E-06	2.769E-08
Molybdenum	mg/L	0.0193175	0.55	0.05	0.05	0.00331076	0.0031	0.00026	0.005	0.000186606
Naphthalene	mg/L	0.0004359	0.00556	0.00556	0.005556	3.34688E-05	0.00013	0.00013	0.0019	7.82543E-06
Nickel	mg/L	0.1112553	0.00467	0.00032	0.001	2.81114E-05	0.00075	0.000093	0.001	4.51467E-05
Nitrate	mg/L	0.0024078	0.4			0.002407825				0
Nitrate (as N)	mg/L	9.5243040	0.4	0.07	0.15	0.002407825	0.59	0.0062	0.1	0.035515425
Nitrite	mg/L	0.0004816	0.08			0.000481565				0
Nitrite (as N)	mg/L	0.2023326	0.08	0.05	0.05	0.000481565	0.18	0.024	0.05	0.010835214
Nitrobenzene	mg/L	0.0008669	0.00556	0.00556	0.005556	3.34688E-05	0.00081	0.00081	0.019	4.87585E-05
Nitrogen (Organic)	mg/L	0.0036117	0.6	0.6	0.6	0.003611738				0
Nitrogen (Total Oxidised)	mg/L	0.0024078	0.4	0.02	0.1	0.002407825				0
Nitrogen (Total)	mg/L	0.0185403	3.08	0.2	0.5	0.018540256				0
N-Nitrosodimethylamine	mg/L	0.0007458	0.00222	0.00222	0.005556	1.33634E-05	0.00071	0.00071	0.0019	4.27389E-05
N-nitrosodi-n-propylamine	mg/L	0.0003192	0.00222	0.00222	0.005556	1.33634E-05	0.0003	0.0003	0.0019	1.80587E-05
n-Nitrosodiphenylamine	mg/L	0.0008767	0.00556	0.00556	0.005556	3.34688E-05	0.00082	0.00082	0.0096	4.93604E-05
Nonylphenol	mg/L	0.0000301	0.005	0.005	0.005	3.00978E-05				0
Nonylphenol Diethoxylate (Tech	mg/L	0.0019157				0	0.002	0.002	0.02	0.000120391
Nonylphenol Monoethoxylate (T	mg/L	0.0031558				0	0.0032	0.0032	0.01	0.000192626
Oil and Grease	mg/L	1.6084274	5	5	5	0.030097818	1.6	1.6	4.5	0.096313017
para-tert-Octylphenol	mg/L	0.0003156				0	0.00032	0.00032	0.001	1.92626E-05
Parathion	mg/L	0.0000378	0.001	0.001	0.001	6.01956E-06	0.000031	0.000031	0.00019	1.86606E-06
P-Chloro-M-Cresol	mg/L	0.0007810	0.00556	0.00556	0.005556	3.34688E-05	0.00073	0.00073	0.0096	4.39428E-05
Pentachlorophenol	mg/L	0.0006902	0.00556	0.00556	0.005556	3.34688E-05	0.00064	0.00064	0.0096	3.85252E-05
pH (Field)	SU	7.6105643				0	6.54			0.393679458
Phenanthrene	mg/L	0.0004567	0.00556	0.00556	0.005556	3.34688E-05	0.00041	0.00041	0.0019	2.46802E-05
Phenol	mg/L	0.0011509	0.00556	0.00556	0.005556	3.34688E-05	0.00056	0.00056	0.0019	3.37096E-05
Phenolics Total	mg/L	0.0093664	0.05	0.05	0.05	0.000300978				0
Phosphorus	mg/L	0.5926486	0.03	0.01	0.02	0.000180587	0.075	0.05	0.1	0.004514673
p-Nonylphenol (Technical mixtu	mg/L	0.0015904				0	0.0016	0.0016	0.005	9.6313E-05
Potassium	mg/L	23.7441685				0	3.7	0.017	0.5	0.222723853
Pyrene	mg/L	0.0001906	0.00556	0.00556	0.005556	3.34688E-05	0.00015	0.00015	0.0019	9.02935E-06
Radium-226	pCi/L	0.3981339				0	0.487	0.161	1	0.029315275
Radium-228	pCi/L	0.6257562				0	0.375	0.375	1	0.022573363
Redox	mV	207.5270880				0	5.1			0.306997743
Selenium	mg/L	0.0134214	0.344	0.0065	0.01	0.00207073	0.00033	0.0002	0.005	1.98646E-05
Silver	mg/L	0.0001491	0.000029	0.000029	0.0001	1.74567E-07	0.000047	0.000047	0.001	2.82919E-06
Sodium	mg/L	397.2415350				0	7.3	0.011	0.5	0.439428141
Specific Conductivity (lab)	µS/cm	0.0000000				0				0
Sulfate	mg/L	1399.1361926	984	200	200	5.923250564	57	0.21	1	3.431151242
Sulfide	mg/L	0.6826938	0.05	0.05	0.05	0.000300978	0.41	0.41	1	0.024680211
sulfide (as H2S)	mg/L	0.4720090				0	0.41	0.41	1	0.024680211
Surfactants	mg/L	0.0006020	0.1	0.1	0.1	0.000601956				0
Temperature	oC	29.5034612				0	19.24			1.158164033
Tetrachloroethene	mg/L	0.0001551	0.001	0.001	0.005	6.01956E-06	0.00015	0.00015	0.001	9.02935E-06
Thallium	mg/L	0.0016883	0.000058	0.000058	0.0001	3.49135E-07	0.000063	0.000013	0.001	3.79233E-06
Tin	mg/L	0.0001204	0.02	0.02	0.02	0.000120391				0
Titanium	mg/L	0.0000301	0.005	0.005	0.05	3.00978E-05				0
Toluene	mg/L	0.0001569	0.001	0.001	0.005	6.01956E-06	0.00015	0.00015	0.001	9.02935E-06

		SCENARIO 2 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Methylene Chloride	mg/L	0.0012384	0.00015	0.00015	0.001	1.24153E-06	0.00019	0.00015	0.001	2.85929E-05	0.00018	0.00015	0.001	8.53273E-05
Mirex	mg/L	0.0000005	0.00000046	0.00000046	0.0000012	3.80737E-09	4.8E-07	4.8E-07	0.0000013	7.22348E-08	0.00000047	0.00000047	0.0000013	2.22799E-07
Molybdenum	mg/L	0.0193175	0.081	0.0026	0.05	0.000670429	0.052	0.0026	0.05	0.007825433	0.0058	0.00026	0.005	0.002749436
Naphthalene	mg/L	0.0004359	0.00013	0.00013	0.0019	1.076E-06	0.00015	0.00015	0.0021	2.25734E-05	0.00014	0.00014	0.002	6.63657E-05
Nickel	mg/L	0.1112553	0.18	0.0093	0.01	0.001489842	0.053	0.00093	0.01	0.007975922	0.0067	0.000093	0.001	0.003176072
Nitrate	mg/L	0.0024078				0				0				0
Nitrate (as N)	mg/L	9.5243040	35	0.16		0.289691497	55	0.16	2.5	8.276899925	1.6		0.25	0.758465011
Nitrite	mg/L	0.0004816				0				0				0
Nitrite (as N)	mg/L	0.2023326	0.6	0.6		0.00496614	0.6	0.6	1.3	0.090293454	0.17		0.05	0.080586907
Nitrobenzene	mg/L	0.0008669	0.0008	0.0008	0.019	6.62152E-06	0.00088	0.00088	0.021	0.00013243	0.00084	0.00084	0.02	0.000398194
Nitrogen (Organic)	mg/L	0.0036117				0				0				0
Nitrogen (Total Oxidised)	mg/L	0.0024078				0				0				0
Nitrogen (Total)	mg/L	0.0185403				0				0				0
N-Nitrosodimethylamine	mg/L	0.0007458	0.00069	0.00069	0.0019	5.71106E-06	0.00077	0.00077	0.0021	0.000115877	0.00074	0.00074	0.002	0.00035079
N-nitrosodi-n-propylamine	mg/L	0.0003192	0.00029	0.00029	0.0019	2.4003E-06	0.00032	0.00032	0.0021	4.81565E-05	0.00031	0.00031	0.002	0.000146953
n-Nitrosodiphenylamine	mg/L	0.0008767	0.0008	0.0008	0.0094	6.62152E-06	0.00089	0.00089	0.01	0.000133935	0.00085	0.00085	0.01	0.000402935
Nonylphenol	mg/L	0.0000301				0				0				0
Nonylphenol Diethoxylate (Tech	mg/L	0.0019157	0.0019	0.0019	0.02	1.57261E-05	0.002	0.002	0.02	0.000300978	0.0019	0.0019	0.02	0.000900677
Nonylphenol Monoethoxylate (T	mg/L	0.0031558	0.0031	0.0031	0.0098	2.56584E-05	0.0032	0.0032	0.01	0.000481565	0.0032	0.0032	0.0099	0.00151693
Oil and Grease	mg/L	1.6084274	1.6	1.6	4.6	0.01324304	1.6	1.6	4.5	0.240782543	1.6	1.6	4.6	0.758465011
para-tert-Octylphenol	mg/L	0.0003156	0.00031	0.00031	0.00098	2.56584E-06	0.00032	0.00032	0.001	4.81565E-05	0.00032	0.00032	0.00099	0.000151693
Parathion	mg/L	0.0000378	0.000031	0.000031	0.00019	2.56584E-07	0.000032	0.000032	0.0002	4.81565E-06	0.000032	0.000032	0.0002	1.51693E-05
P-Chloro-M-Cresol	mg/L	0.0007810	0.00071	0.00071	0.0094	5.8766E-06	0.00079	0.00079	0.01	0.000118886	0.00075	0.00075	0.01	0.00035553
Pentachlorophenol	mg/L	0.0006902	0.00063	0.00063	0.0094	5.21445E-06	0.00069	0.00069	0.01	0.000103837	0.00066	0.00066	0.01	0.000312867
pH (Field)	SU	7.6105643	8.44			0.069857035	8.75			1.316779533	8.68			4.114672686
Phenanthrene	mg/L	0.0004567	0.0004	0.0004	0.0019	3.31076E-06	0.00044	0.00044	0.0021	6.62152E-05	0.00043	0.00043	0.002	0.000203837
Phenol	mg/L	0.0011509	0.00055	0.00055	0.0019	4.55229E-06	0.0042	0.00056	0.0019	0.000632054	0.00058	0.00058	0.002	0.000274944
Phenolics Total	mg/L	0.0093664				0				0	0.016	0.0082	0.01	0.00758465
Phosphorus	mg/L	0.5926486	0.61	0.05	0.1	0.005048909	0.26	0.05	0.1	0.039127163	0.94	0.05	0.1	0.445598194
p-Nonylphenol (Technical mixtu	mg/L	0.0015904	0.0016	0.0016	0.0049	1.3243E-05	0.0016	0.0016	0.005	0.000240783	0.0016	0.0016	0.0049	0.000758465
Potassium	mg/L	23.7441685	120	1.7	5	0.993227991	71	0.17	5	10.68472536	22	0.017	0.5	10.42889391
Pyrene	mg/L	0.0001906	0.00015	0.00015	0.0019	1.24153E-06	0.00016	0.00016	0.0021	2.40783E-05	0.00016	0.00016	0.002	7.58465E-05
Radium-226	pCi/L	0.3981339	6.26	2.06	1	0	2.3	1.01	1	0	0.4	0.4	1	0.189616253
Radium-228	pCi/L	0.6257562	3.12,G	3.12	1	0	1.38	1.38	1	0	0.869	0.607	1	0.411941309
Redox	mV	207.5270880	147.5			1.220842739	225.9			33.99548533	122.3			57.9751693
Selenium	mg/L	0.0134214	0.044	0.002	0.05	0.000364184	0.031	0.002	0.05	0.004665162	0.0039	0.0039	0.01	0.001848758
Silver	mg/L	0.0001491	0.0047	0.0047	0.1	3.89014E-05	0.00047	0.00047	0.01	7.07299E-05	0.000047	0.000047	0.001	2.22799E-05
Sodium	mg/L	397.2415350	710	1.1	5	5.876598947	420	0.11	5	63.20541761	670	0.011	0.5	317.6072235
Specific Conductivity (lab)	µS/cm	0.0000000				0				0				0
Sulfate	mg/L	1399.1361926	660	5.4		5.46275395	1000	5.4	25	150.4890895	2200		25	1042.889391
Sulfide	mg/L	0.6826938	8.2	8.2		0.067870579	1.3	0.47	3	0.195635816	0.41		1	0.194356659
sulfide (as H2S)	mg/L	0.4720090	8.2	8.2	20	0.067870579	0.41	0.41	1	0.061700527	0.41	0.41	1	0.194356659
Surfactants	mg/L	0.0006020				0				0				0
Temperature	oC	29.5034612	38.8			0.321143717	22.16			3.334838224	33.43			15.84717833
Tetrachloroethene	mg/L	0.0001551	0.00015	0.00015	0.001	1.24153E-06	0.00015	0.00015	0.001	2.25734E-05	0.00015	0.00015	0.001	7.11061E-05
Thallium	mg/L	0.0016883	0.0038	0.0013	0.01	3.14522E-05	0.0017	0.00013	0.01	0.000255831	0.0022	0.0018	0.02	0.001042889
Tin	mg/L	0.0001204				0				0				0
Titanium	mg/L	0.0000301				0				0				0
Toluene	mg/L	0.0001569	0.00015	0.00015	0.001	1.24153E-06	0.00015	0.00015	0.001	2.25734E-05	0.00015	0.00015	0.001	7.11061E-05

		SCENARIO 2 RESULTS		BOTTOM ASH				METALS POND			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	µg/L	Worst Case Concentration (mg/l)	B/A_MDL	B/A_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	Metals Pond_MDL	Metals Pond_RL	Flow Weighted Average of the Source (mg/l)
Total Dissolved Solids	mg/L	3631.1512415	3631151.24153	150	10	10	9.0293454	1100	20	20	0
Total Kjeldahl Nitrogen	mg/L	9.2900677	9290.06772	2.2	1.7	5	0.1324304	3.9	1.7	5	0
Total Organic Carbon	mg/L	4.5887133	4588.71332	1.6	0.19	1	0.0963130	1.7	0.19	1	0
Total Suspended Solids	mg/L	182.8649360	182864.93604	110	1	1	6.6215199	40	0.5	0.5	0
Toxaphene	mg/L	0.0000191	0.01913	0.000018	0.000018	0.000048	0.0000011	0.000018	0.000018	0.000048	0
trans-1,2-Dibromoethene	mg/L	0.0000060	0.00602				0.0000000				0
trans-1,3-dichloropropene	mg/L	0.0001551	0.15512	0.00015	0.00015	0.001	0.0000090	0.00015	0.00015	0.001	0
Tributyltin	mg/L	0.0000480	0.04797	0.000043	0.000043	0.000043	0.0000026	0.000043	0.000043	0.000043	0
Trichloroethene	mg/L	0.0001452	0.14518	0.00014	0.00014	0.001	0.0000084	0.00014	0.00014	0.001	0
Trichlorofluoromethane	mg/L	0.0000060	0.00602				0				0
Turbidity	NTU	88.9765237		170	0.25	4.3	10.2332581	19	0.05	0.85	0
Vinyl chloride	mg/L	0.0002346	0.23464	0.00023	0.00023	0.001	0.0000138	0.00023	0.00023	0.001	0
Zinc	mg/L	0.3590946	359.09457	0.02	0.0004	0.005	0.0012039	0.0063	0.0004	0.005	0

Value above RL

Value < RL but >= MDL (J-qualifier)

	Qi (MGD)	(Q1/∑Qi)
Bottom Ash	0.8	0.060195636
S-Ditch	0.8	0.060195636
Master Sump	6.3	0.474040632
FGD Yard	2	0.15048909
FGD Plant	0.11	0.0082769
Leachate	0.08	0.006019564
LAP / UAP Toe Drains and Non Contact Stormwater	0.8	0.060195636
Metals Pond	0	0
Coal Yard	2.4	0.180586907
Totals (∑Qi)	13.29	MGD

		SCENARIO 2 RESULTS	COAL YARD				SIERRA DITCH			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	COAL YARD_MDL	COAL YARD_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	SIERRA_MDL	SIERRA_RL	Flow Weighted Average of the Source (mg/l)
Total Dissolved Solids	mg/L	3631.1512415	1500	20	20	270.8803612	330	10	10	19.86455982
Total Kjeldahl Nitrogen	mg/L	9.2900677	2.2	1.7	5	0.397291196	1.7	1.7	5	0.102332581
Total Organic Carbon	mg/L	4.5887133	4	0.19	1	0.72234763	7.3	0.19	1	0.439428141
Total Suspended Solids	mg/L	182.8649360	330	5	5	59.59367946	49	1	1	2.949586155
Toxaphene	mg/L	0.0000191	0.000018	0.000018	4.9E-05	3.25056E-06	0.000018	0.000018	0.00005	1.08352E-06
trans-1,2-Dibromoethene	mg/L	0.0000060				0				0
trans-1,3-dichloropropene	mg/L	0.0001551	0.00015	0.00015	0.001	2.7088E-05	0.00015	0.00015	0.001	9.02935E-06
Tributyltin	mg/L	0.0000480	0.000044	0.000044	4.4E-05	7.94582E-06	0.000043	0.000043	0.000043	2.58841E-06
Trichloroethene	mg/L	0.0001452	0.00014	0.00014	0.001	2.52822E-05	0.00014	0.00014	0.001	8.42739E-06
Trichlorofluoromethane	mg/L	0.0000060				0				0
Turbidity	NTU	88.9765237	320	1.3	21	57.78781038	77	0.25	4.3	4.635063958
Vinyl chloride	mg/L	0.0002346	0.00023	0.00023	0.001	4.1535E-05	0.00023	0.00023	0.001	1.3845E-05
Zinc	mg/L	0.3590946	1.8	0.0004	0.005	0.325056433	0.094	0.0004	0.005	0.00565839

Value above RL

Value < RL but >= MDL (J-qualifier)

	Qi (MGD)	(Q1/∑Qi)
Bottom Ash	0.8	0.060195636
S-Ditch	0.8	0.060195636
Master Sump	6.3	0.474040632
FGD Yard	2	0.15048909
FGD Plant	0.11	0.0082769
Leachate	0.08	0.006019564
LAP / UAP Toe Drains and Non Contact Stormwater	0.8	0.060195636
Metals Pond	0	0
Coal Yard	2.4	0.180586907
Totals (∑Qi)	13.29	MGD

		SCENARIO 2 RESULTS	LEACHATE				TOE DRAIN			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	Leachate_MDL (LOD)	Leachate_RL (LOQ)	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	UPPER TOE DRAIN_MDL	UPPER TOE DRAIN_RL	Flow Weighted Average of the Source (mg/l)
Total Dissolved Solids	mg/L	3631.1512415				0	230	10	10	13.84499624
Total Kjeldahl Nitrogen	mg/L	9.2900677				0	3.4	1.7	5	0.204665162
Total Organic Carbon	mg/L	4.5887133	1.8	1	1	0.010835214	3.4	0.19	1	0.204665162
Total Suspended Solids	mg/L	182.8649360	18.4	1	1	0.11075997	7.8	1	1	0.469525959
Toxaphene	mg/L	0.0000191	0.000206	0.000206	0.001031	1.24003E-06	0.000018	0.000018	4.8E-05	1.08352E-06
trans-1,2-Dibromoethene	mg/L	0.0000060	0.001	0.001	0.005	6.01956E-06				0
trans-1,3-dichloropropene	mg/L	0.0001551	0.001	0.001	0.005	6.01956E-06	0.00015	0.00015	0.001	9.02935E-06
Tributyltin	mg/L	0.0000480	0.00003	0.00003	0.00003	1.80587E-07	0.000043	0.000043	4.3E-05	2.58841E-06
Trichloroethene	mg/L	0.0001452	0.001	0.001	0.005	6.01956E-06	0.00014	0.00014	0.001	8.42739E-06
Trichlorofluoromethane	mg/L	0.0000060	0.001	0.001	0.005	6.01956E-06				0
Turbidity	NTU	88.9765237				0	23	0.05	0.85	1.384499624
Vinyl chloride	mg/L	0.0002346	0.001	0.001	0.005	6.01956E-06	0.00023	0.00023	0.001	1.3845E-05
Zinc	mg/L	0.3590946	0.00571	0.0016	0.005	3.43717E-05	0.025	0.0004	0.005	0.001504891

Value above RL

Value < RL but >= MDL (J-qualifier)

	Qi (MGD)	(Q1/∑Qi)
Bottom Ash	0.8	0.060195636
S-Ditch	0.8	0.060195636
Master Sump	6.3	0.474040632
FGD Yard	2	0.15048909
FGD Plant	0.11	0.0082769
Leachate	0.08	0.006019564
LAP / UAP Toe Drains and Non Contact Stormwater	0.8	0.060195636
Metals Pond	0	0
Coal Yard	2.4	0.180586907
Totals (∑Qi)	13.29	MGD

		SCENARIO 2 RESULTS	FGD PLANT				FGD YARD SUMP				MASTER SUMP			
ChemName	Output Unit	Worst Case Concentration of the COC Expected in Outfall 301 Prior to Any Treatment (mg/L)	Worst Case Concentration (mg/l)	FGD Plant_MDL	FGD Plant_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	FGD Yard_MDL	FGD Yard_RL	Flow Weighted Average of the Source (mg/l)	Worst Case Concentration (mg/l)	MAST_MDL	MAST_RL	Flow Weighted Average of the Source (mg/l)
Total Dissolved Solids	mg/L	3631.1512415	31000	200	200	256.5838977	9000	100	100	1354.401806	3600	40	40	1706.546275
Total Kjeldahl Nitrogen	mg/L	9.2900677	9.5	1.7	5	0.078630549	8.4	1.7	5	1.264108352	15	1.7	5	7.110609481
Total Organic Carbon	mg/L	4.5887133	36	3.8	20	0.297968397	9.9	0.19	1	1.489841986	2.8	0.19	1	1.32731377
Total Suspended Solids	mg/L	182.8649360	3.3	0.52		0.02731377	27	1	1	4.063205418	230		5	109.0293454
Toxaphene	mg/L	0.0000191	0.000018	0.000018	0.000048	1.48984E-07	0.000018	0.000018	0.00005	2.7088E-06	0.000018	0.000018	0.000049	8.53273E-06
trans-1,2-Dibromoethene	mg/L	0.0000060				0				0				0
trans-1,3-dichloropropene	mg/L	0.0001551	0.00015	0.00015	0.001	1.24153E-06	0.00015	0.00015	0.001	2.25734E-05	0.00015	0.00015	0.001	7.11061E-05
Tributyltin	mg/L	0.0000480	0.000043	0.000043	0.000043	3.55907E-07	0.000047	0.000047	0.000047	7.07299E-06	0.000052	0.000052	0.000052	2.46501E-05
Trichloroethene	mg/L	0.0001452	0.00014	0.00014	0.001	1.15877E-06	0.00014	0.00014	0.001	2.10685E-05	0.00014	0.00014	0.001	6.63657E-05
Trichlorofluoromethane	mg/L	0.0000060			0	0				0				0
Turbidity	NTU	88.9765237	1.8	0.05	0.85	0.01489842	33	0.05	0.85	4.966139955	21	0.05	0.85	9.954853273
Vinyl chloride	mg/L	0.0002346	0.00023	0.00023	0.001	1.90369E-06	0.00023	0.00023	0.001	3.46125E-05	0.00023	0.00023	0.001	0.000109029
Zinc	mg/L	0.3590946	0.061	0.04	0.5	0.000504891	0.041	0.004	0.05	0.006170053	0.04	0.001	0.02	0.018961625

Value above RL
Value < RL but >= MDL (J-qualifier)

	Qi (MGD)	(Q1/∑Qi)
Bottom Ash	0.8	0.060195636
S-Ditch	0.8	0.060195636
Master Sump	6.3	0.474040632
FGD Yard	2	0.15048909
FGD Plant	0.11	0.0082769
Leachate	0.08	0.006019564
LAP / UAP Toe Drains and Non Contact Stormwater	0.8	0.060195636
Metals Pond	0	0
Coal Yard	2.4	0.180586907
Totals (∑Qi)	13.29	MGD

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Geosyntec Consultants (Richmond)
Client Site ID: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Laboratory Sample ID: **15F0604-01** **Client Sample ID:** **Column A**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Aluminum	01	EPA200.7 Rev 4.4	1.09		0.0200	0.0500	1	mg/L
Barium	01	EPA200.7 Rev 4.4	0.193		0.0020	0.0100	1	mg/L
Boron	01	EPA200.7 Rev 4.4	3.76		0.0500	0.0500	1	mg/L
Calcium	01RE1	EPA200.7 Rev 4.4	550		0.300	5.00	100	mg/L
Chromium	01	EPA200.7 Rev 4.4	0.0355		0.0010	0.0100	1	mg/L
Hardness	01	SM22 2340B-2011	1370		0.766	12.5	100	mg/L
Iron	01	EPA200.7 Rev 4.4	0.0044	J	0.0030	0.0100	1	mg/L
Magnesium	01	EPA200.7 Rev 4.4	0.0653		0.0040	0.0100	1	mg/L
Molybdenum	01	EPA200.7 Rev 4.4	0.550		0.0500	0.0500	1	mg/L
Ammonia as N	01	EPA350.1 R2.0	3.03		0.05	0.10	1	mg/L
BOD	01	SM22 5210B-2011	2.1		0.2	2.0	1	mg/L
Chloride	01	EPA300.0 R2.1	7.0		5.0	5.0	5	mg/L
COD	01	SM22 5220D-2011	12.7		10.0	10.0	1	mg/L
Fluoride	01RE1	EPA300.0 R2.1	2.4		0.1	0.1	1	mg/L
Nitrate as N	01	Calc.	0.40		0.07	0.15	1	mg/L
Nitrate+Nitrite as N	01	SM22 4500-NO3F-2011	0.40		0.02	0.10	1	mg/L
Sulfate	01RE3	EPA300.0 R2.1	984		200	200	200	mg/L
TKN as N	01	EPA351.2 R2.0	3.08		0.20	0.50	1	mg/L
TOC	01	SM22 5310C-2011	1.8		1.0	1.0	1	mg/L
TSS	01	SM22 2540D-2011	3.6		1.0	1.0	1	mg/L

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Geosyntec Consultants (Richmond)
Client Site ID: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Laboratory Sample ID: **15F0604-02** **Client Sample ID:** **Column B**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Aluminum	02	EPA200.7 Rev 4.4	1.08		0.0200	0.0500	1	mg/L
Barium	02	EPA200.7 Rev 4.4	0.145		0.0020	0.0100	1	mg/L
Boron	02	EPA200.7 Rev 4.4	3.24		0.0500	0.0500	1	mg/L
Calcium	02RE1	EPA200.7 Rev 4.4	488		0.300	5.00	100	mg/L
Chromium	02	EPA200.7 Rev 4.4	0.0175		0.0010	0.0100	1	mg/L
Hardness	02	SM22 2340B-2011	1220		0.766	12.5	100	mg/L
Iron	02	EPA200.7 Rev 4.4	0.0030	J	0.0030	0.0100	1	mg/L
Magnesium	02	EPA200.7 Rev 4.4	0.105		0.0040	0.0100	1	mg/L
Molybdenum	02	EPA200.7 Rev 4.4	0.154		0.0500	0.0500	1	mg/L
alpha-BHC	02	EPA608	0.020	J	0.005	0.051	1	ug/L
Ammonia as N	02	EPA350.1 R2.0	0.58		0.05	0.10	1	mg/L
BOD	02	SM22 5210B-2011	2.9		0.2	2.0	1	mg/L
Chloride	02RE3	EPA300.0 R2.1	52.4		10.0	10.0	10	mg/L
Fluoride	02RE1	EPA300.0 R2.1	2.8		0.1	0.1	1	mg/L
Nitrate as N	02	Calc.	0.25		0.07	0.15	1	mg/L
Nitrate+Nitrite as N	02	SM22 4500-NO3F-2011	0.34		0.02	0.10	1	mg/L
Nitrite as N	02	SM22 4500-NO2B-2011	0.08		0.05	0.05	1	mg/L
Phosphorus, Total	02	SM22 4500PE-2011	0.03		0.01	0.02	1	mg/L
Sulfate	02RE4	EPA300.0 R2.1	681		200	200	200	mg/L
TKN as N	02	EPA351.2 R2.0	0.74		0.20	0.50	1	mg/L
TSS	02	SM22 2540D-2011	18.4		1.0	1.0	1	mg/L

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Geosyntec Consultants (Richmond)
Client Site ID: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Laboratory Sample ID: 15F0604-03 **Client Sample ID:** Rainwater

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	EPA200.7 Rev 4.4	0.0149		0.0020	0.0100	1	mg/L
Boron	03	EPA200.7 Rev 4.4	0.0600		0.0500	0.0500	1	mg/L
Calcium	03	EPA200.7 Rev 4.4	2.20		0.0030	0.0500	1	mg/L
Hardness	03	SM22 2340B-2011	6.46		0.0240	0.166	1	mg/L
Iron	03	EPA200.7 Rev 4.4	0.622		0.0030	0.0100	1	mg/L
Magnesium	03	EPA200.7 Rev 4.4	0.234		0.0040	0.0100	1	mg/L
Manganese	03	EPA200.7 Rev 4.4	0.0379		0.0020	0.0100	1	mg/L
Ammonia as N	03	EPA350.1 R2.0	0.40		0.05	0.10	1	mg/L
BOD	03	SM22 5210B-2011	4.6		0.2	2.0	1	mg/L
Nitrate as N	03	Calc.	0.33		0.07	0.15	1	mg/L
Nitrate+Nitrite as N	03	SM22 4500-NO3F-2011	0.33		0.02	0.10	1	mg/L
Phosphorus, Total	03	SM22 4500PE-2011	0.02	J	0.01	0.02	1	mg/L
Sulfate	03	EPA300.0 R2.1	16.9		5.0	5.0	5	mg/L
TKN as N	03	EPA351.2 R2.0	0.89		0.20	0.50	1	mg/L
TOC	03	SM22 5310C-2011	1.7		1.0	1.0	1	mg/L
TSS	03	SM22 2540D-2011	2.2		1.0	1.0	1	mg/L

Laboratory Sample ID: 15F0604-04 **Client Sample ID:** Trip Blank

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units

Laboratory Sample ID: 15F0604-05 **Client Sample ID:** Column A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".

AIR WATER & SOIL LABORATORIES, INC.

1941 Reymet Road ● Richmond, Virginia 23237 ● Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 15F0604

Client Name:	Geosyntec Consultants (Richmond) 9211 Arboretum Parkway, Suite 200 Richmond, VA 23236	Date Received:	June 19, 2015 10:30
		Date Issued:	September 24, 2015 15:02
Submitted To:	Scott Sheridan	Project Number:	[none]
		Purchase Order:	
Client Site I.D.:	CPS/TEL		

Enclosed are the results of analyses for samples received by the laboratory on 06/19/2015 10:30. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Laboratory Manager

End Notes:
The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac Commonwealth of Virginia, DCLS Accreditation # 460021

NWBOC EDWOSB CERTIFIED

CERTIFIED SWaM Small, Women and Minority-Owned Supplier Diversity Strengthens the Commonwealth by the Virginia Department of Minority Business Enterprise

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Column A	15F0604-01	Waste Water	06/17/2015 12:00	06/19/2015 10:30
Column B	15F0604-02	Waste Water	06/17/2015 13:00	06/19/2015 10:30
Rainwater	15F0604-03	Waste Water	06/17/2015 10:15	06/19/2015 10:30
Trip Blank	15F0604-04	Waste Water	06/06/2015 09:30	06/19/2015 10:30
Column A	15F0604-05	Waste Water	06/18/2015 14:25	06/19/2015 10:30

Analysis for MBAS Surfactants, Nonylphenol, Total and Dissolved Sulfide, Dissolved Chromium and Hexavalent Chromium was subcontracted to James R Reed and Associates. Analysis for Tributyltin was subcontracted to Universal Laboratories. Analysis for Total Metals and Dissolved Metals 200.8 was subcontracted to Enco. Analysis for 2,3,7,8 TCDD 8290 was subcontracted to Cape Fear. Analysis for Gross Alpha Activity, Gross Beta Activity, Radium 226 and Radium 228 was subcontracted to Pace Analytical. Analysis for Pesticide-622 was subcontracted to Eurofins-Lancaster Laboratories. The subcontracted results are attached at the end of this Certificate of Analysis.

This Certificate of Analysis is being reissued on July 8, 2015 to include 2,3,7,8-TCDD results for sample 15F0604-05 (Column A). The subcontracted results are attached at the end of this certificate of analysis.

This Certificate of Analysis is being reissued on July 20, 2015 to include additional QC reports from Universal Laboratories and James R Reed and Associatse. The subcontracted results are attached at the end of this certificate of analysis.

This Certificate of Analysis is being reissued on September 24, 2015 to reflect updated reporting limits.

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 200 Series Methods												
Aluminum	01	7429-90-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:55	1.09		0.0200	0.0500	1	mg/L	BG
Boron	01	7440-42-8	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:55	3.76		0.0500	0.0500	1	mg/L	BG
Barium	01	7440-39-3	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:55	0.193		0.0020	0.0100	1	mg/L	BG
Beryllium	01	7440-41-7	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:56	BLOD		0.0020	0.0040	1	mg/L	BG
Calcium	01RE1	7440-70-2	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 15:24	550		0.300	5.00	100	mg/L	BG
Cobalt	01	7440-48-4	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:56	BLOD		0.0020	0.0040	1	mg/L	BG
Chromium	01	7440-47-3	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:56	0.0355		0.0010	0.0100	1	mg/L	BG
Iron	01	7439-89-6	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:56	0.0044	J	0.0030	0.0100	1	mg/L	BG
Hardness	01	NA	SM22 2340B-2011	06/23/2015 15:30	06/25/2015 15:24	1370		0.766	12.5	100	mg/L	BG
Magnesium	01	7439-95-4	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:56	0.0653		0.0040	0.0100	1	mg/L	BG
Manganese	01	7439-96-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:56	BLOD		0.0020	0.0100	1	mg/L	BG
Molybdenum	01	7439-98-7	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:56	0.550		0.0500	0.0500	1	mg/L	BG
Tin	01	7440-31-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:56	BLOD		0.0200	0.0200	1	mg/L	BG
Titanium	01	7440-32-6	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 13:55	BLOD		0.0050	0.0500	1	mg/L	BG

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	71-55-6	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.50	5.00	5	ug/L	KCS
1,1,2-Trichloroethane	01	79-00-5	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
1,1-Dichloroethane	01	75-34-3	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
1,1-Dichloroethylene	01	75-35-4	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.50	5.00	5	ug/L	KCS
1,2-Dichloropropane	01	78-87-5	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.50	5.00	5	ug/L	KCS
1,3-Dichlorobenzene	01	541-73-1	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
1,3-Dichloropropene, Total	01	542-75-6	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	10.0	5	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
2-Chloroethyl vinyl ether	01	110-75-8	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		5.00	5.00	5	ug/L	KCS
Acrolein	01	107-02-8	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		10.0	10.0	5	ug/L	KCS
Acrylonitrile	01	107-13-1	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		8.50	10.0	5	ug/L	KCS
Benzene	01	71-43-2	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Dichlorobromomethane	01	75-27-4	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Bromoform	01	75-25-2	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.50	5.00	5	ug/L	KCS
Bromomethane	01	74-83-9	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Carbon tetrachloride	01	56-23-5	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Chlorobenzene	01	108-90-7	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		0.50	5.00	5	ug/L	KCS
Chloroethane	01	75-00-3	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Chloroform	01	67-66-3	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Chloromethane	01	74-87-3	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.50	5.00	5	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorodibromomethane	01	124-48-1	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Ethylbenzene	01	100-41-4	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		0.50	5.00	5	ug/L	KCS
Methylene chloride	01	75-09-2	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		5.00	5.00	5	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Toluene	01	108-88-3	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
1,2-trans-Dichloroethylene	01	156-60-5	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-6	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Trichloroethylene	01	79-01-6	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Trichlorofluoromethane	01	75-69-4	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Vinyl chloride	01	75-01-4	EPA624	06/18/2015 22:21	06/18/2015 22:21	BLOD		1.00	5.00	5	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	*01*	*99.1 %*	*70-120*	*06/18/2015 22:21*	*06/18/2015 22:21*							
Surr: 4-Bromofluorobenzene	*01*	*93.1 %*	*75-120*	*06/18/2015 22:21*	*06/18/2015 22:21*							
Surr: Dibromofluoromethane	*01*	*99.0 %*	*80-119*	*06/18/2015 22:21*	*06/18/2015 22:21*							
Surr: Toluene-d8	*01*	*100 %*	*85-120*	*06/18/2015 22:21*	*06/18/2015 22:21*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4-Trichlorobenzene	01	120-82-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		2.22	5.56	1	ug/L	JHV
1,2-Dichlorobenzene	01	95-50-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
1,2-Diphenylhydrazine	01	122-66-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		2.78	5.56	1	ug/L	JHV
1,3-Dichlorobenzene	01	541-73-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
1,4-Dichlorobenzene	01	106-46-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
2,4,6-Trichlorophenol	01	88-06-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
2,4-Dichlorophenol	01	120-83-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
2,4-Dimethylphenol	01	105-67-9	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		0.56	5.56	1	ug/L	JHV
2,4-Dinitrophenol	01	51-28-5	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		0.56	5.56	1	ug/L	JHV
2,4-Dinitrotoluene	01	121-14-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
2,6-Dichlorophenol	01	87-65-0	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
2,6-Dinitrotoluene	01	606-20-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
2-Chloronaphthalene	01	91-58-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
2-Chlorophenol	01	95-57-8	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
2-Nitrophenol	01	88-75-5	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
3,3'-Dichlorobenzidine	01	91-94-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		4.44	5.56	1	ug/L	JHV
2-Methyl-4,6-dinitrophenol	01	534-52-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
4-Bromophenyl phenyl ether	01	101-55-3	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
4-Chlorophenyl phenyl ether	01	7005-72-3	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
4-Nitrophenol	01	100-02-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Acenaphthene	01	83-32-9	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Acenaphthylene	01	208-96-8	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Anthracene	01	120-12-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Benzidine	01	92-87-5	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Benzo (a) anthracene	01	56-55-3	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
Benzo (a) pyrene	01	50-32-8	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Benzo (b) fluoranthene	01	205-99-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Benzo (g,h,i) perylene	01	191-24-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Benzo (k) fluoranthene	01	207-08-9	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
bis (2-Chloroethoxy) methane	01	111-91-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
bis (2-Chloroethyl) ether	01	111-44-4	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
bis (2-Chloroisopropyl) ether	01	108-60-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
bis (2-Ethylhexyl) phthalate	01	117-81-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Butyl benzyl phthalate	01	85-68-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Chrysene	01	218-01-9	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Dibenz (a,h) anthracene	01	53-70-3	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Diethyl phthalate	01	84-66-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Dimethyl phthalate	01	131-11-3	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Di-n-butyl phthalate	01	84-74-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		2.22	5.56	1	ug/L	JHV
Di-n-octyl phthalate	01	117-84-0	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Fluoranthene	01	206-44-0	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Fluorene	01	86-73-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Hexachlorobenzene	01	118-74-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		2.78	2.78	1	ug/L	JHV
Hexachlorobutadiene	01	87-68-3	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Hexachlorocyclopentadiene	01	77-47-4	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Hexachloroethane	01	67-72-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Indeno (1,2,3-cd) pyrene	01	193-39-5	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV
Isophorone	01	78-59-1	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		1.11	5.56	1	ug/L	JHV

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Naphthalene	01	91-20-3	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
Nitrobenzene	01	98-95-3	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
n-Nitrosodimethylamine	01	62-75-9	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		2.22	5.56	1	ug/L	JHV
n-Nitrosodi-n-propylamine	01	621-64-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		2.22	5.56	1	ug/L	JHV
n-Nitrosodiphenylamine	01	86-30-6	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
o-Cresol	01	95-48-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
p-Chloro-m-cresol	01	59-50-7	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
Pentachlorophenol	01	87-86-5	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
Phenanthrene	01	85-01-8	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
Phenol	01	108-95-2	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
Pyrene	01	129-00-0	EPA625	06/23/2015 10:28	06/25/2015 09:12	BLOD		5.56	5.56	1	ug/L	JHV
Surr: 2,4,6-Tribromophenol	*01*	*54.3 %*	*40-125*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: 2-Fluorobiphenyl	*01*	*36.5 %*	*23-87*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: 2-Fluorophenol	*01*	*25.3 %*	*14-52*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: Nitrobenzene-d5	*01*	*37.6 %*	*10-98.5*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: Phenol-d5	*01*	*15.6 %*	*5-33*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: p-Terphenyl-d14	*01*	*87.1 %*	*27-133*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Kepone	01	143-50-0	SW8270D	06/23/2015 10:28	06/25/2015 09:12	BLOD		2.22	5.56	1	ug/L	JHV
Surr: 2,4,6-Tribromophenol	*01*	*54.3 %*	*40-125*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: 2-Fluorobiphenyl	*01*	*36.5 %*	*23-87*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: 2-Fluorophenol	*01*	*25.3 %*	*14-52*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: Nitrobenzene-d5	*01*	*37.6 %*	*40-110*	*06/23/2015 10:28*	*06/25/2015 09:12*							*S*
Surr: Phenol-d5	*01*	*15.6 %*	*5-33*	*06/23/2015 10:28*	*06/25/2015 09:12*							
Surr: p-Terphenyl-d14	*01*	*87.1 %*	*27-133*	*06/23/2015 10:28*	*06/25/2015 09:12*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Ammonia as N	01	7664-41-7	EPA350.1 R2.0	06/19/2015 17:36	06/19/2015 17:36	3.03		0.05	0.10	1	mg/L	CWO
BOD	01	NA	SM22 5210B-2011	06/18/2015 13:27	06/23/2015 15:05	2.1		0.2	2.0	1	mg/L	CWO
Bromide	01	24959-67-9	EPA300.0 R2.1	06/27/2015 03:18	06/27/2015 03:18	BLOD		5.00	5.00	5	mg/L	SKS
Chloride	01	16887-00-6	EPA300.0 R2.1	06/27/2015 03:18	06/27/2015 03:18	7.0		5.0	5.0	5	mg/L	SKS
Cyanide	01	57-12-5	SM22 4500CNE-2011	06/24/2015 12:49	06/24/2015 12:49	BLOD	Cl	0.010	0.010	1	mg/L	TLA
COD	01	NA	SM22 5220D-2011	06/23/2015 10:00	06/23/2015 10:00	12.7		10.0	10.0	1	mg/L	DLF
Color	01	NA	NCASI 71.01	06/19/2015 08:45	06/19/2015 08:45	BLOD		10.0	10.0	1	pcu	LAO
Fluoride	01RE1	16984-48-8	EPA300.0 R2.1	06/27/2015 03:42	06/27/2015 03:42	2.4		0.1	0.1	1	mg/L	SKS
Nitrate as N	01	14797-55-8	Calc.	06/26/2015 14:48	06/26/2015 14:48	0.40		0.07	0.15	1	mg/L	DLF
Nitrate+Nitrite as N	01	NA	SM22 4500-NO3F-2011	06/26/2015 14:48	06/26/2015 14:48	0.40		0.02	0.10	1	mg/L	RAC
Nitrite as N	01	14797-65-0	SM22 4500-NO2B-2011	06/18/2015 08:45	06/18/2015 08:45	BLOD		0.05	0.05	1	mg/L	DLF
Nitrogen, Organic	01		Calc.	06/26/2015 15:16	06/26/2015 15:16	BLOD		0.25	0.60	1	mg/L	LBH
Oil and Grease	01	NA	EPA1664A	06/24/2015 16:33	06/24/2015 16:33	BLOD		5.0	5.0	1	mg/L	LBH
Phosphorus, Total	01	7723-14-0	SM22 4500PE-2011	06/22/2015 14:05	06/22/2015 14:05	BLOD		0.01	0.02	1	mg/L	DLF
Total Recoverable Phenolics	01	NA	EPA420.1	06/24/2015 11:00	06/24/2015 16:50	BLOD		0.05	0.05	1	mg/L	LAO
Sulfate	01RE3	14808-79-8	EPA300.0 R2.1	06/29/2015 15:26	06/29/2015 15:26	984		200	200	200	mg/L	SKS
TKN as N	01	7727-37-9	EPA351.2 R2.0	06/26/2015 15:16	06/26/2015 15:16	3.08		0.20	0.50	1	mg/L	LBH
TOC	01	7440-44-0	SM22 5310C-2011	06/25/2015 14:05	06/25/2015 14:05	1.8		1.0	1.0	1	mg/L	KEW

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
TSS	01	NA	SM22 2540D-2011	06/18/2015 14:30	06/18/2015 14:30	3.6		1.0	1.0	1	mg/L	LBH

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Microbiological Analysis												
E. Coli	01	NA	Colilert 18 QT	06/18/2015 13:21	06/18/2015 13:21	BLOD		1	1	1	MPN/100 mL	RAC
Enterococci	01	NA	Enterolert	06/18/2015 13:15	06/18/2015 13:15	BLOD	H	1	1	1	MPN/100 mL	RAC
Fecal Coliform	01	NA	SM9221E C-2006	06/18/2015 13:54	06/18/2015 13:54	BLOD	H	2	2	1	MPN/100 mL	RAC

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 200 Series Methods												
Aluminum	02	7429-90-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	1.08		0.0200	0.0500	1	mg/L	BG
Boron	02	7440-42-8	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	3.24		0.0500	0.0500	1	mg/L	BG
Barium	02	7440-39-3	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	0.145		0.0020	0.0100	1	mg/L	BG
Beryllium	02	7440-41-7	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	BLOD		0.0020	0.0040	1	mg/L	BG
Calcium	02RE1	7440-70-2	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 15:28	488		0.300	5.00	100	mg/L	BG
Cobalt	02	7440-48-4	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	BLOD		0.0020	0.0040	1	mg/L	BG
Chromium	02	7440-47-3	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	0.0175		0.0010	0.0100	1	mg/L	BG
Iron	02	7439-89-6	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	0.0030	J	0.0030	0.0100	1	mg/L	BG
Hardness	02	NA	SM22 2340B-2011	06/23/2015 15:30	06/25/2015 15:28	1220		0.766	12.5	100	mg/L	BG
Magnesium	02	7439-95-4	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	0.105		0.0040	0.0100	1	mg/L	BG
Manganese	02	7439-96-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	BLOD		0.0020	0.0100	1	mg/L	BG
Molybdenum	02	7439-98-7	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	0.154		0.0500	0.0500	1	mg/L	BG
Tin	02	7440-31-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	BLOD		0.0200	0.0200	1	mg/L	BG
Titanium	02	7440-32-6	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:01	BLOD		0.0050	0.0500	1	mg/L	BG

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	71-55-6	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.50	5.00	5	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
1,1-Dichloroethane	02	75-34-3	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
1,2-Dichlorobenzene	02	95-50-1	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
1,2-Dichloroethane	02	107-06-2	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.50	5.00	5	ug/L	KCS
1,2-Dichloropropane	02	78-87-5	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.50	5.00	5	ug/L	KCS
1,3-Dichlorobenzene	02	541-73-1	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
1,3-Dichloropropene, Total	02	542-75-6	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	10.0	5	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
2-Chloroethyl vinyl ether	02	110-75-8	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		5.00	5.00	5	ug/L	KCS
Acrolein	02	107-02-8	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		10.0	10.0	5	ug/L	KCS
Acrylonitrile	02	107-13-1	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		8.50	10.0	5	ug/L	KCS
Benzene	02	71-43-2	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Dichlorobromomethane	02	75-27-4	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Bromoform	02	75-25-2	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.50	5.00	5	ug/L	KCS
Bromomethane	02	74-83-9	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Carbon tetrachloride	02	56-23-5	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Chlorobenzene	02	108-90-7	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		0.50	5.00	5	ug/L	KCS
Chloroethane	02	75-00-3	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Chloroform	02	67-66-3	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Chloromethane	02	74-87-3	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.50	5.00	5	ug/L	KCS
cis-1,3-Dichloropropene	02	10061-01-5	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorodibromomethane	02	124-48-1	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Ethylbenzene	02	100-41-4	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		0.50	5.00	5	ug/L	KCS
Methylene chloride	02	75-09-2	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		5.00	5.00	5	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Toluene	02	108-88-3	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
1,2-trans-Dichloroethylene	02	156-60-5	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
trans-1,3-Dichloropropene	02	10061-02-6	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Trichloroethylene	02	79-01-6	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Trichlorofluoromethane	02	75-69-4	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Vinyl chloride	02	75-01-4	EPA624	06/18/2015 22:45	06/18/2015 22:45	BLOD		1.00	5.00	5	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	*02*	*98.8 %*	*70-120*	*06/18/2015 22:45*	*06/18/2015 22:45*							
Surr: 4-Bromofluorobenzene	*02*	*94.6 %*	*75-120*	*06/18/2015 22:45*	*06/18/2015 22:45*							
Surr: Dibromofluoromethane	*02*	*97.7 %*	*80-119*	*06/18/2015 22:45*	*06/18/2015 22:45*							
Surr: Toluene-d8	*02*	*101 %*	*85-120*	*06/18/2015 22:45*	*06/18/2015 22:45*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4-Trichlorobenzene	02	120-82-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		2.11	5.26	1	ug/L	JHV
1,2-Dichlorobenzene	02	95-50-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
1,2-Diphenylhydrazine	02	122-66-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
1,3-Dichlorobenzene	02	541-73-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
1,4-Dichlorobenzene	02	106-46-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
2,4,6-Trichlorophenol	02	88-06-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
2,4-Dichlorophenol	02	120-83-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
2,4-Dimethylphenol	02	105-67-9	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		0.53	5.26	1	ug/L	JHV
2,4-Dinitrophenol	02	51-28-5	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		0.53	5.26	1	ug/L	JHV
2,4-Dinitrotoluene	02	121-14-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
2,6-Dichlorophenol	02	87-65-0	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
2,6-Dinitrotoluene	02	606-20-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
2-Chloronaphthalene	02	91-58-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
2-Chlorophenol	02	95-57-8	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
2-Nitrophenol	02	88-75-5	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
3,3'-Dichlorobenzidine	02	91-94-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		4.21	5.26	1	ug/L	JHV
2-Methyl-4,6-dinitrophenol	02	534-52-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
4-Bromophenyl phenyl ether	02	101-55-3	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
4-Chlorophenyl phenyl ether	02	7005-72-3	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
4-Nitrophenol	02	100-02-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Acenaphthene	02	83-32-9	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Acenaphthylene	02	208-96-8	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Anthracene	02	120-12-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Benzidine	02	92-87-5	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Benzo (a) anthracene	02	56-55-3	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
Benzo (a) pyrene	02	50-32-8	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Benzo (b) fluoranthene	02	205-99-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Benzo (g,h,i) perylene	02	191-24-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Benzo (k) fluoranthene	02	207-08-9	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
bis (2-Chloroethoxy) methane	02	111-91-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
bis (2-Chloroethyl) ether	02	111-44-4	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
bis (2-Chloroisopropyl) ether	02	108-60-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
bis (2-Ethylhexyl) phthalate	02	117-81-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Butyl benzyl phthalate	02	85-68-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Chrysene	02	218-01-9	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Dibenz (a,h) anthracene	02	53-70-3	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Diethyl phthalate	02	84-66-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Dimethyl phthalate	02	131-11-3	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Di-n-butyl phthalate	02	84-74-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		2.11	5.26	1	ug/L	JHV
Di-n-octyl phthalate	02	117-84-0	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Fluoranthene	02	206-44-0	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Fluorene	02	86-73-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Hexachlorobenzene	02	118-74-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		2.63	2.63	1	ug/L	JHV
Hexachlorobutadiene	02	87-68-3	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Hexachlorocyclopentadiene	02	77-47-4	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Hexachloroethane	02	67-72-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Indeno (1,2,3-cd) pyrene	02	193-39-5	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV
Isophorone	02	78-59-1	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		1.05	5.26	1	ug/L	JHV

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Naphthalene	02	91-20-3	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
Nitrobenzene	02	98-95-3	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
n-Nitrosodimethylamine	02	62-75-9	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		2.11	5.26	1	ug/L	JHV
n-Nitrosodi-n-propylamine	02	621-64-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		2.11	5.26	1	ug/L	JHV
n-Nitrosodiphenylamine	02	86-30-6	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
o-Cresol	02	95-48-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
p-Chloro-m-cresol	02	59-50-7	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
Pentachlorophenol	02	87-86-5	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
Phenanthrene	02	85-01-8	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
Phenol	02	108-95-2	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
Pyrene	02	129-00-0	EPA625	06/23/2015 10:28	06/25/2015 09:50	BLOD		5.26	5.26	1	ug/L	JHV
Surr: 2,4,6-Tribromophenol	*02*	*73.3 %*	*40-125*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: 2-Fluorobiphenyl	*02*	*72.4 %*	*23-87*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: 2-Fluorophenol	*02*	*44.0 %*	*14-52*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: Nitrobenzene-d5	*02*	*71.8 %*	*10-98.5*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: Phenol-d5	*02*	*26.9 %*	*5-33*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: p-Terphenyl-d14	*02*	*92.9 %*	*27-133*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Kepone	02	143-50-0	SW8270D	06/23/2015 10:28	06/25/2015 09:50	BLOD		2.11	5.26	1	ug/L	JHV
Surr: 2,4,6-Tribromophenol	*02*	*73.3 %*	*40-125*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: 2-Fluorobiphenyl	*02*	*72.4 %*	*23-87*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: 2-Fluorophenol	*02*	*44.0 %*	*14-52*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: Nitrobenzene-d5	*02*	*71.8 %*	*40-110*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: Phenol-d5	*02*	*26.9 %*	*5-33*	*06/23/2015 10:28*	*06/25/2015 09:50*							
Surr: p-Terphenyl-d14	*02*	*92.9 %*	*27-133*	*06/23/2015 10:28*	*06/25/2015 09:50*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	02	12674-11-2	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.03	0.5	1	ug/L	SKS
PCB as Aroclor 1221	02	11104-28-2	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.2	0.5	1	ug/L	SKS
PCB as Aroclor 1232	02	11141-16-5	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.02	0.5	1	ug/L	SKS
PCB as Aroclor 1242	02	53469-21-9	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.04	0.5	1	ug/L	SKS
PCB as Aroclor 1248	02	12672-29-6	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.05	0.5	1	ug/L	SKS
PCB as Aroclor 1254	02	11097-69-1	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.04	0.5	1	ug/L	SKS
PCB as Aroclor 1260 [2C]	02	11096-82-5	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.03	0.2	1	ug/L	SKS
Surr: DCB	*02*	*105 %*	*30-105*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: DCB [2C]	*02*	*85.0 %*	*30-105*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: TCMX	*02*	*75.0 %*	*30-105*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: TCMX [2C]	*02*	*60.0 %*	*30-105*	*06/23/2015 14:41*	*06/24/2015 21:12*							
4,4'-DDD	02	72-54-8	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
4,4'-DDE	02	72-55-9	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
4,4'-DDT	02	50-29-3	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Aldrin	02	309-00-2	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
alpha-BHC	02	319-84-6	EPA608	06/23/2015 14:41	06/24/2015 21:12	0.020	J	0.005	0.051	1	ug/L	SKS
beta-BHC	02	319-85-7	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Chlordane	02	57-74-9	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.204	0.204	1	ug/L	SKS
delta-BHC	02	319-86-8	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Dieldrin	02	60-57-1	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
alpha-Endosulfan	02	959-98-8	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
beta-Endosulfan	02	33213-65-9	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Endosulfan sulfate	02	1031-07-8	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Endrin	02	72-20-8	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin aldehyde	02	7421-93-4	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
gamma-BHC (Lindane)	02	58-89-9	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Heptachlor	02	76-44-8	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Heptachlor epoxide	02	1024-57-3	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Methoxychlor	02	72-43-5	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.005	0.051	1	ug/L	SKS
Toxaphene	02	8001-35-2	EPA608	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.204	1.02	1	ug/L	SKS
Surr: TCMX [2C]	*02*	*65.0 %*	*18-112*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: TCMX	*02*	*65.0 %*	*18-112*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: DCB	*02*	*105 %*	*27-131*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: DCB [2C]	*02*	*95.0 %*	*27-131*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Mirex	02	2385-85-5	SW8081B	06/23/2015 14:41	06/24/2015 21:12	BLOD		0.002	0.051	1	ug/L	SKS
Surr: TCMX [2C]	*02*	*65.0 %*	*18-112*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: TCMX	*02*	*65.0 %*	*18-112*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: DCB	*02*	*105 %*	*27-131*	*06/23/2015 14:41*	*06/24/2015 21:12*							
Surr: DCB [2C]	*02*	*95.0 %*	*27-131*	*06/23/2015 14:41*	*06/24/2015 21:12*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Ammonia as N	02	7664-41-7	EPA350.1 R2.0	06/19/2015 17:38	06/19/2015 17:38	0.58		0.05	0.10	1	mg/L	CWO
BOD	02	NA	SM22 5210B-2011	06/18/2015 13:27	06/23/2015 15:05	2.9		0.2	2.0	1	mg/L	CWO
Bromide	02	24959-67-9	EPA300.0 R2.1	06/27/2015 04:06	06/27/2015 04:06	BLOD		5.00	5.00	5	mg/L	SKS
Chloride	02RE3	16887-00-6	EPA300.0 R2.1	06/29/2015 15:02	06/29/2015 15:02	52.4		10.0	10.0	10	mg/L	SKS
Cyanide	02	57-12-5	SM22 4500CNE-2011	06/24/2015 12:52	06/24/2015 12:52	BLOD	Cl	0.010	0.010	1	mg/L	TLA
COD	02	NA	SM22 5220D-2011	06/23/2015 10:00	06/23/2015 10:00	BLOD		10.0	10.0	1	mg/L	DLF
Color	02	NA	NCASI 71.01	06/19/2015 08:45	06/19/2015 08:45	BLOD		10.0	10.0	1	pcu	LAO
Fluoride	02RE1	16984-48-8	EPA300.0 R2.1	06/27/2015 04:30	06/27/2015 04:30	2.8		0.1	0.1	1	mg/L	SKS
Nitrate as N	02	14797-55-8	Calc.	06/26/2015 14:51	06/26/2015 14:51	0.25		0.07	0.15	1	mg/L	DLF
Nitrate+Nitrite as N	02	NA	SM22 4500-NO3F-2011	06/26/2015 14:51	06/26/2015 14:51	0.34		0.02	0.10	1	mg/L	RAC
Nitrite as N	02	14797-65-0	SM22 4500-NO2B-2011	06/18/2015 08:45	06/18/2015 08:45	0.08		0.05	0.05	1	mg/L	DLF
Nitrogen, Organic	02		Calc.	06/26/2015 15:18	06/26/2015 15:18	BLOD		0.25	0.60	1	mg/L	LBH
Oil and Grease	02	NA	EPA1664A	06/24/2015 16:33	06/24/2015 16:33	BLOD		5.0	5.0	1	mg/L	LBH
Phosphorus, Total	02	7723-14-0	SM22 4500PE-2011	06/22/2015 14:05	06/22/2015 14:05	0.03		0.01	0.02	1	mg/L	DLF
Total Recoverable Phenolics	02	NA	EPA420.1	06/24/2015 11:00	06/24/2015 16:50	BLOD		0.05	0.05	1	mg/L	LAO
Sulfate	02RE4	14808-79-8	EPA300.0 R2.1	06/29/2015 15:50	06/29/2015 15:50	681		200	200	200	mg/L	SKS
TKN as N	02	7727-37-9	EPA351.2 R2.0	06/26/2015 15:18	06/26/2015 15:18	0.74		0.20	0.50	1	mg/L	LBH
TOC	02	7440-44-0	SM22 5310C-2011	06/25/2015 14:05	06/25/2015 14:05	BLOD		1.0	1.0	1	mg/L	KEW

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
TSS	02	NA	SM22 2540D-2011	06/18/2015 14:30	06/18/2015 14:30	18.4		1.0	1.0	1	mg/L	LBH

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column B** **Laboratory Sample ID:** **15F0604-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Microbiological Analysis												
E. Coli	02	NA	Colilert 18 QT	06/18/2015 13:21	06/18/2015 13:21	BLOD		1	1	1	MPN/100 mL	RAC
Enterococci	02	NA	Enterolert	06/18/2015 13:15	06/18/2015 13:15	BLOD	H	1	1	1	MPN/100 mL	RAC
Fecal Coliform	02	NA	SM9221E C-2006	06/18/2015 13:54	06/18/2015 13:54	BLOD	H	2	2	1	MPN/100 mL	RAC

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: Rainwater **Laboratory Sample ID:** 15F0604-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 200 Series Methods												
Aluminum	03	7429-90-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	BLOD		0.0200	0.0500	1	mg/L	BG
Boron	03	7440-42-8	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	0.0600		0.0500	0.0500	1	mg/L	BG
Barium	03	7440-39-3	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	0.0149		0.0020	0.0100	1	mg/L	BG
Beryllium	03	7440-41-7	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	BLOD		0.0020	0.0040	1	mg/L	BG
Calcium	03	7440-70-2	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	2.20		0.0030	0.0500	1	mg/L	BG
Cobalt	03	7440-48-4	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	BLOD		0.0020	0.0040	1	mg/L	BG
Chromium	03	7440-47-3	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	BLOD		0.0010	0.0100	1	mg/L	BG
Iron	03	7439-89-6	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	0.622		0.0030	0.0100	1	mg/L	BG
Hardness	03	NA	SM22 2340B-2011	06/23/2015 15:30	06/25/2015 14:06	6.46		0.0240	0.166	1	mg/L	BG
Magnesium	03	7439-95-4	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	0.234		0.0040	0.0100	1	mg/L	BG
Manganese	03	7439-96-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	0.0379		0.0020	0.0100	1	mg/L	BG
Molybdenum	03	7439-98-7	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	BLOD		0.0500	0.0500	1	mg/L	BG
Tin	03	7440-31-5	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	BLOD		0.0200	0.0200	1	mg/L	BG
Titanium	03	7440-32-6	EPA200.7 Rev 4.4	06/23/2015 15:30	06/25/2015 14:06	BLOD		0.0050	0.0500	1	mg/L	BG

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: Rainwater **Laboratory Sample ID:** 15F0604-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	03	71-55-6	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.50	5.00	5	ug/L	KCS
1,1,2-Trichloroethane	03	79-00-5	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
1,1-Dichloroethane	03	75-34-3	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
1,1-Dichloroethylene	03	75-35-4	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
1,2-Dichloroethane	03	107-06-2	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.50	5.00	5	ug/L	KCS
1,2-Dichloropropane	03	78-87-5	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.50	5.00	5	ug/L	KCS
1,3-Dichlorobenzene	03	541-73-1	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
1,3-Dichloropropene, Total	03	542-75-6	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	10.0	5	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
2-Chloroethyl vinyl ether	03	110-75-8	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		5.00	5.00	5	ug/L	KCS
Acrolein	03	107-02-8	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		10.0	10.0	5	ug/L	KCS
Acrylonitrile	03	107-13-1	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		8.50	10.0	5	ug/L	KCS
Benzene	03	71-43-2	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Dichlorobromomethane	03	75-27-4	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Bromoform	03	75-25-2	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.50	5.00	5	ug/L	KCS
Bromomethane	03	74-83-9	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Carbon tetrachloride	03	56-23-5	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Chlorobenzene	03	108-90-7	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		0.50	5.00	5	ug/L	KCS
Chloroethane	03	75-00-3	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Chloroform	03	67-66-3	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Chloromethane	03	74-87-3	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.50	5.00	5	ug/L	KCS
cis-1,3-Dichloropropene	03	10061-01-5	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Rainwater** **Laboratory Sample ID:** **15F0604-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorodibromomethane	03	124-48-1	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Dichlorodifluoromethane	03	75-71-8	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Ethylbenzene	03	100-41-4	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		0.50	5.00	5	ug/L	KCS
Methylene chloride	03	75-09-2	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		5.00	5.00	5	ug/L	KCS
Tetrachloroethylene (PCE)	03	127-18-4	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Toluene	03	108-88-3	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
1,2-trans-Dichloroethylene	03	156-60-5	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
trans-1,3-Dichloropropene	03	10061-02-6	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Trichloroethylene	03	79-01-6	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Trichlorofluoromethane	03	75-69-4	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Vinyl chloride	03	75-01-4	EPA624	06/18/2015 23:09	06/18/2015 23:09	BLOD		1.00	5.00	5	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	*03*	*101 %*	*70-120*	*06/18/2015 23:09*	*06/18/2015 23:09*							
Surr: 4-Bromofluorobenzene	*03*	*93.6 %*	*75-120*	*06/18/2015 23:09*	*06/18/2015 23:09*							
Surr: Dibromofluoromethane	*03*	*102 %*	*80-119*	*06/18/2015 23:09*	*06/18/2015 23:09*							
Surr: Toluene-d8	*03*	*101 %*	*85-120*	*06/18/2015 23:09*	*06/18/2015 23:09*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: Rainwater **Laboratory Sample ID:** 15F0604-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4-Trichlorobenzene	03	120-82-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		4.21	8.42	2	ug/L	JHV
1,2-Dichlorobenzene	03	95-50-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
1,2-Diphenylhydrazine	03	122-66-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
1,3-Dichlorobenzene	03	541-73-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
1,4-Dichlorobenzene	03	106-46-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
2,4,6-Trichlorophenol	03	88-06-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
2,4-Dichlorophenol	03	120-83-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
2,4-Dimethylphenol	03	105-67-9	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		1.05	8.42	2	ug/L	JHV
2,4-Dinitrophenol	03	51-28-5	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		1.05	8.42	2	ug/L	JHV
2,4-Dinitrotoluene	03	121-14-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
2,6-Dichlorophenol	03	87-65-0	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
2,6-Dinitrotoluene	03	606-20-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
2-Chloronaphthalene	03	91-58-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
2-Chlorophenol	03	95-57-8	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
2-Nitrophenol	03	88-75-5	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
3,3'-Dichlorobenzidine	03	91-94-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
2-Methyl-4,6-dinitrophenol	03	534-52-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
4-Bromophenyl phenyl ether	03	101-55-3	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
4-Chlorophenyl phenyl ether	03	7005-72-3	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
4-Nitrophenol	03	100-02-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Acenaphthene	03	83-32-9	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Acenaphthylene	03	208-96-8	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Anthracene	03	120-12-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Benzidine	03	92-87-5	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: Rainwater **Laboratory Sample ID:** 15F0604-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Benzo (a) anthracene	03	56-55-3	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
Benzo (a) pyrene	03	50-32-8	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Benzo (b) fluoranthene	03	205-99-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Benzo (g,h,i) perylene	03	191-24-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Benzo (k) fluoranthene	03	207-08-9	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
bis (2-Chloroethoxy) methane	03	111-91-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
bis (2-Chloroethyl) ether	03	111-44-4	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
bis (2-Chloroisopropyl) ether	03	108-60-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
bis (2-Ethylhexyl) phthalate	03	117-81-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Butyl benzyl phthalate	03	85-68-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Chrysene	03	218-01-9	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Dibenz (a,h) anthracene	03	53-70-3	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Diethyl phthalate	03	84-66-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Dimethyl phthalate	03	131-11-3	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Di-n-butyl phthalate	03	84-74-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		4.21	8.42	2	ug/L	JHV
Di-n-octyl phthalate	03	117-84-0	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Fluoranthene	03	206-44-0	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Fluorene	03	86-73-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Hexachlorobenzene	03	118-74-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		5.26	5.26	2	ug/L	JHV
Hexachlorobutadiene	03	87-68-3	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Hexachlorocyclopentadiene	03	77-47-4	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Hexachloroethane	03	67-72-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Indeno (1,2,3-cd) pyrene	03	193-39-5	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV
Isophorone	03	78-59-1	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		2.11	8.42	2	ug/L	JHV

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Rainwater** **Laboratory Sample ID:** **15F0604-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Naphthalene	03	91-20-3	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
Nitrobenzene	03	98-95-3	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
n-Nitrosodimethylamine	03	62-75-9	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		4.21	8.42	2	ug/L	JHV
n-Nitrosodi-n-propylamine	03	621-64-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		4.21	8.42	2	ug/L	JHV
n-Nitrosodiphenylamine	03	86-30-6	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
o-Cresol	03	95-48-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
p-Chloro-m-cresol	03	59-50-7	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
Pentachlorophenol	03	87-86-5	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
Phenanthrene	03	85-01-8	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
Phenol	03	108-95-2	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
Pyrene	03	129-00-0	EPA625	06/23/2015 10:28	06/25/2015 11:45	BLOD		8.42	8.42	2	ug/L	JHV
Surr: 2,4,6-Tribromophenol	*03*	*38.4 %*	*40-125*	*06/23/2015 10:28*	*06/25/2015 11:45*							*S*
Surr: 2-Fluorobiphenyl	*03*	*32.4 %*	*23-87*	*06/23/2015 10:28*	*06/25/2015 11:45*							
Surr: 2-Fluorophenol	*03*	*20.3 %*	*14-52*	*06/23/2015 10:28*	*06/25/2015 11:45*							
Surr: Nitrobenzene-d5	*03*	*33.3 %*	*10-98.5*	*06/23/2015 10:28*	*06/25/2015 11:45*							
Surr: Phenol-d5	*03*	*12.5 %*	*5-33*	*06/23/2015 10:28*	*06/25/2015 11:45*							
Surr: p-Terphenyl-d14	*03*	*79.1 %*	*27-133*	*06/23/2015 10:28*	*06/25/2015 11:45*							
Kepone	03	143-50-0	SW8270D	06/23/2015 10:28	06/25/2015 11:45	BLOD		4.21	8.42	2	ug/L	JHV
Surr: 2,4,6-Tribromophenol	*03*	*38.4 %*	*40-125*	*06/23/2015 10:28*	*06/25/2015 11:45*							*S*
Surr: 2-Fluorobiphenyl	*03*	*32.4 %*	*23-87*	*06/23/2015 10:28*	*06/25/2015 11:45*							
Surr: 2-Fluorophenol	*03*	*20.3 %*	*14-52*	*06/23/2015 10:28*	*06/25/2015 11:45*							
Surr: Nitrobenzene-d5	*03*	*33.3 %*	*40-110*	*06/23/2015 10:28*	*06/25/2015 11:45*							*S*
Surr: Phenol-d5	*03*	*12.5 %*	*5-33*	*06/23/2015 10:28*	*06/25/2015 11:45*							
Surr: p-Terphenyl-d14	*03*	*79.1 %*	*27-133*	*06/23/2015 10:28*	*06/25/2015 11:45*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Rainwater** **Laboratory Sample ID:** **15F0604-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	03	12674-11-2	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.03	0.5	1	ug/L	SKS
PCB as Aroclor 1221	03	11104-28-2	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.2	0.5	1	ug/L	SKS
PCB as Aroclor 1232	03	11141-16-5	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.02	0.5	1	ug/L	SKS
PCB as Aroclor 1242	03	53469-21-9	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.04	0.5	1	ug/L	SKS
PCB as Aroclor 1248	03	12672-29-6	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.05	0.5	1	ug/L	SKS
PCB as Aroclor 1254	03	11097-69-1	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.04	0.5	1	ug/L	SKS
PCB as Aroclor 1260 [2C]	03	11096-82-5	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.04	0.2	1	ug/L	SKS
Surr: DCB	*03*	*90.0 %*	*30-105*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: DCB [2C]	*03*	*75.0 %*	*30-105*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: TCMX [2C]	*03*	*70.0 %*	*30-105*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: TCMX	*03*	*95.0 %*	*30-105*	*06/23/2015 14:41*	*06/24/2015 21:31*							
4,4'-DDD	03	72-54-8	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
4,4'-DDE	03	72-55-9	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
4,4'-DDT	03	50-29-3	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Aldrin	03	309-00-2	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
alpha-BHC	03	319-84-6	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
beta-BHC	03	319-85-7	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Chlordane	03	57-74-9	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.213	0.213	1	ug/L	SKS
delta-BHC	03	319-86-8	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Dieldrin	03	60-57-1	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
alpha-Endosulfan	03	959-98-8	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
beta-Endosulfan	03	33213-65-9	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Endosulfan sulfate	03	1031-07-8	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Endrin	03	72-20-8	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: Rainwater **Laboratory Sample ID:** 15F0604-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin aldehyde	03	7421-93-4	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
gamma-BHC (Lindane)	03	58-89-9	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Heptachlor	03	76-44-8	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Heptachlor epoxide	03	1024-57-3	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Methoxychlor	03	72-43-5	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.005	0.053	1	ug/L	SKS
Toxaphene	03	8001-35-2	EPA608	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.213	1.06	1	ug/L	SKS
Surr: TCMX [2C]	*03*	*70.0 %*	*18-112*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: TCMX	*03*	*80.0 %*	*18-112*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: DCB	*03*	*80.0 %*	*27-131*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: DCB [2C]	*03*	*65.0 %*	*27-131*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Mirex	03	2385-85-5	SW8081B	06/23/2015 14:41	06/24/2015 21:31	BLOD		0.002	0.053	1	ug/L	SKS
Surr: TCMX [2C]	*03*	*70.0 %*	*18-112*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: TCMX	*03*	*80.0 %*	*18-112*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: DCB	*03*	*80.0 %*	*27-131*	*06/23/2015 14:41*	*06/24/2015 21:31*							
Surr: DCB [2C]	*03*	*65.0 %*	*27-131*	*06/23/2015 14:41*	*06/24/2015 21:31*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: Rainwater **Laboratory Sample ID:** 15F0604-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Ammonia as N	03	7664-41-7	EPA350.1 R2.0	06/19/2015 17:40	06/19/2015 17:40	0.40		0.05	0.10	1	mg/L	CWO
BOD	03	NA	SM22 5210B-2011	06/18/2015 13:27	06/23/2015 15:05	4.6		0.2	2.0	1	mg/L	CWO
Bromide	03	24959-67-9	EPA300.0 R2.1	06/27/2015 04:54	06/27/2015 04:54	BLOD		5.00	5.00	5	mg/L	SKS
Chloride	03	16887-00-6	EPA300.0 R2.1	06/27/2015 04:54	06/27/2015 04:54	BLOD		5.0	5.0	5	mg/L	SKS
Cyanide	03	57-12-5	SM22 4500CNE-2011	06/24/2015 13:04	06/24/2015 13:04	BLOD	Cl	0.010	0.010	1	mg/L	TLA
COD	03	NA	SM22 5220D-2011	06/23/2015 10:00	06/23/2015 10:00	BLOD		10.0	10.0	1	mg/L	DLF
Color	03	NA	NCASI 71.01	06/19/2015 08:45	06/19/2015 08:45	BLOD		10.0	10.0	1	pcu	LAO
Fluoride	03	16984-48-8	EPA300.0 R2.1	06/27/2015 04:54	06/27/2015 04:54	BLOD		0.5	0.5	5	mg/L	SKS
Nitrate as N	03	14797-55-8	Calc.	06/26/2015 14:54	06/26/2015 14:54	0.33		0.07	0.15	1	mg/L	DLF
Nitrate+Nitrite as N	03	NA	SM22 4500-NO3F-2011	06/26/2015 14:54	06/26/2015 14:54	0.33		0.02	0.10	1	mg/L	RAC
Nitrite as N	03	14797-65-0	SM22 4500-NO2B-2011	06/18/2015 08:45	06/18/2015 08:45	BLOD		0.05	0.05	1	mg/L	DLF
Nitrogen, Organic	03		Calc.	06/26/2015 15:20	06/26/2015 15:20	ND		0.25	0.60	1	mg/L	LBH
Oil and Grease	03	NA	EPA1664A	06/24/2015 16:33	06/24/2015 16:33	BLOD		5.0	5.0	1	mg/L	LBH
Phosphorus, Total	03	7723-14-0	SM22 4500PE-2011	06/22/2015 14:05	06/22/2015 14:05	0.02	J	0.01	0.02	1	mg/L	DLF
Total Recoverable Phenolics	03	NA	EPA420.1	06/24/2015 11:00	06/24/2015 16:50	BLOD		0.05	0.05	1	mg/L	LAO
Sulfate	03	14808-79-8	EPA300.0 R2.1	06/27/2015 04:54	06/27/2015 04:54	16.9		5.0	5.0	5	mg/L	SKS
TKN as N	03	7727-37-9	EPA351.2 R2.0	06/26/2015 15:20	06/26/2015 15:20	0.89		0.20	0.50	1	mg/L	LBH
TOC	03	7440-44-0	SM22 5310C-2011	06/25/2015 14:05	06/25/2015 14:05	1.7		1.0	1.0	1	mg/L	KEW

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Rainwater** **Laboratory Sample ID:** **15F0604-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
TSS	03	NA	SM22 2540D-2011	06/18/2015 14:30	06/18/2015 14:30	2.2		1.0	1.0	1	mg/L	LBH

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Rainwater** **Laboratory Sample ID:** **15F0604-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Microbiological Analysis												
E. Coli	03	NA	Colilert 18 QT	06/18/2015 13:21	06/18/2015 13:21	BLOD		1	1	1	MPN/100 mL	RAC
Enterococci	03	NA	Enterolert	06/18/2015 13:15	06/18/2015 13:15	BLOD	H	1	1	1	MPN/100 mL	RAC
Fecal Coliform	03	NA	SM9221E C-2006	06/18/2015 13:54	06/18/2015 13:54	BLOD	H	2	2	1	MPN/100 mL	RAC

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Trip Blank** **Laboratory Sample ID:** **15F0604-04**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	71-55-6	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.30	1.00	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	75-34-3	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-35-4	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	107-06-2	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	04	541-73-1	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
1,3-Dichloropropene, Total	04	542-75-6	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	10.0	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
2-Chloroethyl vinyl ether	04	110-75-8	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		1.00	5.00	1	ug/L	KCS
Acrolein	04	107-02-8	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		2.00	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	04	71-43-2	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Dichlorobromomethane	04	75-27-4	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Bromoform	04	75-25-2	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	04	74-83-9	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	04	108-90-7	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.10	1.00	1	ug/L	KCS
Chloroethane	04	75-00-3	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Chloromethane	04	74-87-3	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-5	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Trip Blank** **Laboratory Sample ID:** **15F0604-04**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorodibromomethane	04	124-48-1	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-8	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	04	100-41-4	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.10	1.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		1.00	4.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	04	108-88-3	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
1,2-trans-Dichloroethylene	04	156-60-5	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-6	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	04	75-69-4	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl chloride	04	75-01-4	EPA624	06/18/2015 21:57	06/18/2015 21:57	BLOD		0.20	1.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	*04*	*101 %*	*70-120*	*06/18/2015 21:57*	*06/18/2015 21:57*							
Surr: 4-Bromofluorobenzene	*04*	*93.1 %*	*75-120*	*06/18/2015 21:57*	*06/18/2015 21:57*							
Surr: Dibromofluoromethane	*04*	*99.3 %*	*80-119*	*06/18/2015 21:57*	*06/18/2015 21:57*							
Surr: Toluene-d8	*04*	*99.9 %*	*85-120*	*06/18/2015 21:57*	*06/18/2015 21:57*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-05**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	05	12674-11-2	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.03	0.5	1	ug/L	SKS
PCB as Aroclor 1221	05	11104-28-2	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.2	0.5	1	ug/L	SKS
PCB as Aroclor 1232	05	11141-16-5	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.02	0.5	1	ug/L	SKS
PCB as Aroclor 1242	05	53469-21-9	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.04	0.5	1	ug/L	SKS
PCB as Aroclor 1248	05	12672-29-6	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.05	0.5	1	ug/L	SKS
PCB as Aroclor 1254	05	11097-69-1	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.04	0.5	1	ug/L	SKS
PCB as Aroclor 1260 [2C]	05	11096-82-5	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.04	0.2	1	ug/L	SKS
Surr: DCB [2C]	*05*	*90.0 %*	*30-105*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: DCB	*05*	*100 %*	*30-105*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: TCMX	*05*	*50.0 %*	*30-105*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: TCMX [2C]	*05*	*40.0 %*	*30-105*	*06/24/2015 11:45*	*06/25/2015 15:16*							
4,4'-DDD	05	72-54-8	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
4,4'-DDE	05	72-55-9	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
4,4'-DDT	05	50-29-3	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Aldrin	05	309-00-2	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
alpha-BHC	05	319-84-6	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
beta-BHC	05	319-85-7	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Chlordane	05	57-74-9	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.206	0.206	1	ug/L	SKS
delta-BHC	05	319-86-8	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Dieldrin	05	60-57-1	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
alpha-Endosulfan	05	959-98-8	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
beta-Endosulfan	05	33213-65-9	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Endosulfan sulfate	05	1031-07-8	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Endrin	05	72-20-8	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Client Sample ID: **Column A** **Laboratory Sample ID:** **15F0604-05**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin aldehyde	05	7421-93-4	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
gamma-BHC (Lindane)	05	58-89-9	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Heptachlor	05	76-44-8	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Heptachlor epoxide	05	1024-57-3	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Methoxychlor	05	72-43-5	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.005	0.052	1	ug/L	SKS
Toxaphene	05	8001-35-2	EPA608	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.206	1.03	1	ug/L	SKS
Surr: TCMX	*05*	*35.0 %*	*18-112*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: TCMX [2C]	*05*	*35.0 %*	*18-112*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: DCB	*05*	*100 %*	*27-131*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: DCB [2C]	*05*	*90.0 %*	*27-131*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Mirex	05	2385-85-5	SW8081B	06/24/2015 11:45	06/25/2015 15:16	BLOD		0.002	0.052	1	ug/L	SKS
Surr: TCMX [2C]	*05*	*35.0 %*	*18-112*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: TCMX	*05*	*35.0 %*	*18-112*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: DCB	*05*	*90.0 %*	*27-131*	*06/24/2015 11:45*	*06/25/2015 15:16*							
Surr: DCB [2C]	*05*	*85.0 %*	*27-131*	*06/24/2015 11:45*	*06/25/2015 15:16*							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Metals (Total) by EPA 200 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0603 - EPA200.2/R2.8										
Blank (BYF0603-BLK1)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
Molybdenum	BLOD	0.0500	mg/L							
Aluminum	BLOD	0.0500	mg/L							
Barium	BLOD	0.0100	mg/L							
Beryllium	BLOD	0.0040	mg/L							
Boron	BLOD	0.0500	mg/L							
Calcium	0.0037	0.0500	mg/L							J, B
Chromium	BLOD	0.0100	mg/L							
Cobalt	BLOD	0.0040	mg/L							
Iron	BLOD	0.0100	mg/L							
Magnesium	BLOD	0.0100	mg/L							
Manganese	BLOD	0.0100	mg/L							
Tin	BLOD	0.0200	mg/L							
Titanium	BLOD	0.0500	mg/L							
LCS (BYF0603-BS1)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
Molybdenum	0.489	0.0500	mg/L	0.500		97.9	80-120			
Aluminum	0.512	0.0500	mg/L	0.500		102	80-120			
Barium	0.500	0.0100	mg/L	0.500		100	80-120			
Beryllium	0.494	0.0040	mg/L	0.500		98.8	80-120			
Boron	0.524	0.0500	mg/L	0.500		105	80-120			
Calcium	0.500	0.0500	mg/L	0.500		100	80-120			
Chromium	0.497	0.0100	mg/L	0.500		99.5	80-120			
Cobalt	0.500	0.0040	mg/L	0.500		100	80-120			
Iron	0.500	0.0100	mg/L	0.500		100	80-120			
Magnesium	0.500	0.0100	mg/L	0.500		100	80-120			
Manganese	0.507	0.0100	mg/L	0.500		101	80-120			
Titanium	0.499	0.0500	mg/L	0.500		99.7	80-120			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Metals (Total) by EPA 200 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0603 - EPA200.2/R2.8										
LCS (BYF0603-BS2)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
Tin	0.109	0.0200	mg/L	0.100		109	80-120			
LCS Dup (BYF0603-BSD1)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
Molybdenum	0.483	0.0500	mg/L	0.500		96.7	80-120	1.25	20	
Aluminum	0.507	0.0500	mg/L	0.500		101	80-120	0.956	20	
Barium	0.495	0.0100	mg/L	0.500		99.0	80-120	0.999	20	
Beryllium	0.489	0.0040	mg/L	0.500		97.8	80-120	0.993	20	
Boron	0.513	0.0500	mg/L	0.500		103	80-120	2.07	20	
Calcium	0.495	0.0500	mg/L	0.500		99.1	80-120	0.990	20	
Chromium	0.491	0.0100	mg/L	0.500		98.2	80-120	1.25	20	
Cobalt	0.495	0.0040	mg/L	0.500		99.1	80-120	1.03	20	
Iron	0.494	0.0100	mg/L	0.500		98.8	80-120	1.26	20	
Magnesium	0.489	0.0100	mg/L	0.500		97.9	80-120	2.24	20	
Manganese	0.504	0.0100	mg/L	0.500		101	80-120	0.598	20	
Titanium	0.494	0.0500	mg/L	0.500		98.8	80-120	0.947	20	
LCS Dup (BYF0603-BSD2)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
Tin	0.0978	0.0200	mg/L	0.100		97.8	80-120	10.9	20	
Matrix Spike (BYF0603-MS1)	**Source: 15F0427-08**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Molybdenum	0.506	0.0500	mg/L	0.500	BLOD	101	75-125			
Aluminum	0.632	0.0500	mg/L	0.500	0.0673	113	75-125			
Barium	0.561	0.0100	mg/L	0.500	0.0656	99.1	75-125			
Beryllium	0.518	0.0040	mg/L	0.500	BLOD	104	75-125			
Boron	0.780	0.0500	mg/L	0.500	0.259	104	75-125			
Calcium	238	0.0500	mg/L	0.500	237	222	75-125			E, M
Chromium	0.500	0.0100	mg/L	0.500	0.0014	99.8	75-125			
Cobalt	0.502	0.0040	mg/L	0.500	0.0106	98.2	75-125			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Metals (Total) by EPA 200 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0603 - EPA200.2/R2.8										
Matrix Spike (BYF0603-MS1)	**Source: 15F0427-08**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Iron	0.710	0.0100	mg/L	0.500	0.157	111	75-125			
Magnesium	14.2	0.0100	mg/L	0.500	13.5	138	75-125			M
Manganese	4.72	0.0100	mg/L	0.500	4.24	96.0	75-125			
Titanium	0.505	0.0500	mg/L	0.500	BLOD	101	75-125			
Matrix Spike (BYF0603-MS2)	**Source: 15F0604-03**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Molybdenum	0.496	0.0500	mg/L	0.500	BLOD	99.3	75-125			
Aluminum	0.521	0.0500	mg/L	0.500	BLOD	104	75-125			
Barium	0.517	0.0100	mg/L	0.500	0.0149	100	75-125			
Beryllium	0.500	0.0040	mg/L	0.500	BLOD	99.9	75-125			
Boron	0.539	0.0500	mg/L	0.500	0.0600	95.7	75-125			
Calcium	2.67	0.0500	mg/L	0.500	2.20	93.2	75-125			
Chromium	0.500	0.0100	mg/L	0.500	BLOD	100	75-125			
Cobalt	0.506	0.0040	mg/L	0.500	BLOD	101	75-125			
Iron	1.20	0.0100	mg/L	0.500	0.622	115	75-125			
Magnesium	0.735	0.0100	mg/L	0.500	0.234	100	75-125			
Manganese	0.550	0.0100	mg/L	0.500	0.0379	103	75-125			
Titanium	0.502	0.0500	mg/L	0.500	BLOD	100	75-125			
Matrix Spike (BYF0603-MS3)	**Source: 15F0427-08**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Tin	0.0626	0.0200	mg/L	0.100	BLOD	62.6	75-125			M
Matrix Spike (BYF0603-MS4)	**Source: 15F0604-03**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Tin	0.0922	0.0200	mg/L	0.100	BLOD	92.2	75-125			
Matrix Spike Dup (BYF0603-MSD1)	**Source: 15F0427-08**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Molybdenum	0.499	0.0500	mg/L	0.500	BLOD	99.7	75-125	1.58	20	
Aluminum	0.641	0.0500	mg/L	0.500	0.0673	115	75-125	1.38	20	
Barium	0.560	0.0100	mg/L	0.500	0.0656	98.8	75-125	0.304	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Metals (Total) by EPA 200 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0603 - EPA200.2/R2.8										
Matrix Spike Dup (BYF0603-MSD1)	**Source: 15F0427-08**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Beryllium	0.516	0.0040	mg/L	0.500	BLOD	103	75-125	0.370	20	
Boron	0.777	0.0500	mg/L	0.500	0.259	104	75-125	0.405	20	
Calcium	236	0.0500	mg/L	0.500	237	-271	75-125	1.04	20	E, M
Chromium	0.499	0.0100	mg/L	0.500	0.0014	99.5	75-125	0.324	20	
Cobalt	0.501	0.0040	mg/L	0.500	0.0106	98.0	75-125	0.179	20	
Iron	0.734	0.0100	mg/L	0.500	0.157	115	75-125	3.26	20	
Magnesium	14.0	0.0100	mg/L	0.500	13.5	105	75-125	1.15	20	
Manganese	4.65	0.0100	mg/L	0.500	4.24	81.6	75-125	1.54	20	
Titanium	0.504	0.0500	mg/L	0.500	BLOD	101	75-125	0.227	20	
Matrix Spike Dup (BYF0603-MSD2)	**Source: 15F0604-03**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Molybdenum	0.495	0.0500	mg/L	0.500	BLOD	99.0	75-125	0.304	20	
Aluminum	0.512	0.0500	mg/L	0.500	BLOD	102	75-125	1.76	20	
Barium	0.516	0.0100	mg/L	0.500	0.0149	100	75-125	0.300	20	
Beryllium	0.499	0.0040	mg/L	0.500	BLOD	99.8	75-125	0.172	20	
Boron	0.538	0.0500	mg/L	0.500	0.0600	95.5	75-125	0.192	20	
Calcium	2.66	0.0500	mg/L	0.500	2.20	91.5	75-125	0.330	20	
Chromium	0.499	0.0100	mg/L	0.500	BLOD	99.8	75-125	0.210	20	
Cobalt	0.505	0.0040	mg/L	0.500	BLOD	101	75-125	0.213	20	
Iron	1.21	0.0100	mg/L	0.500	0.622	118	75-125	1.15	20	
Magnesium	0.730	0.0100	mg/L	0.500	0.234	99.3	75-125	0.597	20	
Manganese	0.553	0.0100	mg/L	0.500	0.0379	103	75-125	0.438	20	
Titanium	0.501	0.0500	mg/L	0.500	BLOD	100	75-125	0.246	20	
Matrix Spike Dup (BYF0603-MSD3)	**Source: 15F0427-08**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Tin	0.0602	0.0200	mg/L	0.100	BLOD	60.2	75-125	3.84	20	M
Matrix Spike Dup (BYF0603-MSD4)	**Source: 15F0604-03**			Prepared: 06/23/2015 Analyzed: 06/25/2015						

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Metals (Total) by EPA 200 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0603 - EPA200.2/R2.8										
Matrix Spike Dup (BYF0603-MSD4)	**Source: 15F0604-03**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Tin	0.0923	0.0200	mg/L	0.100	BLOD	92.3	75-125	0.144	20	
Batch BYG0005 - EPA200.2/R2.8										
Blank (BYG0005-BLK1)				Prepared: 06/30/2015 Analyzed: 07/01/2015						
Chromium	BLOD	0.0100	mg/L							
LCS (BYG0005-BS1)				Prepared: 06/30/2015 Analyzed: 07/01/2015						
Chromium	0.493	0.0100	mg/L	0.500		98.6	80-120			
LCS Dup (BYG0005-BSD1)				Prepared: 06/30/2015 Analyzed: 07/01/2015						
Chromium	0.493	0.0100	mg/L	0.500		98.6	80-120	0.0193	20	
Matrix Spike (BYG0005-MS1)	**Source: 15F0871-01**			Prepared: 06/30/2015 Analyzed: 07/01/2015						
Chromium	0.494	0.0100	mg/L	0.500	BLOD	98.8	75-125			
Matrix Spike Dup (BYG0005-MSD1)	**Source: 15F0871-01**			Prepared: 06/30/2015 Analyzed: 07/01/2015						
Chromium	0.493	0.0100	mg/L	0.500	BLOD	98.7	75-125	0.0973	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
Blank (BYF0500-BLK1)				Prepared & Analyzed: 06/18/2015						
1,1,1-Trichloroethane	BLOD	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BLOD	1.00	ug/L							
1,1,2-Trichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethylene	BLOD	1.00	ug/L							
1,2-Dichlorobenzene	BLOD	1.00	ug/L							
1,2-Dichloroethane	BLOD	1.00	ug/L							
1,2-Dichloropropane	BLOD	1.00	ug/L							
1,3-Dichlorobenzene	BLOD	1.00	ug/L							
1,3-Dichloropropene, Total	BLOD	10.0	ug/L							
1,4-Dichlorobenzene	BLOD	1.00	ug/L							
2-Chloroethyl vinyl ether	BLOD	10.0	ug/L							
Acrolein	BLOD	10.0	ug/L							
Acrylonitrile	BLOD	5.00	ug/L							
Benzene	BLOD	1.00	ug/L							
Bromodichloromethane	BLOD	1.00	ug/L							
Bromoform	BLOD	1.00	ug/L							
Bromomethane	BLOD	1.00	ug/L							
Carbon tetrachloride	BLOD	1.00	ug/L							
Chlorobenzene	BLOD	1.00	ug/L							
Chloroethane	BLOD	1.00	ug/L							
Chloroform	BLOD	1.00	ug/L							
Chloromethane	BLOD	1.00	ug/L							
cis-1,3-Dichloropropene	BLOD	1.00	ug/L							
Dibromochloromethane	BLOD	1.00	ug/L							
Dichlorodifluoromethane	BLOD	1.00	ug/L							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
Blank (BYF0500-BLK1)				Prepared & Analyzed: 06/18/2015						
Ethylbenzene	BLOD	1.00	ug/L							
Methylene chloride	BLOD	4.00	ug/L							
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L							
Toluene	BLOD	1.00	ug/L							
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L							
trans-1,3-Dichloropropene	BLOD	1.00	ug/L							
Trichloroethylene	BLOD	1.00	ug/L							
Trichlorofluoromethane	BLOD	1.00	ug/L							
Vinyl chloride	BLOD	1.00	ug/L							
Surr: 1,2-Dichloroethane-d4	*48.8*		ug/L	*50.0*		*97.7*	*70-120*			
Surr: 4-Bromofluorobenzene	*47.3*		ug/L	*50.0*		*94.7*	*75-120*			
Surr: Dibromofluoromethane	*48.8*		ug/L	*50.0*		*97.7*	*80-119*			
Surr: Toluene-d8	*50.0*		ug/L	*50.0*		*100*	*85-120*			
LCS (BYF0500-BS1)				Prepared & Analyzed: 06/18/2015						
1,1,1-Trichloroethane	50.9	1	ug/L	50.0		102	65-130			
1,1,2,2-Tetrachloroethane	49.5	1	ug/L	50.0		99.0	65-130			
1,1,2-Trichloroethane	50.9	1	ug/L	50.0		102	75-125			
1,1-Dichloroethane	51.9	1	ug/L	50.0		104	70-135			
1,1-Dichloroethylene	48.5	1	ug/L	50.0		96.9	70-130			
1,2-Dichlorobenzene	54.4	1	ug/L	50.0		109	70-120			
1,2-Dichloroethane	48.9	1	ug/L	50.0		97.7	70-130			
1,2-Dichloropropane	48.6	1	ug/L	50.0		97.3	75-125			
1,3-Dichlorobenzene	53.6	1	ug/L	50.0		107	75-125			
1,4-Dichlorobenzene	52.8	1	ug/L	50.0		106	75-125			
Benzene	50.4	1	ug/L	50.0		101	80-120			
Bromodichloromethane	51.6	1	ug/L	50.0		103	75-120			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
LCS (BYF0500-BS1)				Prepared & Analyzed: 06/18/2015						
Bromoform	53.9	1	ug/L	50.0		108	70-130			
Bromomethane	53.5	1	ug/L	50.0		107	30-145			
Carbon tetrachloride	51.5	1	ug/L	50.0		103	65-140			
Chlorobenzene	52.4	1	ug/L	50.0		105	80-120			
Chloroethane	53.3	1	ug/L	50.0		107	60-135			
Chloroform	50.2	1	ug/L	50.0		100	65-135			
Chloromethane	50.8	1	ug/L	50.0		102	40-125			
cis-1,3-Dichloropropene	50.0	1	ug/L	50.0		99.9	70-130			
Dibromochloromethane	53.6	1	ug/L	50.0		107	60-135			
Dichlorodifluoromethane	54.7	1	ug/L	50.0		109	30-155			
Ethylbenzene	50.6	1	ug/L	50.0		101	75-125			
Methylene chloride	45.3	4	ug/L	50.0		90.6	55-140			
Tetrachloroethylene (PCE)	51.0	1	ug/L	50.0		102	45-150			
Toluene	51.1	1	ug/L	50.0		102	75-120			
trans-1,2-Dichloroethylene	49.4	1	ug/L	50.0		98.7	60-140			
trans-1,3-Dichloropropene	51.7	1	ug/L	50.0		103	55-140			
Trichloroethylene	50.2	1	ug/L	50.0		100	70-125			
Trichlorofluoromethane	46.5	1	ug/L	50.0		93.1	60-145			
Vinyl chloride	51.0	1	ug/L	50.0		102	50-145			
Surr: 1,2-Dichloroethane-d4	*47.7*		ug/L	*50.0*		*95.4*	*70-120*			
Surr: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*75-120*			
Surr: Dibromofluoromethane	*47.7*		ug/L	*50.0*		*95.3*	*80-119*			
Surr: Toluene-d8	*49.5*		ug/L	*50.0*		*99.0*	*85-120*			
LCS Dup (BYF0500-BSD1)				Prepared & Analyzed: 06/18/2015						
1,1,1-Trichloroethane	47.7	1	ug/L	50.0		95.5	65-130	6.36	30	
1,1,2,2-Tetrachloroethane	48.0	1	ug/L	50.0		95.9	65-130	3.20	30	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
LCS Dup (BYF0500-BSD1)				Prepared & Analyzed: 06/18/2015						
1,1,2-Trichloroethane	49.0	1	ug/L	50.0		98.0	75-125	3.81	30	
1,1-Dichloroethane	48.5	1	ug/L	50.0		96.9	70-135	6.80	30	
1,1-Dichloroethylene	45.8	1	ug/L	50.0		91.7	70-130	5.59	30	
1,2-Dichlorobenzene	51.7	1	ug/L	50.0		103	70-120	5.03	30	
1,2-Dichloroethane	47.0	1	ug/L	50.0		93.9	70-130	3.95	30	
1,2-Dichloropropane	45.3	1	ug/L	50.0		90.6	75-125	7.11	30	
1,3-Dichlorobenzene	52.0	1	ug/L	50.0		104	75-125	2.84	30	
1,4-Dichlorobenzene	50.5	1	ug/L	50.0		101	75-125	4.43	30	
Benzene	48.2	1	ug/L	50.0		96.3	80-120	4.51	30	
Bromodichloromethane	49.8	1	ug/L	50.0		99.5	75-120	3.69	30	
Bromoform	52.6	1	ug/L	50.0		105	70-130	2.42	30	
Bromomethane	52.3	1	ug/L	50.0		105	30-145	2.38	30	
Carbon tetrachloride	49.1	1	ug/L	50.0		98.2	65-140	4.76	30	
Chlorobenzene	50.2	1	ug/L	50.0		100	80-120	4.28	30	
Chloroethane	51.6	1	ug/L	50.0		103	60-135	3.30	30	
Chloroform	47.1	1	ug/L	50.0		94.2	65-135	6.42	30	
Chloromethane	47.8	1	ug/L	50.0		95.7	40-125	6.09	30	
cis-1,3-Dichloropropene	47.4	1	ug/L	50.0		94.8	70-130	5.26	30	
Dibromochloromethane	51.0	1	ug/L	50.0		102	60-135	5.05	30	
Dichlorodifluoromethane	51.1	1	ug/L	50.0		102	30-155	6.71	30	
Ethylbenzene	48.7	1	ug/L	50.0		97.4	75-125	3.73	30	
Methylene chloride	41.4	4	ug/L	50.0		82.9	55-140	8.87	30	
Tetrachloroethylene (PCE)	49.4	1	ug/L	50.0		98.8	45-150	3.13	30	
Toluene	48.0	1	ug/L	50.0		96.0	75-120	6.24	30	
trans-1,2-Dichloroethylene	47.2	1	ug/L	50.0		94.3	60-140	4.54	30	
trans-1,3-Dichloropropene	49.0	1	ug/L	50.0		98.0	55-140	5.34	30	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
LCS Dup (BYF0500-BSD1)				Prepared & Analyzed: 06/18/2015						
Trichloroethylene	46.2	1	ug/L	50.0		92.4	70-125	8.22	30	
Trichlorofluoromethane	43.1	1	ug/L	50.0		86.1	60-145	7.74	30	
Vinyl chloride	48.7	1	ug/L	50.0		97.4	50-145	4.67	30	
Surr: 1,2-Dichloroethane-d4	*47.6*		ug/L	*50.0*		*95.1*	*70-120*			
Surr: 4-Bromofluorobenzene	*49.0*		ug/L	*50.0*		*98.1*	*75-120*			
Surr: Dibromofluoromethane	*47.6*		ug/L	*50.0*		*95.3*	*80-119*			
Surr: Toluene-d8	*49.2*		ug/L	*50.0*		*98.3*	*85-120*			
Duplicate (BYF0500-DUP1)	**Source: 15F0415-02**			Prepared & Analyzed: 06/18/2015						
1,1,1-Trichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	BLOD	1.00	ug/L		BLOD			NA	30	
1,3-Dichlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
1,3-Dichloropropene, Total	BLOD	10.0	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
2-Chloroethyl vinyl ether	BLOD	10.0	ug/L		BLOD			NA	30	
Acrolein	BLOD	10.0	ug/L		BLOD			NA	30	
Acrylonitrile	BLOD	5.00	ug/L		BLOD			NA	30	
Benzene	BLOD	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Bromoform	BLOD	1.00	ug/L		BLOD			NA	30	
Bromomethane	BLOD	1.00	ug/L		BLOD			NA	30	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
Duplicate (BYF0500-DUP1)	**Source: 15F0415-02**			Prepared & Analyzed: 06/18/2015						
Carbon tetrachloride	BLOD	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
Chloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
Chloroform	BLOD	1.00	ug/L		BLOD			NA	30	
Chloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
cis-1,3-Dichloropropene	BLOD	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Ethylbenzene	BLOD	1.00	ug/L		BLOD			NA	30	
Methylene chloride	BLOD	4.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L		BLOD			NA	30	
Toluene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	BLOD	1.00	ug/L		BLOD			NA	30	
Trichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Vinyl chloride	BLOD	1.00	ug/L		BLOD			NA	30	
Surr: 1,2-Dichloroethane-d4	*50.5*		ug/L	*50.0*		*101*	*70-120*			
Surr: 4-Bromofluorobenzene	*46.0*		ug/L	*50.0*		*92.0*	*75-120*			
Surr: Dibromofluoromethane	*50.1*		ug/L	*50.0*		*100*	*80-119*			
Surr: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*85-120*			
Matrix Spike (BYF0500-MS1)	**Source: 15F0415-06**			Prepared & Analyzed: 06/18/2015						
1,1,1-Trichloroethane	48.9	1	ug/L	50.0	BLOD	97.7	65-130			
1,1,2,2-Tetrachloroethane	45.2	1	ug/L	50.0	BLOD	90.4	65-130			
1,1,2-Trichloroethane	46.6	1	ug/L	50.0	BLOD	93.2	75-125			
1,1-Dichloroethane	50.0	1	ug/L	50.0	BLOD	99.9	70-135			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
Matrix Spike (BYF0500-MS1)	**Source: 15F0415-06**			Prepared & Analyzed: 06/18/2015						
1,1-Dichloroethylene	46.8	1	ug/L	50.0	BLOD	93.7	70-130			
1,2-Dichlorobenzene	48.4	1	ug/L	50.0	BLOD	96.7	70-120			
1,2-Dichloroethane	45.5	1	ug/L	50.0	BLOD	90.9	70-130			
1,2-Dichloropropane	45.3	1	ug/L	50.0	BLOD	90.6	75-125			
1,3-Dichlorobenzene	48.0	1	ug/L	50.0	BLOD	96.0	75-125			
1,4-Dichlorobenzene	47.2	1	ug/L	50.0	BLOD	94.4	75-125			
Benzene	48.1	1	ug/L	50.0	BLOD	96.2	80-120			
Bromodichloromethane	47.7	1	ug/L	50.0	BLOD	95.4	75-120			
Bromoform	49.8	1	ug/L	50.0	BLOD	99.5	70-130			
Bromomethane	48.7	1	ug/L	50.0	BLOD	97.3	30-145			
Carbon tetrachloride	51.4	1	ug/L	50.0	BLOD	103	65-140			
Chlorobenzene	48.5	1	ug/L	50.0	BLOD	97.0	80-120			
Chloroethane	52.9	1	ug/L	50.0	BLOD	106	60-135			
Chloroform	47.1	1	ug/L	50.0	BLOD	94.2	65-135			
Chloromethane	51.2	1	ug/L	50.0	BLOD	102	40-125			
cis-1,3-Dichloropropene	43.0	1	ug/L	50.0	BLOD	86.1	70-130			
Dibromochloromethane	48.2	1	ug/L	50.0	BLOD	96.5	60-135			
Dichlorodifluoromethane	53.7	1	ug/L	50.0	1.15	105	30-155			
Ethylbenzene	48.1	1	ug/L	50.0	BLOD	96.2	75-125			
Methylene chloride	41.9	4	ug/L	50.0	BLOD	83.8	55-140			
Tetrachloroethylene (PCE)	50.2	1	ug/L	50.0	0.79	98.9	45-150			
Toluene	47.4	1	ug/L	50.0	BLOD	94.9	75-120			
trans-1,2-Dichloroethylene	47.5	1	ug/L	50.0	BLOD	95.0	60-140			
trans-1,3-Dichloropropene	44.4	1	ug/L	50.0	BLOD	88.8	55-140			
Trichloroethylene	46.7	1	ug/L	50.0	BLOD	93.5	70-125			
Trichlorofluoromethane	46.9	1	ug/L	50.0	1.27	91.3	60-145			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
Matrix Spike (BYF0500-MS1)	**Source: 15F0415-06**			Prepared & Analyzed: 06/18/2015						
Vinyl chloride	51.7	1	ug/L	50.0	BLOD	103	50-145			
Surr: 1,2-Dichloroethane-d4	*48.2*		ug/L	*50.0*		*96.4*	*70-120*			
Surr: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*75-120*			
Surr: Dibromofluoromethane	*48.7*		ug/L	*50.0*		*97.4*	*80-119*			
Surr: Toluene-d8	*49.5*		ug/L	*50.0*		*99.0*	*85-120*			
Matrix Spike (BYF0500-MS2)	**Source: 15F0604-03**			Prepared & Analyzed: 06/18/2015						
1,1,1-Trichloroethane	19.5	1	ug/L	20.0	BLOD	97.3	65-130			
1,1,2,2-Tetrachloroethane	17.0	1	ug/L	20.0	BLOD	85.1	65-130			
1,1,2-Trichloroethane	17.0	1	ug/L	20.0	BLOD	85.2	75-125			
1,1-Dichloroethane	19.2	1	ug/L	20.0	BLOD	96.0	70-135			
1,1-Dichloroethylene	19.9	1	ug/L	20.0	BLOD	99.6	70-130			
1,2-Dichlorobenzene	18.2	1	ug/L	20.0	BLOD	90.9	70-120			
1,2-Dichloroethane	16.8	1	ug/L	20.0	BLOD	84.1	70-130			
1,2-Dichloropropane	17.0	1	ug/L	20.0	BLOD	85.1	75-125			
1,3-Dichlorobenzene	17.9	1	ug/L	20.0	BLOD	89.6	75-125			
1,4-Dichlorobenzene	17.9	1	ug/L	20.0	BLOD	89.7	75-125			
Benzene	18.3	1	ug/L	20.0	BLOD	91.4	80-120			
Bromodichloromethane	17.6	1	ug/L	20.0	BLOD	88.2	75-120			
Bromoform	17.0	1	ug/L	20.0	BLOD	85.2	70-130			
Bromomethane	17.1	1	ug/L	20.0	BLOD	85.3	30-145			
Carbon tetrachloride	20.6	1	ug/L	20.0	BLOD	103	65-140			
Chlorobenzene	18.3	1	ug/L	20.0	BLOD	91.3	80-120			
Chloroethane	21.3	1	ug/L	20.0	BLOD	106	60-135			
Chloroform	18.0	1	ug/L	20.0	BLOD	89.9	65-135			
Chloromethane	19.9	1	ug/L	20.0	BLOD	99.6	40-125			
cis-1,3-Dichloropropene	15.8	1	ug/L	20.0	BLOD	78.9	70-130			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
Matrix Spike (BYF0500-MS2)	**Source: 15F0604-03**			Prepared & Analyzed: 06/18/2015						
Dibromochloromethane	17.2	1	ug/L	20.0	BLOD	86.0	60-135			
Dichlorodifluoromethane	25.4	1	ug/L	20.0	BLOD	127	30-155			
Ethylbenzene	17.6	1	ug/L	20.0	BLOD	87.8	75-125			
Methylene chloride	15.5	4	ug/L	20.0	BLOD	77.7	55-140			
Tetrachloroethylene (PCE)	19.2	1	ug/L	20.0	BLOD	95.9	45-150			
Toluene	18.4	1	ug/L	20.0	BLOD	92.1	75-120			
trans-1,2-Dichloroethylene	19.0	1	ug/L	20.0	BLOD	95.1	60-140			
trans-1,3-Dichloropropene	16.1	1	ug/L	20.0	BLOD	80.6	55-140			
Trichloroethylene	18.0	1	ug/L	20.0	BLOD	90.2	70-125			
Trichlorofluoromethane	20.2	1	ug/L	20.0	BLOD	101	60-145			
Vinyl chloride	20.9	1	ug/L	20.0	BLOD	105	50-145			
Surr: 1,2-Dichloroethane-d4	*48.5*		ug/L	*50.0*		*97.0*	*70-120*			
Surr: 4-Bromofluorobenzene	*48.7*		ug/L	*50.0*		*97.5*	*75-120*			
Surr: Dibromofluoromethane	*49.2*		ug/L	*50.0*		*98.3*	*80-119*			
Surr: Toluene-d8	*50.2*		ug/L	*50.0*		*100*	*85-120*			
Matrix Spike Dup (BYF0500-MSD1)	**Source: 15F0415-06**			Prepared & Analyzed: 06/18/2015						
1,1,1-Trichloroethane	49.9	1	ug/L	50.0	BLOD	99.7	65-130	2.00	30	
1,1,2,2-Tetrachloroethane	46.2	1	ug/L	50.0	BLOD	92.4	65-130	2.17	30	
1,1,2-Trichloroethane	48.8	1	ug/L	50.0	BLOD	97.7	75-125	4.64	30	
1,1-Dichloroethane	50.4	1	ug/L	50.0	BLOD	101	70-135	0.802	30	
1,1-Dichloroethylene	47.3	1	ug/L	50.0	BLOD	94.7	70-130	1.07	30	
1,2-Dichlorobenzene	50.0	1	ug/L	50.0	BLOD	100	70-120	3.33	30	
1,2-Dichloroethane	45.1	1	ug/L	50.0	BLOD	90.2	70-130	0.839	30	
1,2-Dichloropropane	45.7	1	ug/L	50.0	BLOD	91.3	75-125	0.752	30	
1,3-Dichlorobenzene	50.4	1	ug/L	50.0	BLOD	101	75-125	4.84	30	
1,4-Dichlorobenzene	48.6	1	ug/L	50.0	BLOD	97.2	75-125	2.96	30	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0500 - SW5030B										
Matrix Spike Dup (BYF0500-MSD1)	**Source: 15F0415-06**			Prepared & Analyzed: 06/18/2015						
Benzene	49.2	1	ug/L	50.0	BLOD	98.3	80-120	2.17	30	
Bromodichloromethane	48.7	1	ug/L	50.0	BLOD	97.4	75-120	2.07	30	
Bromoform	50.8	1	ug/L	50.0	BLOD	102	70-130	2.07	30	
Bromomethane	51.9	1	ug/L	50.0	BLOD	104	30-145	6.36	30	
Carbon tetrachloride	51.7	1	ug/L	50.0	BLOD	103	65-140	0.516	30	
Chlorobenzene	49.5	1	ug/L	50.0	BLOD	99.0	80-120	2.00	30	
Chloroethane	54.1	1	ug/L	50.0	BLOD	108	60-135	2.33	30	
Chloroform	47.2	1	ug/L	50.0	BLOD	94.4	65-135	0.182	30	
Chloromethane	51.5	1	ug/L	50.0	BLOD	103	40-125	0.506	30	
cis-1,3-Dichloropropene	44.0	1	ug/L	50.0	BLOD	88.0	70-130	2.22	30	
Dibromochloromethane	50.6	1	ug/L	50.0	BLOD	101	60-135	4.68	30	
Dichlorodifluoromethane	51.1	1	ug/L	50.0	1.15	100	30-155	4.84	30	
Ethylbenzene	49.1	1	ug/L	50.0	BLOD	98.2	75-125	2.04	30	
Methylene chloride	41.2	4	ug/L	50.0	BLOD	82.5	55-140	1.58	30	
Tetrachloroethylene (PCE)	50.1	1	ug/L	50.0	0.79	98.6	45-150	0.293	30	
Toluene	49.6	1	ug/L	50.0	BLOD	99.2	75-120	4.48	30	
trans-1,2-Dichloroethylene	47.3	1	ug/L	50.0	BLOD	94.6	60-140	0.439	30	
trans-1,3-Dichloropropene	46.2	1	ug/L	50.0	BLOD	92.3	55-140	3.92	30	
Trichloroethylene	48.5	1	ug/L	50.0	BLOD	97.0	70-125	3.74	30	
Trichlorofluoromethane	46.6	1	ug/L	50.0	1.27	90.6	60-145	0.787	30	
Vinyl chloride	52.1	1	ug/L	50.0	BLOD	104	50-145	0.736	30	
Surr: 1,2-Dichloroethane-d4	*47.6*		ug/L	*50.0*		*95.1*	*70-120*			
Surr: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.8*	*75-120*			
Surr: Dibromofluoromethane	*47.9*		ug/L	*50.0*		*95.7*	*80-119*			
Surr: Toluene-d8	*49.3*		ug/L	*50.0*		*98.6*	*85-120*			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
Blank (BYF0578-BLK1)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
1,2,4-Trichlorobenzene	BLOD	10.0	ug/L							
1,2-Dichlorobenzene	BLOD	10.0	ug/L							
1,2-Diphenylhydrazine	BLOD	10.0	ug/L							
1,3-Dichlorobenzene	BLOD	10.0	ug/L							
1,4-Dichlorobenzene	BLOD	10.0	ug/L							
2,4,6-Trichlorophenol	BLOD	10.0	ug/L							
2,4-Dichlorophenol	BLOD	10.0	ug/L							
2,4-Dimethylphenol	BLOD	10.0	ug/L							
2,4-Dinitrophenol	BLOD	50.0	ug/L							
2,4-Dinitrotoluene	BLOD	10.0	ug/L							
2,6-Dichlorophenol	BLOD	10.0	ug/L							
2,6-Dinitrotoluene	BLOD	10.0	ug/L							
2-Chloronaphthalene	BLOD	10.0	ug/L							
2-Chlorophenol	BLOD	10.0	ug/L							
2-Nitrophenol	BLOD	10.0	ug/L							
3,3'-Dichlorobenzidine	BLOD	10.0	ug/L							
4,6-Dinitro-2-methylphenol	BLOD	50.0	ug/L							
4-Bromophenyl phenyl ether	BLOD	10.0	ug/L							
4-Chlorophenyl phenyl ether	BLOD	10.0	ug/L							
4-Nitrophenol	BLOD	50.0	ug/L							
Acenaphthene	BLOD	10.0	ug/L							
Acenaphthylene	BLOD	10.0	ug/L							
Anthracene	BLOD	10.0	ug/L							
Benzidine	BLOD	50.0	ug/L							
Benzo (a) anthracene	BLOD	10.0	ug/L							
Benzo (a) pyrene	BLOD	10.0	ug/L							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
Blank (BYF0578-BLK1)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
Benzo (b) fluoranthene	BLOD	10.0	ug/L							
Benzo (g,h,i) perylene	BLOD	10.0	ug/L							
Benzo (k) fluoranthene	BLOD	10.0	ug/L							
bis (2-Chloroethoxy) methane	BLOD	10.0	ug/L							
bis (2-Chloroethyl) ether	BLOD	10.0	ug/L							
bis (2-Chloroisopropyl) ether	BLOD	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BLOD	10.0	ug/L							
Butyl benzyl phthalate	BLOD	10.0	ug/L							
Chrysene	BLOD	10.0	ug/L							
Dibenz (a,h) anthracene	BLOD	10.0	ug/L							
Diethyl phthalate	BLOD	10.0	ug/L							
Dimethyl phthalate	BLOD	10.0	ug/L							
Di-n-butyl phthalate	BLOD	10.0	ug/L							
Di-n-octyl phthalate	BLOD	10.0	ug/L							
Fluoranthene	BLOD	10.0	ug/L							
Fluorene	BLOD	10.0	ug/L							
Hexachlorobenzene	BLOD	2.50	ug/L							
Hexachlorobutadiene	BLOD	10.0	ug/L							
Hexachlorocyclopentadiene	BLOD	10.0	ug/L							
Hexachloroethane	BLOD	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L							
Isophorone	BLOD	10.0	ug/L							
Kepone	BLOD	10.0	ug/L							
Naphthalene	BLOD	10.0	ug/L							
Nitrobenzene	BLOD	10.0	ug/L							
n-Nitrosodimethylamine	BLOD	10.0	ug/L							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
Blank (BYF0578-BLK1)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
n-Nitrosodi-n-propylamine	BLOD	10.0	ug/L							
n-Nitrosodiphenylamine	BLOD	10.0	ug/L							
o-Cresol	BLOD	10.0	ug/L							
p-Chloro-m-cresol	BLOD	10.0	ug/L							
Pentachlorophenol	BLOD	20.0	ug/L							
Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Surr: 2,4,6-Tribromophenol	*79.2*		ug/L	*100*		*79.2*	*40-125*			
Surr: 2,4,6-Tribromophenol	*79.2*		ug/L	*100*		*79.2*	*40-125*			
Surr: 2-Fluorobiphenyl	*38.9*		ug/L	*50.0*		*77.7*	*23-87*			
Surr: 2-Fluorobiphenyl	*38.9*		ug/L	*50.0*		*77.7*	*23-87*			
Surr: 2-Fluorophenol	*47.7*		ug/L	*100*		*47.7*	*14-52*			
Surr: 2-Fluorophenol	*47.7*		ug/L	*100*		*47.7*	*14-52*			
Surr: Nitrobenzene-d5	*41.1*		ug/L	*50.0*		*82.3*	*40-110*			
Surr: Nitrobenzene-d5	*41.1*		ug/L	*50.0*		*82.3*	*10-98.5*			
Surr: Phenol-d5	*31.1*		ug/L	*100*		*31.1*	*5-33*			
Surr: Phenol-d5	*31.1*		ug/L	*100*		*31.1*	*5-33*			
Surr: p-Terphenyl-d14	*53.3*		ug/L	*50.0*		*107*	*27-133*			
Surr: p-Terphenyl-d14	*53.3*		ug/L	*50.0*		*107*	*27-133*			
LCS (BYF0578-BS1)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
1,2,4-Trichlorobenzene	23.5	10.0	ug/L	49.7		47.2	21.8-66.7			
1,4-Dichlorobenzene	21.4	10.0	ug/L	50.0		42.9	13-68			
2,4-Dinitrotoluene	26.9	10.0	ug/L	50.0		53.8	39-139			
2-Chlorophenol	47.7	10.0	ug/L	99.0		48.2	15-74			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
LCS (BYF0578-BS1)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
4-Nitrophenol	18.2	50.0	ug/L	100		18.2	0-125			J
Acenaphthene	27.4	10.0	ug/L	49.8		55.0	27.7-85.5			
n-Nitrosodi-n-propylamine	27.7	10.0	ug/L	49.8		55.5	12-92			
p-Chloro-m-cresol	50.2	10.0	ug/L	100		50.2	19-91			
Pentachlorophenol	61.1	20.0	ug/L	99.0		61.7	40-115			
Phenol	21.8	10.0	ug/L	100		21.8	0-115			
Pyrene	36.3	10.0	ug/L	50.0		72.6	34-101			
Surr: 2,4,6-Tribromophenol	*56.2*		ug/L	*100*		*56.2*	*40-125*			
Surr: 2,4,6-Tribromophenol	*56.2*		ug/L	*100*		*56.2*	*40-125*			
Surr: 2-Fluorobiphenyl	*26.1*		ug/L	*50.0*		*52.3*	*23-87*			
Surr: 2-Fluorobiphenyl	*26.1*		ug/L	*50.0*		*52.3*	*23-87*			
Surr: 2-Fluorophenol	*33.1*		ug/L	*100*		*33.1*	*14-52*			
Surr: 2-Fluorophenol	*33.1*		ug/L	*100*		*33.1*	*14-52*			
Surr: Nitrobenzene-d5	*26.0*		ug/L	*50.0*		*51.9*	*10-98.5*			
Surr: Nitrobenzene-d5	*26.0*		ug/L	*50.0*		*51.9*	*40-110*			
Surr: Phenol-d5	*20.2*		ug/L	*100*		*20.2*	*5-33*			
Surr: Phenol-d5	*20.2*		ug/L	*100*		*20.2*	*5-33*			
Surr: p-Terphenyl-d14	*43.5*		ug/L	*50.0*		*86.9*	*27-133*			
Surr: p-Terphenyl-d14	*43.5*		ug/L	*50.0*		*86.9*	*27-133*			
LCS (BYF0578-BS2)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
1,2,4-Trichlorobenzene	38.8	10.0	ug/L	100		38.8	21.8-66.7			
1,4-Dichlorobenzene	36.8	10.0	ug/L	100		36.8	13-68			
2,4-Dinitrotoluene	82.2	10.0	ug/L	100		82.2	39-139			
2-Chlorophenol	41.4	10.0	ug/L	100		41.4	15-74			
4-Nitrophenol	35.9	50.0	ug/L	100		35.9	0-125			J

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
LCS (BYF0578-BS2)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
Acenaphthene	50.5	10.0	ug/L	100		50.5	27.7-85.5			
n-Nitrosodi-n-propylamine	42.4	10.0	ug/L	100		42.4	12-92			
p-Chloro-m-cresol	50.5	10.0	ug/L	100		50.5	19-91			
Pentachlorophenol	90.2	20.0	ug/L	100		90.2	40-115			
Phenol	20.6	10.0	ug/L	101		20.4	0-115			
Pyrene	88.5	10.0	ug/L	100		88.5	34-101			
Surr: 2,4,6-Tribromophenol	*78.4*		ug/L	*100*		*78.4*	*40-125*			
Surr: 2,4,6-Tribromophenol	*78.4*		ug/L	*100*		*78.4*	*40-125*			
Surr: 2-Fluorobiphenyl	*21.6*		ug/L	*50.0*		*43.3*	*23-87*			
Surr: 2-Fluorobiphenyl	*21.6*		ug/L	*50.0*		*43.3*	*23-87*			
Surr: 2-Fluorophenol	*29.5*		ug/L	*100*		*29.5*	*14-52*			
Surr: 2-Fluorophenol	*29.5*		ug/L	*100*		*29.5*	*14-52*			
Surr: Nitrobenzene-d5	*22.8*		ug/L	*50.0*		*45.7*	*10-98.5*			
Surr: Nitrobenzene-d5	*22.8*		ug/L	*50.0*		*45.7*	*40-110*			
Surr: Phenol-d5	*20.0*		ug/L	*100*		*20.0*	*5-33*			
Surr: Phenol-d5	*20.0*		ug/L	*100*		*20.0*	*5-33*			
Surr: p-Terphenyl-d14	*52.0*		ug/L	*50.0*		*104*	*27-133*			
Surr: p-Terphenyl-d14	*52.0*		ug/L	*50.0*		*104*	*27-133*			
Matrix Spike (BYF0578-MS1)	**Source: 15F0532-01**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
1,2,4-Trichlorobenzene	38.1	10.0	ug/L	49.7	BLOD	76.7	21.8-66.7			M
1,4-Dichlorobenzene	36.3	10.0	ug/L	50.0	BLOD	72.7	22-60			M
2,4-Dinitrotoluene	43.9	10.0	ug/L	50.0	BLOD	87.8	39-139			
2-Chlorophenol	72.1	10.0	ug/L	99.0	BLOD	72.8	19-64			M
4-Nitrophenol	34.6	50.0	ug/L	100	BLOD	34.6	0-125			J
Acenaphthene	41.1	10.0	ug/L	49.8	BLOD	82.5	24-90			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
Matrix Spike (BYF0578-MS1)	**Source: 15F0532-01**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
n-Nitrosodi-n-propylamine	41.2	10.0	ug/L	49.8	BLOD	82.8	27-71			M
p-Chloro-m-cresol	74.7	10.0	ug/L	100	BLOD	74.7	26-75			
Pentachlorophenol	105	20.0	ug/L	99.0	BLOD	106	40-115			
Phenol	31.6	10.0	ug/L	100	BLOD	31.6	0-115			
Pyrene	42.2	10.0	ug/L	50.0	BLOD	84.3	42-96			
Surr: 2,4,6-Tribromophenol	*90.9*		ug/L	*100*		*90.9*	*40-125*			
Surr: 2,4,6-Tribromophenol	*90.9*		ug/L	*100*		*90.9*	*40-125*			
Surr: 2-Fluorobiphenyl	*40.3*		ug/L	*50.0*		*80.6*	*23-87*			
Surr: 2-Fluorobiphenyl	*40.3*		ug/L	*50.0*		*80.6*	*23-87*			
Surr: 2-Fluorophenol	*51.0*		ug/L	*100*		*51.0*	*14-52*			
Surr: 2-Fluorophenol	*51.0*		ug/L	*100*		*51.0*	*14-52*			
Surr: Nitrobenzene-d5	*40.8*		ug/L	*50.0*		*81.6*	*40-110*			
Surr: Nitrobenzene-d5	*40.8*		ug/L	*50.0*		*81.6*	*10-98.5*			
Surr: Phenol-d5	*30.8*		ug/L	*100*		*30.8*	*5-33*			
Surr: Phenol-d5	*30.8*		ug/L	*100*		*30.8*	*5-33*			
Surr: p-Terphenyl-d14	*46.6*		ug/L	*50.0*		*93.2*	*27-133*			
Surr: p-Terphenyl-d14	*46.6*		ug/L	*50.0*		*93.2*	*27-133*			
Matrix Spike (BYF0578-MS2)	**Source: 15F0669-02**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
1,2,4-Trichlorobenzene	38.7	10.0	ug/L	49.7	BLOD	77.8	21.8-66.7			M
1,4-Dichlorobenzene	37.0	10.0	ug/L	50.0	BLOD	74.1	22-60			M
2,4-Dinitrotoluene	43.1	10.0	ug/L	50.0	BLOD	86.3	39-139			
2-Chlorophenol	71.8	10.0	ug/L	99.0	BLOD	72.6	19-64			M
4-Nitrophenol	32.4	50.0	ug/L	100	BLOD	32.4	0-125			J
Acenaphthene	41.0	10.0	ug/L	49.8	BLOD	82.4	24-90			
n-Nitrosodi-n-propylamine	41.7	10.0	ug/L	49.8	BLOD	83.7	27-71			M

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
Matrix Spike (BYF0578-MS2)	**Source: 15F0669-02**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
p-Chloro-m-cresol	77.7	10.0	ug/L	100	BLOD	77.7	26-75			M
Pentachlorophenol	101	20.0	ug/L	99.0	BLOD	102	40-115			
Phenol	32.0	10.0	ug/L	100	BLOD	32.0	0-115			
Pyrene	47.0	10.0	ug/L	50.0	BLOD	94.0	42-96			
Surr: 2,4,6-Tribromophenol	*92.6*		ug/L	*100*		*92.6*	*40-125*			
Surr: 2,4,6-Tribromophenol	*92.6*		ug/L	*100*		*92.6*	*40-125*			
Surr: 2-Fluorobiphenyl	*40.2*		ug/L	*50.0*		*80.5*	*23-87*			
Surr: 2-Fluorobiphenyl	*40.2*		ug/L	*50.0*		*80.5*	*23-87*			
Surr: 2-Fluorophenol	*46.4*		ug/L	*100*		*46.4*	*14-52*			
Surr: 2-Fluorophenol	*46.4*		ug/L	*100*		*46.4*	*14-52*			
Surr: Nitrobenzene-d5	*40.7*		ug/L	*50.0*		*81.4*	*10-98.5*			
Surr: Nitrobenzene-d5	*40.7*		ug/L	*50.0*		*81.4*	*40-110*			
Surr: Phenol-d5	*30.9*		ug/L	*100*		*30.9*	*5-33*			
Surr: Phenol-d5	*30.9*		ug/L	*100*		*30.9*	*5-33*			
Surr: p-Terphenyl-d14	*48.9*		ug/L	*50.0*		*97.7*	*27-133*			
Surr: p-Terphenyl-d14	*48.9*		ug/L	*50.0*		*97.7*	*27-133*			
Matrix Spike Dup (BYF0578-MSD1)	**Source: 15F0532-01**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
1,2,4-Trichlorobenzene	35.4	10.0	ug/L	49.7	BLOD	71.2	21.8-66.7	7.41	20	M
1,4-Dichlorobenzene	33.2	10.0	ug/L	50.0	BLOD	66.4	22-60	9.06	20	M
2,4-Dinitrotoluene	39.4	10.0	ug/L	50.0	BLOD	78.8	39-139	10.8	20	
2-Chlorophenol	64.3	10.0	ug/L	99.0	BLOD	65.0	19-64	11.4	20	M
4-Nitrophenol	33.8	50.0	ug/L	100	BLOD	33.8	0-125	2.29	20	J
Acenaphthene	36.6	10.0	ug/L	49.8	BLOD	73.6	24-90	11.5	20	
n-Nitrosodi-n-propylamine	36.6	10.0	ug/L	49.8	BLOD	73.5	27-71	11.9	20	M
p-Chloro-m-cresol	71.3	10.0	ug/L	100	BLOD	71.3	26-75	4.68	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
Matrix Spike Dup (BYF0578-MSD1)	**Source: 15F0532-01**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Pentachlorophenol	110	20.0	ug/L	99.0	BLOD	111	40-115	4.34	20	
Phenol	27.6	10.0	ug/L	100	BLOD	27.6	0-115	13.3	20	
Pyrene	41.5	10.0	ug/L	50.0	BLOD	83.1	42-96	1.52	20	
Surr: 2,4,6-Tribromophenol	*87.4*		ug/L	*100*		*87.4*	*40-125*			
Surr: 2,4,6-Tribromophenol	*87.4*		ug/L	*100*		*87.4*	*40-125*			
Surr: 2-Fluorobiphenyl	*35.7*		ug/L	*50.0*		*71.4*	*23-87*			
Surr: 2-Fluorobiphenyl	*35.7*		ug/L	*50.0*		*71.4*	*23-87*			
Surr: 2-Fluorophenol	*43.7*		ug/L	*100*		*43.7*	*14-52*			
Surr: 2-Fluorophenol	*43.7*		ug/L	*100*		*43.7*	*14-52*			
Surr: Nitrobenzene-d5	*36.7*		ug/L	*50.0*		*73.4*	*40-110*			
Surr: Nitrobenzene-d5	*36.7*		ug/L	*50.0*		*73.4*	*10-98.5*			
Surr: Phenol-d5	*26.5*		ug/L	*100*		*26.5*	*5-33*			
Surr: Phenol-d5	*26.5*		ug/L	*100*		*26.5*	*5-33*			
Surr: p-Terphenyl-d14	*44.0*		ug/L	*50.0*		*88.0*	*27-133*			
Surr: p-Terphenyl-d14	*44.0*		ug/L	*50.0*		*88.0*	*27-133*			
Matrix Spike Dup (BYF0578-MSD2)	**Source: 15F0669-02**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
1,2,4-Trichlorobenzene	26.5	10.0	ug/L	49.7	BLOD	53.3	21.8-66.7	37.4	20	P
1,4-Dichlorobenzene	24.1	10.0	ug/L	50.0	BLOD	48.2	22-60	42.3	20	P
2,4-Dinitrotoluene	36.9	10.0	ug/L	50.0	BLOD	73.9	39-139	15.5	20	
2-Chlorophenol	51.1	10.0	ug/L	99.0	BLOD	51.6	19-64	33.8	20	P
4-Nitrophenol	34.6	50.0	ug/L	100	BLOD	34.6	0-125	6.81	20	J
Acenaphthene	29.4	10.0	ug/L	49.8	BLOD	59.2	24-90	32.8	20	P
n-Nitrosodi-n-propylamine	30.2	10.0	ug/L	49.8	BLOD	60.6	27-71	32.1	20	P
p-Chloro-m-cresol	57.6	10.0	ug/L	100	BLOD	57.6	26-75	29.6	20	P
Pentachlorophenol	92.0	20.0	ug/L	99.0	BLOD	92.9	40-115	9.41	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0578 - SW3510C										
Matrix Spike Dup (BYF0578-MSD2)	**Source: 15F0669-02**			Prepared: 06/23/2015 Analyzed: 06/25/2015						
Phenol	23.5	10.0	ug/L	100	BLOD	23.5	0-115	31.0	20	P
Pyrene	39.1	10.0	ug/L	50.0	BLOD	78.2	42-96	18.3	20	
Surr: 2,4,6-Tribromophenol	*71.1*		ug/L	*100*		*71.1*	*40-125*			
Surr: 2,4,6-Tribromophenol	*71.1*		ug/L	*100*		*71.1*	*40-125*			
Surr: 2-Fluorobiphenyl	*27.7*		ug/L	*50.0*		*55.4*	*23-87*			
Surr: 2-Fluorobiphenyl	*27.7*		ug/L	*50.0*		*55.4*	*23-87*			
Surr: 2-Fluorophenol	*34.5*		ug/L	*100*		*34.5*	*14-52*			
Surr: 2-Fluorophenol	*34.5*		ug/L	*100*		*34.5*	*14-52*			
Surr: Nitrobenzene-d5	*29.4*		ug/L	*50.0*		*58.7*	*40-110*			
Surr: Nitrobenzene-d5	*29.4*		ug/L	*50.0*		*58.7*	*10-98.5*			
Surr: Phenol-d5	*22.6*		ug/L	*100*		*22.6*	*5-33*			
Surr: Phenol-d5	*22.6*		ug/L	*100*		*22.6*	*5-33*			
Surr: p-Terphenyl-d14	*41.5*		ug/L	*50.0*		*83.1*	*27-133*			
Surr: p-Terphenyl-d14	*41.5*		ug/L	*50.0*		*83.1*	*27-133*			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
Blank (BYF0595-BLK1)				Prepared: 06/23/2015 Analyzed: 06/24/2015						
4,4'-DDD	BLOD	0.050	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
4,4'-DDT	BLOD	0.050	ug/L							
Aldrin	BLOD	0.050	ug/L							
alpha-BHC	BLOD	0.050	ug/L							
beta-BHC	BLOD	0.050	ug/L							
Chlordane	BLOD	0.200	ug/L							
delta-BHC	BLOD	0.050	ug/L							
Dieldrin	BLOD	0.050	ug/L							
Endosulfan I	BLOD	0.050	ug/L							
Endosulfan II	BLOD	0.050	ug/L							
Endosulfan sulfate	BLOD	0.050	ug/L							
Endrin	BLOD	0.050	ug/L							
Endrin aldehyde	BLOD	0.050	ug/L							
gamma-BHC (Lindane)	BLOD	0.050	ug/L							
Heptachlor	BLOD	0.050	ug/L							
Heptachlor epoxide	BLOD	0.050	ug/L							
Methoxychlor	BLOD	0.050	ug/L							
Mirex	BLOD	0.050	ug/L							
Toxaphene	BLOD	1.00	ug/L							
Surr: TCMX	*0.140*		ug/L	*0.200*		*70.0*	*18-112*			
Surr: TCMX [2C]	*0.130*		ug/L	*0.200*		*65.0*	*18-112*			
Surr: TCMX	*0.140*		ug/L	*0.200*		*70.0*	*18-112*			
Surr: TCMX [2C]	*0.130*		ug/L	*0.200*		*65.0*	*18-112*			
Surr: DCB	*0.160*		ug/L	*0.200*		*80.0*	*27-131*			
Surr: DCB	*0.160*		ug/L	*0.200*		*80.0*	*27-131*			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
Blank (BYF0595-BLK1)				Prepared: 06/23/2015 Analyzed: 06/24/2015						
Surr: DCB [2C]	*0.130*		ug/L	*0.200*		*65.0*	*27-131*			
Surr: DCB [2C]	*0.130*		ug/L	*0.200*		*65.0*	*27-131*			
LCS (BYF0595-BS1)				Prepared: 06/23/2015 Analyzed: 06/24/2015						
4,4'-DDD	0.100	0.050	ug/L	0.100		100	23-134			
4,4'-DDE	0.090	0.050	ug/L	0.100		90.0	23-134			
4,4'-DDT	0.100	0.050	ug/L	0.100		100	23-134			
Aldrin	0.070	0.050	ug/L	0.100		70.0	23-134			
alpha-BHC	0.080	0.050	ug/L	0.100		80.0	23-134			
beta-BHC	0.100	0.050	ug/L	0.100		100	23-134			
Chlordane	BLOD	0.200	ug/L				23-134			
delta-BHC	0.080	0.050	ug/L	0.100		80.0	23-134			
Dieldrin	0.090	0.050	ug/L	0.100		90.0	23-134			
Endosulfan I	0.090	0.050	ug/L	0.100		90.0	23-134			
Endosulfan II	0.090	0.050	ug/L	0.100		90.0	23-134			
Endosulfan sulfate	0.110	0.050	ug/L	0.100		110	23-134			
Endrin	0.090	0.050	ug/L	0.100		90.0	23-134			
Endrin aldehyde	0.090	0.050	ug/L	0.100		90.0	23-134			
gamma-BHC (Lindane)	0.080	0.050	ug/L	0.100		80.0	23-134			
Heptachlor	0.080	0.050	ug/L	0.100		80.0	23-134			
Heptachlor epoxide	0.080	0.050	ug/L	0.100		80.0	23-134			
Methoxychlor	0.120	0.050	ug/L	0.100		120	23-134			
Mirex	0.080	0.050	ug/L	0.0995		80.4	23-134			
Toxaphene	BLOD	1.00	ug/L				23-134			
Surr: TCMX	*0.140*		ug/L	*0.200*		*70.0*	*18-112*			
Surr: TCMX [2C]	*0.130*		ug/L	*0.200*		*65.0*	*18-112*			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
LCS (BYF0595-BS1)				Prepared: 06/23/2015 Analyzed: 06/24/2015						
Surr: TCMX	*0.140*		ug/L	*0.200*		*70.0*	*18-112*			
Surr: TCMX [2C]	*0.130*		ug/L	*0.200*		*65.0*	*18-112*			
Surr: DCB	*0.180*		ug/L	*0.200*		*90.0*	*27-131*			
Surr: DCB	*0.180*		ug/L	*0.200*		*90.0*	*27-131*			
Surr: DCB [2C]	*0.140*		ug/L	*0.200*		*70.0*	*27-131*			
Surr: DCB [2C]	*0.140*		ug/L	*0.200*		*70.0*	*27-131*			
LCS (BYF0595-BS2)				Prepared: 06/23/2015 Analyzed: 06/24/2015						
PCB as Aroclor 1016	0.9	0.5	ug/L	1.00		90.0	60-140			
PCB as Aroclor 1260 [2C]	0.8	0.2	ug/L	1.00		78.0	60-140			
Surr: DCB [2C]	*0.140*		ug/L	*0.200*		*70.0*	*30-105*			
Surr: DCB	*0.150*		ug/L	*0.200*		*75.0*	*30-105*			
Surr: TCMX	*0.140*		ug/L	*0.200*		*70.0*	*30-105*			
Surr: TCMX [2C]	*0.120*		ug/L	*0.200*		*60.0*	*30-105*			
LCS (BYF0595-BS3)				Prepared: 06/23/2015 Analyzed: 06/24/2015						
4,4'-DDD	BLOD	0.050	ug/L				23-134			
4,4'-DDE	BLOD	0.050	ug/L				23-134			
4,4'-DDT	BLOD	0.050	ug/L				23-134			
Aldrin	BLOD	0.050	ug/L				23-134			
alpha-BHC	BLOD	0.050	ug/L				23-134			
beta-BHC	BLOD	0.050	ug/L				23-134			
Chlordane	BLOD	0.200	ug/L				23-134			
delta-BHC	BLOD	0.050	ug/L				23-134			
Dieldrin	BLOD	0.050	ug/L				23-134			
Endosulfan I	BLOD	0.050	ug/L				23-134			
Endosulfan II	BLOD	0.050	ug/L				23-134			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
LCS (BYF0595-BS3)				Prepared: 06/23/2015 Analyzed: 06/24/2015						
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Endrin	BLOD	0.050	ug/L				23-134			
Endrin aldehyde	BLOD	0.050	ug/L				23-134			
gamma-BHC (Lindane)	BLOD	0.050	ug/L				23-134			
Heptachlor	BLOD	0.050	ug/L				23-134			
Heptachlor epoxide	BLOD	0.050	ug/L				23-134			
Methoxychlor	BLOD	0.050	ug/L				23-134			
Mirex	BLOD	0.050	ug/L				23-134			
Toxaphene	1.34	1.00	ug/L	2.50		53.6	23-134			
Surr: TCMX	*ND*		ug/L	*0.200*			*18-112*			
Surr: TCMX [2C]	*ND*		ug/L	*0.200*			*18-112*			
Surr: TCMX	*ND*		ug/L	*0.200*			*18-112*			
Surr: TCMX [2C]	*ND*		ug/L	*0.200*			*18-112*			
Surr: DCB	*ND*		ug/L	*0.200*			*27-131*			
Surr: DCB	*ND*		ug/L	*0.200*			*27-131*			
Surr: DCB [2C]	*ND*		ug/L	*0.200*			*27-131*			
Surr: DCB [2C]	*ND*		ug/L	*0.200*			*27-131*			
LCS (BYF0595-BS4)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
4,4'-DDD	BLOD	0.050	ug/L				23-134			
4,4'-DDE	BLOD	0.050	ug/L				23-134			
4,4'-DDT	BLOD	0.050	ug/L				23-134			
Aldrin	BLOD	0.050	ug/L				23-134			
alpha-BHC	BLOD	0.050	ug/L				23-134			
beta-BHC	BLOD	0.050	ug/L				23-134			
Chlordane	1.53	0.200	ug/L	2.50		61.2	23-134			
delta-BHC	BLOD	0.050	ug/L				23-134			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
LCS (BYF0595-BS4)				Prepared: 06/23/2015 Analyzed: 06/25/2015						
Dieldrin	BLOD	0.050	ug/L				23-134			
Endosulfan I	BLOD	0.050	ug/L				23-134			
Endosulfan II	BLOD	0.050	ug/L				23-134			
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Endrin	BLOD	0.050	ug/L				23-134			
Endrin aldehyde	BLOD	0.050	ug/L				23-134			
gamma-BHC (Lindane)	BLOD	0.050	ug/L				23-134			
Heptachlor	BLOD	0.050	ug/L				23-134			
Heptachlor epoxide	BLOD	0.050	ug/L				23-134			
Methoxychlor	BLOD	0.050	ug/L				23-134			
Mirex	BLOD	0.050	ug/L				23-134			
Toxaphene	BLOD	1.00	ug/L				23-134			
Surr: TCMX	*ND*		ug/L	*0.200*			*18-112*			
Surr: TCMX [2C]	*ND*		ug/L	*0.200*			*18-112*			
Surr: TCMX	*ND*		ug/L	*0.200*			*18-112*			
Surr: TCMX [2C]	*ND*		ug/L	*0.200*			*18-112*			
Surr: DCB	*ND*		ug/L	*0.200*			*27-131*			
Surr: DCB	*ND*		ug/L	*0.200*			*27-131*			
Surr: DCB [2C]	*ND*		ug/L	*0.200*			*27-131*			
Surr: DCB [2C]	*ND*		ug/L	*0.200*			*27-131*			
Matrix Spike (BYF0595-MS1)	**Source: 15F0553-02**			Prepared: 06/23/2015 Analyzed: 06/24/2015						
4,4'-DDD	0.121	0.055	ug/L	0.110	BLOD	110	23-134			
4,4'-DDE	0.099	0.055	ug/L	0.110	BLOD	90.0	23-134			
4,4'-DDT	0.077	0.055	ug/L	0.110	0.056	19.4	23-134			M
Aldrin	0.220	0.055	ug/L	0.110	BLOD	200	23-134			M
alpha-BHC	0.143	0.055	ug/L	0.110	BLOD	130	23-134			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
Matrix Spike (BYF0595-MS1)	**Source: 15F0553-02**			Prepared: 06/23/2015 Analyzed: 06/24/2015						
beta-BHC	0.659	0.055	ug/L	0.110	BLOD	600	23-134			M
delta-BHC	0.231	0.055	ug/L	0.110	BLOD	210	23-134			M
Dieldrin	0.110	0.055	ug/L	0.110	BLOD	100	23-134			
Endosulfan I	0.154	0.055	ug/L	0.110	BLOD	140	23-134			M
Endosulfan II	0.088	0.055	ug/L	0.110	BLOD	80.0	23-134			
Endosulfan sulfate	0.187	0.055	ug/L	0.110	BLOD	170	23-134			M
Endrin	0.110	0.055	ug/L	0.110	BLOD	100	23-134			
Endrin aldehyde	0.165	0.055	ug/L	0.110	BLOD	150	23-134			M
gamma-BHC (Lindane)	0.154	0.055	ug/L	0.110	BLOD	140	23-134			M
Heptachlor	0.165	0.055	ug/L	0.110	BLOD	150	23-134			M
Heptachlor epoxide	0.231	0.055	ug/L	0.110	BLOD	210	23-134			M
Methoxychlor	0.088	0.055	ug/L	0.110	BLOD	80.0	23-134			
Mirex	0.066	0.055	ug/L	0.109	BLOD	60.3	23-134			
Surr: TCMX [2C]	*0.110*		ug/L	*0.220*		*50.0*	*18-112*			
Surr: TCMX	*0.143*		ug/L	*0.220*		*65.0*	*18-112*			
Surr: TCMX	*0.143*		ug/L	*0.220*		*65.0*	*18-112*			
Surr: TCMX [2C]	*0.110*		ug/L	*0.220*		*50.0*	*18-112*			
Surr: DCB	*0.176*		ug/L	*0.220*		*80.0*	*27-131*			
Surr: DCB	*0.176*		ug/L	*0.220*		*80.0*	*27-131*			
Surr: DCB [2C]	*0.187*		ug/L	*0.220*		*85.0*	*27-131*			
Surr: DCB [2C]	*0.187*		ug/L	*0.220*		*85.0*	*27-131*			
Matrix Spike (BYF0595-MS2)	**Source: 15F0553-02**			Prepared: 06/23/2015 Analyzed: 06/24/2015						
PCB as Aroclor 1016	7.7	0.5	ug/L	1.08	BLOD	715	60-140			M
PCB as Aroclor 1260 [2C]	0.9	0.2	ug/L	1.08	BLOD	87.0	60-140			
Surr: DCB	*0.204*		ug/L	*0.215*		*95.0*	*30-105*			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
Matrix Spike (BYF0595-MS2)	**Source: 15F0553-02**			Prepared: 06/23/2015 Analyzed: 06/24/2015						
Surr: DCB [2C]	*0.151*		ug/L	*0.215*		*70.0*	*30-105*			
Surr: TCMX	*0.118*		ug/L	*0.215*		*55.0*	*30-105*			
Surr: TCMX [2C]	*0.0968*		ug/L	*0.215*		*45.0*	*30-105*			
Matrix Spike (BYF0595-MS3)	**Source: 15F0669-02**			Prepared: 06/24/2015 Analyzed: 06/25/2015						
4,4'-DDD	0.095	0.053	ug/L	0.105	BLOD	90.0	23-134			
4,4'-DDE	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134			
4,4'-DDT	0.095	0.053	ug/L	0.105	BLOD	90.0	23-134			
Aldrin	0.042	0.053	ug/L	0.105	BLOD	40.0	23-134			J
alpha-BHC	0.053	0.053	ug/L	0.105	BLOD	50.0	23-134			
beta-BHC	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134			
delta-BHC	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134			
Dieldrin	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134			
Endosulfan I	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134			
Endosulfan II	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134			
Endosulfan sulfate	0.105	0.053	ug/L	0.105	BLOD	100	23-134			
Endrin	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134			
Endrin aldehyde	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134			
gamma-BHC (Lindane)	0.053	0.053	ug/L	0.105	BLOD	50.0	23-134			
Heptachlor	0.053	0.053	ug/L	0.105	BLOD	50.0	23-134			
Heptachlor epoxide	0.063	0.053	ug/L	0.105	BLOD	60.0	23-134			
Methoxychlor	0.105	0.053	ug/L	0.105	BLOD	100	23-134			
Mirex	0.074	0.053	ug/L	0.105	BLOD	70.4	23-134			
Surr: TCMX	*0.0947*		ug/L	*0.211*		*45.0*	*18-112*			
Surr: TCMX [2C]	*0.0947*		ug/L	*0.211*		*45.0*	*18-112*			
Surr: TCMX [2C]	*0.0947*		ug/L	*0.211*		*45.0*	*18-112*			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
Matrix Spike (BYF0595-MS3)	**Source: 15F0669-02**			Prepared: 06/24/2015 Analyzed: 06/25/2015						
Surr: TCMX	*0.0947*		ug/L	*0.211*		*45.0*	*18-112*			
Surr: DCB	*0.168*		ug/L	*0.211*		*80.0*	*27-131*			
Surr: DCB	*0.168*		ug/L	*0.211*		*80.0*	*27-131*			
Surr: DCB [2C]	*0.168*		ug/L	*0.211*		*80.0*	*27-131*			
Surr: DCB [2C]	*0.168*		ug/L	*0.211*		*80.0*	*27-131*			
Matrix Spike (BYF0595-MS4)	**Source: 15F0669-02**			Prepared: 06/24/2015 Analyzed: 06/25/2015						
PCB as Aroclor 1016	0.8	0.5	ug/L	1.05	BLOD	77.0	60-140			
PCB as Aroclor 1260 [2C]	0.9	0.2	ug/L	1.05	BLOD	81.0	60-140			
Surr: DCB [2C]	*0.179*		ug/L	*0.211*		*85.0*	*30-105*			
Surr: DCB	*0.189*		ug/L	*0.211*		*90.0*	*30-105*			
Surr: TCMX [2C]	*0.105*		ug/L	*0.211*		*50.0*	*30-105*			
Surr: TCMX	*0.126*		ug/L	*0.211*		*60.0*	*30-105*			
Matrix Spike Dup (BYF0595-MSD1)	**Source: 15F0553-02**			Prepared: 06/23/2015 Analyzed: 06/24/2015						
4,4'-DDD	0.149	0.053	ug/L	0.106	BLOD	140	23-134	20.8	20	M, P
4,4'-DDE	0.128	0.053	ug/L	0.106	BLOD	120	23-134	25.4	20	P
4,4'-DDT	0.106	0.053	ug/L	0.106	0.056	47.8	23-134	32.1	20	P
Aldrin	0.149	0.053	ug/L	0.106	BLOD	140	23-134	38.4	20	M, P
alpha-BHC	0.149	0.053	ug/L	0.106	BLOD	140	23-134	4.17	20	M
beta-BHC	0.426	0.053	ug/L	0.106	BLOD	400	23-134	43.1	20	M, P
delta-BHC	0.266	0.053	ug/L	0.106	BLOD	250	23-134	14.2	20	M
Dieldrin	0.223	0.053	ug/L	0.106	BLOD	210	23-134	68.1	20	M, P
Endosulfan I	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	46.6	20	P
Endosulfan II	0.138	0.053	ug/L	0.106	BLOD	130	23-134	44.5	20	P
Endosulfan sulfate	0.213	0.053	ug/L	0.106	BLOD	200	23-134	13.0	20	M
Endrin	0.117	0.053	ug/L	0.106	BLOD	110	23-134	6.29	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
Matrix Spike Dup (BYF0595-MSD1)	**Source: 15F0553-02**			Prepared: 06/23/2015 Analyzed: 06/24/2015						
Endrin aldehyde	0.085	0.053	ug/L	0.106	BLOD	80.0	23-134	63.8	20	P
gamma-BHC (Lindane)	0.149	0.053	ug/L	0.106	BLOD	140	23-134	3.24	20	M
Heptachlor	0.128	0.053	ug/L	0.106	BLOD	120	23-134	25.4	20	P
Heptachlor epoxide	0.287	0.053	ug/L	0.106	BLOD	270	23-134	21.8	20	M, P
Methoxychlor	0.117	0.053	ug/L	0.106	BLOD	110	23-134	28.4	20	P
Mirex	0.106	0.053	ug/L	0.106	BLOD	101	23-134	46.9	20	P
Surr: TCMX [2C]	*0.191*		ug/L	*0.213*		*90.0*	*18-112*			
Surr: TCMX	*0.223*		ug/L	*0.213*		*105*	*18-112*			
Surr: TCMX	*0.223*		ug/L	*0.213*		*105*	*18-112*			
Surr: TCMX [2C]	*0.191*		ug/L	*0.213*		*90.0*	*18-112*			
Surr: DCB	*0.149*		ug/L	*0.213*		*70.0*	*27-131*			
Surr: DCB	*0.149*		ug/L	*0.213*		*70.0*	*27-131*			
Surr: DCB [2C]	*0.234*		ug/L	*0.213*		*110*	*27-131*			
Surr: DCB [2C]	*0.234*		ug/L	*0.213*		*110*	*27-131*			
Matrix Spike Dup (BYF0595-MSD2)	**Source: 15F0553-02**			Prepared: 06/23/2015 Analyzed: 06/24/2015						
PCB as Aroclor 1016	11.8	0.8	ug/L	1.56	BLOD	753	60-140	41.9	20	P, M
PCB as Aroclor 1260 [2C]	1.3	0.3	ug/L	1.56	BLOD	86.0	60-140	35.8	20	
Surr: DCB [2C]	*0.312*		ug/L	*0.312*		*100*	*30-105*			
Surr: DCB	*0.531*		ug/L	*0.312*		*170*	*30-105*			*S*
Surr: TCMX [2C]	*0.156*		ug/L	*0.312*		*50.0*	*30-105*			
Surr: TCMX	*0.188*		ug/L	*0.312*		*60.0*	*30-105*			
Matrix Spike Dup (BYF0595-MSD3)	**Source: 15F0669-02**			Prepared: 06/24/2015 Analyzed: 06/25/2015						
4,4'-DDD	0.095	0.053	ug/L	0.105	BLOD	90.0	23-134	0.00	20	
4,4'-DDE	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134	13.3	20	
4,4'-DDT	0.095	0.053	ug/L	0.105	BLOD	90.0	23-134	0.00	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
Matrix Spike Dup (BYF0595-MSD3)	**Source: 15F0669-02**			Prepared: 06/24/2015 Analyzed: 06/25/2015						
Aldrin	0.063	0.053	ug/L	0.105	BLOD	60.0	23-134	40.0	20	P
alpha-BHC	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134	33.3	20	P
beta-BHC	0.095	0.053	ug/L	0.105	BLOD	90.0	23-134	25.0	20	P
delta-BHC	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134	13.3	20	
Dieldrin	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134	13.3	20	
Endosulfan I	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134	13.3	20	
Endosulfan II	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134	0.00	20	
Endosulfan sulfate	0.095	0.053	ug/L	0.105	BLOD	90.0	23-134	10.5	20	
Endrin	0.095	0.053	ug/L	0.105	BLOD	90.0	23-134	11.8	20	
Endrin aldehyde	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134	0.00	20	
gamma-BHC (Lindane)	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134	33.3	20	P
Heptachlor	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134	33.3	20	P
Heptachlor epoxide	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134	28.6	20	P
Methoxychlor	0.105	0.053	ug/L	0.105	BLOD	100	23-134	0.00	20	
Mirex	0.074	0.053	ug/L	0.105	BLOD	70.4	23-134	0.00	20	
Surr: TCMX [2C]	*0.105*		ug/L	*0.211*		*50.0*	*18-112*			
Surr: TCMX [2C]	*0.105*		ug/L	*0.211*		*50.0*	*18-112*			
Surr: TCMX	*0.116*		ug/L	*0.211*		*55.0*	*18-112*			
Surr: TCMX	*0.116*		ug/L	*0.211*		*55.0*	*18-112*			
Surr: DCB	*0.158*		ug/L	*0.211*		*75.0*	*27-131*			
Surr: DCB	*0.158*		ug/L	*0.211*		*75.0*	*27-131*			
Surr: DCB [2C]	*0.137*		ug/L	*0.211*		*65.0*	*27-131*			
Surr: DCB [2C]	*0.137*		ug/L	*0.211*		*65.0*	*27-131*			
Matrix Spike Dup (BYF0595-MSD4)	**Source: 15F0669-02**			Prepared: 06/24/2015 Analyzed: 06/25/2015						
PCB as Aroclor 1016	1.1	0.5	ug/L	1.05	BLOD	104	60-140	29.8	20	P
PCB as Aroclor 1260 [2C]	0.9	0.2	ug/L	1.05	BLOD	82.0	60-140	1.23	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0595 - SW3510C										
Matrix Spike Dup (BYF0595-MSD4)	**Source: 15F0669-02**		Prepared: 06/24/2015 Analyzed: 06/25/2015							
Surr: DCB	*0.189*		ug/L	*0.211*		*90.0*	*30-105*			
Surr: DCB [2C]	*0.179*		ug/L	*0.211*		*85.0*	*30-105*			
Surr: TCMX [2C]	*0.158*		ug/L	*0.211*		*75.0*	*30-105*			
Surr: TCMX	*0.189*		ug/L	*0.211*		*90.0*	*30-105*			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0473 - No Prep Wet Chem										
Blank (BYF0473-BLK1)				Prepared: 06/18/2015 Analyzed: 06/23/2015						
BOD	BLOD	2.0	mg/L							
LCS (BYF0473-BS1)				Prepared: 06/18/2015 Analyzed: 06/23/2015						
BOD	175	2.0	mg/L	198		88.4	84.6-115.4			
Duplicate (BYF0473-DUP1)	**Source: 15F0604-02**			Prepared: 06/18/2015 Analyzed: 06/23/2015						
BOD	2.4	2.0	mg/L		2.9			18.9	20	
Batch BYF0482 - No Prep Wet Chem										
Blank (BYF0482-BLK1)				Prepared & Analyzed: 06/18/2015						
TSS	BLOD	1.0	mg/L							
LCS (BYF0482-BS1)				Prepared & Analyzed: 06/18/2015						
TSS	100	1.0	mg/L	100		100	80-120			
Duplicate (BYF0482-DUP1)	**Source: 15F0587-01**			Prepared & Analyzed: 06/18/2015						
TSS	77.0	1.0	mg/L		74.0			3.97	30	
Duplicate (BYF0482-DUP2)	**Source: 15F0587-02**			Prepared & Analyzed: 06/18/2015						
TSS	77.0	1.0	mg/L		75.0			2.63	30	
Batch BYF0483 - No Prep Wet Chem										
Blank (BYF0483-BLK1)				Prepared & Analyzed: 06/18/2015						
Nitrite as N	BLOD	0.05	mg/L							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0483 - No Prep Wet Chem										
LCS (BYF0483-BS1)				Prepared & Analyzed: 06/18/2015						
Nitrite as N	0.11	0.05	mg/L	0.100		107	80-120			
Matrix Spike (BYF0483-MS1)	**Source: 15F0534-08**			Prepared & Analyzed: 06/18/2015						
Nitrite as N	0.11	0.05	mg/L	0.100	BLOD	114	75-125			
Matrix Spike Dup (BYF0483-MSD1)	**Source: 15F0534-08**			Prepared & Analyzed: 06/18/2015						
Nitrite as N	0.12	0.05	mg/L	0.100	BLOD	115	75-125	0.873	20	
Batch BYF0508 - No Prep Wet Chem										
Blank (BYF0508-BLK1)				Prepared & Analyzed: 06/19/2015						
Ammonia as N	BLOD	0.10	mg/L							
LCS (BYF0508-BS1)				Prepared & Analyzed: 06/19/2015						
Ammonia as N	1.94	0.1	mg/L	2.00		97.2	90-110			
Matrix Spike (BYF0508-MS1)	**Source: 15F0484-03**			Prepared & Analyzed: 06/19/2015						
Ammonia as N	2.13	0.10	mg/L	2.00	0.10	101	90-110			
Matrix Spike (BYF0508-MS2)	**Source: 15F0570-03**			Prepared & Analyzed: 06/19/2015						
Ammonia as N	2.21	0.10	mg/L	2.00	0.12	105	90-110			
Matrix Spike Dup (BYF0508-MSD1)	**Source: 15F0484-03**			Prepared & Analyzed: 06/19/2015						
Ammonia as N	2.12	0.10	mg/L	2.00	0.10	101	90-110	0.377	20	
Matrix Spike Dup (BYF0508-MSD2)	**Source: 15F0570-03**			Prepared & Analyzed: 06/19/2015						
Ammonia as N	2.17	0.10	mg/L	2.00	0.12	102	90-110	2.06	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0517 - No Prep Wet Chem										
Blank (BYF0517-BLK1)				Prepared & Analyzed: 06/19/2015						
Color	BLOD	10.0	pcu							
Duplicate (BYF0517-DUP1)	**Source: 15F0604-01**			Prepared & Analyzed: 06/19/2015						
Color	BLOD	10.0	pcu		BLOD			NA	14	
Batch BYF0538 - No Prep Wet Chem										
Blank (BYF0538-BLK1)				Prepared & Analyzed: 06/24/2015						
Oil and Grease	BLOD	5.0	mg/L							
LCS (BYF0538-BS1)				Prepared & Analyzed: 06/24/2015						
Oil and Grease	40.3	5.0	mg/L	40.0		101	78-114			
LCS Dup (BYF0538-BSD1)				Prepared & Analyzed: 06/24/2015						
Oil and Grease	37.4	5.0	mg/L	40.0		93.5	78-114	7.46	20	
Duplicate (BYF0538-DUP1)	**Source: 15F0604-02**			Prepared & Analyzed: 06/24/2015						
Oil and Grease	BLOD	5.0	mg/L		BLOD			NA	20	
Matrix Spike (BYF0538-MS1)	**Source: 15F0604-01**			Prepared & Analyzed: 06/24/2015						
Oil and Grease	42.6	5.0	mg/L	42.1	BLOD	101	78-114			
Batch BYF0549 - No Prep Wet Chem										
Blank (BYF0549-BLK1)				Prepared & Analyzed: 06/22/2015						
Phosphorus, Total	BLOD	0.02	mg/L							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0549 - No Prep Wet Chem										
LCS (BYF0549-BS1)				Prepared & Analyzed: 06/22/2015						
Phosphorus, Total	0.48	0.02	mg/L	0.500		96.0	80-120			
Matrix Spike (BYF0549-MS1)	**Source: 15F0604-02**			Prepared & Analyzed: 06/22/2015						
Phosphorus, Total	0.60	0.02	mg/L	0.500	0.03	113	70-130			
Matrix Spike Dup (BYF0549-MSD1)	**Source: 15F0604-02**			Prepared & Analyzed: 06/22/2015						
Phosphorus, Total	0.57	0.02	mg/L	0.500	0.03	108	70-130	4.82	20	
Batch BYF0580 - No Prep Wet Chem										
Blank (BYF0580-BLK1)				Prepared & Analyzed: 06/23/2015						
COD	BLOD	10.0	mg/L							
LCS (BYF0580-BS1)				Prepared & Analyzed: 06/23/2015						
COD	51.9	10.0	mg/L	50.0		104	80-120			
Matrix Spike (BYF0580-MS1)	**Source: 15F0509-01**			Prepared & Analyzed: 06/23/2015						
COD	49.6	10.0	mg/L	50.0	BLOD	99.2	70-130			
Matrix Spike Dup (BYF0580-MSD1)	**Source: 15F0509-01**			Prepared & Analyzed: 06/23/2015						
COD	47.7	10.0	mg/L	50.0	BLOD	95.3	70-130	4.00	20	
Batch BYF0614 - No Prep Wet Chem										
Blank (BYF0614-BLK1)				Prepared & Analyzed: 06/24/2015						
Cyanide	BLOD	0.010	mg/L							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0614 - No Prep Wet Chem										
LCS (BYF0614-BS1)				Prepared & Analyzed: 06/24/2015						
Cyanide	0.247	0.01	mg/L	0.250		98.7	80-120			
LCS Dup (BYF0614-BSD1)				Prepared & Analyzed: 06/24/2015						
Cyanide	0.235	0.01	mg/L	0.250		93.9	80-120	4.94	20	
Matrix Spike (BYF0614-MS1)		**Source: 15F0604-03**		Prepared & Analyzed: 06/24/2015						
Cyanide	0.228	0.010	mg/L	0.250	BLOD	91.4	80-120			
Matrix Spike Dup (BYF0614-MSD1)		**Source: 15F0604-03**		Prepared & Analyzed: 06/24/2015						
Cyanide	0.240	0.010	mg/L	0.250	BLOD	95.8	80-120	4.79	20	
Batch BYF0631 - No Prep Wet Chem										
Blank (BYF0631-BLK1)				Prepared & Analyzed: 06/24/2015						
Total Recoverable Phenolics	BLOD	0.05	mg/L							
LCS (BYF0631-BS1)				Prepared & Analyzed: 06/24/2015						
Total Recoverable Phenolics	0.52	0.05	mg/L	0.500		104	80-120			
LCS Dup (BYF0631-BSD1)				Prepared & Analyzed: 06/24/2015						
Total Recoverable Phenolics	0.52	0.05	mg/L	0.500		104	80-120	0.769	20	
Matrix Spike (BYF0631-MS1)		**Source: 15F0604-03**		Prepared & Analyzed: 06/24/2015						
Total Recoverable Phenolics	0.57	0.05	mg/L	0.500	BLOD	113	70-130			
Matrix Spike Dup (BYF0631-MSD1)		**Source: 15F0604-03**		Prepared & Analyzed: 06/24/2015						
Total Recoverable Phenolics	0.55	0.05	mg/L	0.500	BLOD	111	70-130	2.14	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0652 - No Prep Halides										
Blank (BYF0652-BLK1)				Prepared & Analyzed: 06/25/2015						
TOC	BLOD	1.0	mg/L							
LCS (BYF0652-BS1)				Prepared & Analyzed: 06/25/2015						
TOC	10.0	1	mg/L	10.0		100	80-120			
LCS Dup (BYF0652-BSD1)				Prepared & Analyzed: 06/25/2015						
TOC	10.2	1	mg/L	10.0		102	80-120	1.92	20	
Matrix Spike (BYF0652-MS1)	**Source: 15F0772-01**			Prepared & Analyzed: 06/25/2015						
TOC	11.9	1.0	mg/L	10.0	2.8	91.3	80-120			
Matrix Spike Dup (BYF0652-MSD1)	**Source: 15F0772-01**			Prepared & Analyzed: 06/25/2015						
TOC	12.0	1.0	mg/L	10.0	2.8	91.6	80-120	0.227	20	
Batch BYF0653 - No Prep IC										
Blank (BYF0653-BLK1)				Prepared & Analyzed: 06/25/2015						
Sulfate	BLOD	1.0	mg/L							
Chloride	BLOD	1.0	mg/L							
Bromide	BLOD	1.00	mg/L							
Blank (BYF0653-BLK2)				Prepared & Analyzed: 06/25/2015						
Chloride	BLOD	1.0	mg/L							
Sulfate	BLOD	1.0	mg/L							
Bromide	BLOD	1.00	mg/L							
LCS (BYF0653-BS1)				Prepared & Analyzed: 06/25/2015						
Chloride	5.1	1	mg/L	5.00		101	90-110			
Sulfate	5.4	1	mg/L	5.00		108	90-110			
Bromide	5.46	1	mg/L	5.00		109	90-110			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0653 - No Prep IC										
LCS (BYF0653-BS3)				Prepared & Analyzed: 06/25/2015						
Sulfate	5.4	1	mg/L	5.00		108	90-110			
Chloride	5.0	1	mg/L	5.00		101	90-110			
Bromide	5.42	1	mg/L	5.00		108	90-110			
LCS Dup (BYF0653-BSD1)				Prepared & Analyzed: 06/25/2015						
Sulfate	5.3	1	mg/L	5.00		106	90-110	1.61	15	
Chloride	5.0	1	mg/L	5.00		99.7	90-110	1.37	15	
Bromide	5.41	1	mg/L	5.00		108	90-110	0.846	15	
LCS Dup (BYF0653-BSD3)				Prepared & Analyzed: 06/25/2015						
Chloride	5.0	1	mg/L	5.00		101	90-110	0.258	15	
Sulfate	5.4	1	mg/L	5.00		108	90-110	0.111	15	
Bromide	5.42	1	mg/L	5.00		108	90-110	0.148	15	
Matrix Spike (BYF0653-MS1)	**Source: 15F0384-01**			Prepared & Analyzed: 06/25/2015						
Sulfate	5.5	1	mg/L	5.00	BLOD	104	90-110			
Chloride	13.2	1	mg/L	5.00	8.5	93.6	90-110			
Bromide	5.55	1	mg/L	5.00	BLOD	108	90-110			
Matrix Spike (BYF0653-MS2)	**Source: 15F0649-01**			Prepared & Analyzed: 06/25/2015						
Sulfate	7.3	1	mg/L	5.00	1.5	117	90-110			M
Chloride	6.1	1	mg/L	5.00	2.6	68.5	90-110			M
Bromide	5.29	1	mg/L	5.00	BLOD	106	90-110			
Matrix Spike (BYF0653-MS3)	**Source: 15F0776-01**			Prepared & Analyzed: 06/26/2015						
Sulfate	5.8	1	mg/L	5.00	BLOD	102	90-110			
Chloride	5.7	1	mg/L	5.00	BLOD	110	90-110			
Bromide	5.29	1	mg/L	5.00	BLOD	106	90-110			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0653 - No Prep IC										
Matrix Spike (BYF0653-MS4)	**Source: 15F0776-01RE1**			Prepared & Analyzed: 06/26/2015						
Chloride	7.2	1	mg/L	5.00	1.8	108	90-110			
Sulfate	8.1	1	mg/L	5.00	3.3	97.1	90-110			
Bromide	5.04	1	mg/L	5.00	BLOD	101	90-110			
Matrix Spike Dup (BYF0653-MSD1)	**Source: 15F0384-01**			Prepared & Analyzed: 06/25/2015						
Chloride	13.3	1	mg/L	5.00	8.5	95.5	90-110	0.724	15	
Sulfate	5.5	1	mg/L	5.00	BLOD	104	90-110	0.365	15	
Bromide	5.65	1	mg/L	5.00	BLOD	110	90-110	1.75	15	
Matrix Spike Dup (BYF0653-MSD2)	**Source: 15F0649-01**			Prepared & Analyzed: 06/25/2015						
Chloride	6.1	1	mg/L	5.00	2.6	68.2	90-110	0.247	15	M
Sulfate	7.3	1	mg/L	5.00	1.5	116	90-110	0.206	15	M
Bromide	5.33	1	mg/L	5.00	BLOD	107	90-110	0.715	15	
Matrix Spike Dup (BYF0653-MSD3)	**Source: 15F0776-01**			Prepared & Analyzed: 06/26/2015						
Sulfate	5.9	1	mg/L	5.00	BLOD	104	90-110	1.72	15	
Chloride	5.6	1	mg/L	5.00	BLOD	108	90-110	1.61	15	
Bromide	5.28	1	mg/L	5.00	BLOD	106	90-110	0.132	15	
Matrix Spike Dup (BYF0653-MSD4)	**Source: 15F0776-01RE1**			Prepared & Analyzed: 06/26/2015						
Sulfate	8.0	1	mg/L	5.00	3.3	95.1	90-110	1.29	15	
Chloride	7.2	1	mg/L	5.00	1.8	108	90-110	0.418	15	
Bromide	4.95	1	mg/L	5.00	BLOD	99.0	90-110	1.74	15	
Batch BYF0671 - No Prep Wet Chem										
Blank (BYF0671-BLK1)				Prepared & Analyzed: 06/26/2015						
TKN as N	BLOD	0.50	mg/L							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0671 - No Prep Wet Chem										
LCS (BYF0671-BS1)				Prepared & Analyzed: 06/26/2015						
TKN as N	10.1	0.50	mg/L	10.0		101	90-110			
LCS Dup (BYF0671-BSD1)				Prepared & Analyzed: 06/26/2015						
TKN as N	10.0	0.50	mg/L	10.0		100	90-110	0.548	20	
Matrix Spike (BYF0671-MS1)	**Source: 15F0680-02**			Prepared & Analyzed: 06/26/2015						
TKN as N	11.0	0.50	mg/L	10.0	1.31	96.6	90-110			
Matrix Spike (BYF0671-MS2)	**Source: 15F0753-07**			Prepared & Analyzed: 06/26/2015						
TKN as N	12.0	0.50	mg/L	10.0	1.78	102	90-110			
Matrix Spike Dup (BYF0671-MSD1)	**Source: 15F0680-02**			Prepared & Analyzed: 06/26/2015						
TKN as N	11.1	0.50	mg/L	10.0	1.31	98.4	90-110	1.58	20	
Matrix Spike Dup (BYF0671-MSD2)	**Source: 15F0753-07**			Prepared & Analyzed: 06/26/2015						
TKN as N	11.9	0.50	mg/L	10.0	1.78	102	90-110	0.718	20	
Batch BYF0678 - No Prep Wet Chem										
Blank (BYF0678-BLK1)				Prepared & Analyzed: 06/26/2015						
Nitrate+Nitrite as N	BLOD	0.10	mg/L							
LCS (BYF0678-BS1)				Prepared & Analyzed: 06/26/2015						
Nitrate+Nitrite as N	2.44	0.1	mg/L	2.50		97.6	80-120			
Matrix Spike (BYF0678-MS1)	**Source: 15F0792-03**			Prepared & Analyzed: 06/26/2015						
Nitrate+Nitrite as N	4.65	0.10	mg/L	2.50	1.67	119	75-125			

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Wet Chemistry Analysis - Quality Control
Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0678 - No Prep Wet Chem										
Matrix Spike Dup (BYF0678-MSD1)	**Source: 15F0792-03**			Prepared & Analyzed: 06/26/2015						
Nitrate+Nitrite as N	4.57	0.10	mg/L	2.50	1.67	116	75-125	1.80	20	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Microbiological Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BYF0514 - No Prep Micro										
Blank (BYF0514-BLK1)				Prepared & Analyzed: 06/18/2015						
Fecal Coliform	BLOD	2	MPN/100 mL							

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Analytical Summary

15F0604-01	Calc
15F0604-02	Calc
15F0604-03	Calc
15F0604-01	D7065
15F0604-02	D7065
15F0604-03	D7065
15F0604-02	EPA 614
15F0604-03	EPA 614
15F0604-05	EPA 614
15F0604-02	EPA 622
15F0604-03	EPA 622
15F0604-05	EPA 622
15F0604-02	EPA1613
15F0604-03	EPA1613
15F0604-05	EPA1613
15F0604-01	EPA200.8 R5.4
15F0604-01	EPA200.8 R5.4
15F0604-02	EPA200.8 R5.4
15F0604-02	EPA200.8 R5.4
15F0604-03	EPA200.8 R5.4
15F0604-03	EPA200.8 R5.4
15F0604-01	EPA425.1
15F0604-02	EPA425.1
15F0604-03	EPA425.1
15F0604-01	EPA900
15F0604-02	EPA900
15F0604-03	EPA900
15F0604-01	EPA903
15F0604-02	EPA903
15F0604-03	EPA903
15F0604-02	HACH

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**		
15F0604-03		HACH			
15F0604-05		HACH			
15F0604-01		HACH 8131			
15F0604-02		HACH 8131			
15F0604-03		HACH 8131			
15F0604-01		NBSR85-3295			
15F0604-02		NBSR85-3295			
15F0604-03		NBSR85-3295			
15F0604-05		NBSR85-3295			
15F0604-01		SW7196A			
15F0604-02		SW7196A			
15F0604-03		SW7196A			

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Dissolved) by EPA 200 Series Methods			**Preparation Method:**	**EPA200.2/R2.8**	
15F0604-01	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYF0603	SYF0718	AF50120
15F0604-01	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYF0603	SYF0718	AF50120
15F0604-01RE1	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYF0603	SYF0718	AF50120
15F0604-02	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYF0603	SYF0718	AF50120
15F0604-02	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYF0603	SYF0718	AF50120
15F0604-02RE1	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYF0603	SYF0718	AF50120
15F0604-03	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYF0603	SYF0718	AF50120
15F0604-03	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYF0603	SYF0718	AF50120
15F0604-01RE1	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYG0005	SYG0030	AG50002
15F0604-02RE1	50.0 mL / 50.0 mL	EPA200.7 Rev 4.4	BYG0005	SYG0030	AG50002

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Halides**	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Halides**	
15F0604-01	40.0 mL / 40.0 mL	SM22 5310C-2011	BYF0652	SYF0710	AL40123
15F0604-02	40.0 mL / 40.0 mL	SM22 5310C-2011	BYF0652	SYF0710	AL40123
15F0604-03	40.0 mL / 40.0 mL	SM22 5310C-2011	BYF0652	SYF0710	AL40123

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep IC**	
15F0604-01	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-01RE1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-01RE2	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-01RE3	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-02	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-02RE1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-02RE2	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-02RE3	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-02RE4	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090
15F0604-03	1.00 mL / 1.00 mL	EPA300.0 R2.1	BYF0653	SYF0737	AF50090

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Microbiological Analysis			**Preparation Method:**	**No Prep Micro**	
15F0604-01	100 mL / 100 mL	Colilert 18 QT	BYF0504	SYF0535	
15F0604-02	100 mL / 100 mL	Colilert 18 QT	BYF0504	SYF0535	
15F0604-03	100 mL / 100 mL	Colilert 18 QT	BYF0504	SYF0535	
15F0604-01	100 mL / 100 mL	Enterolert	BYF0509	SYF0541	
15F0604-02	100 mL / 100 mL	Enterolert	BYF0509	SYF0541	
15F0604-03	100 mL / 100 mL	Enterolert	BYF0509	SYF0541	
15F0604-01	100 mL / 100 mL	SM9221E C-2006	BYF0514	SYF0548	
15F0604-02	100 mL / 100 mL	SM9221E C-2006	BYF0514	SYF0548	

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Microbiological Analysis			**Preparation Method:**	**No Prep Micro**	
15F0604-03	100 mL / 100 mL	SM9221E C-2006	BYF0514	SYF0548	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
15F0604-01	300 mL / 300 mL	SM22 5210B-2011	BYF0473	SYF0527	
15F0604-02	300 mL / 300 mL	SM22 5210B-2011	BYF0473	SYF0527	
15F0604-03	300 mL / 300 mL	SM22 5210B-2011	BYF0473	SYF0527	
15F0604-01	772 mL / 772 mL	SM22 2540D-2011	BYF0482	SYF0555	
15F0604-02	750 mL / 750 mL	SM22 2540D-2011	BYF0482	SYF0555	
15F0604-03	500 mL / 500 mL	SM22 2540D-2011	BYF0482	SYF0555	
15F0604-01	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BYF0483	SYF0530	AA50051
15F0604-02	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BYF0483	SYF0530	AA50051
15F0604-03	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BYF0483	SYF0530	AA50051
15F0604-01	6.00 mL / 6.00 mL	EPA350.1 R2.0	BYF0508	SYF0561	AF50097
15F0604-02	6.00 mL / 6.00 mL	EPA350.1 R2.0	BYF0508	SYF0561	AF50097
15F0604-03	6.00 mL / 6.00 mL	EPA350.1 R2.0	BYF0508	SYF0561	AF50097
15F0604-01	50.0 mL / 50.0 mL	NCASI 71.01	BYF0517	SYF0557	AA50047
15F0604-02	50.0 mL / 50.0 mL	NCASI 71.01	BYF0517	SYF0557	AA50047
15F0604-03	50.0 mL / 50.0 mL	NCASI 71.01	BYF0517	SYF0557	AA50047
15F0604-01	875 mL / 875 mL	EPA1664A	BYF0538	SYF0686	
15F0604-02	900 mL / 900 mL	EPA1664A	BYF0538	SYF0686	
15F0604-03	930 mL / 930 mL	EPA1664A	BYF0538	SYF0686	
15F0604-01	25.0 mL / 25.0 mL	SM22 4500PE-2011	BYF0549	SYF0597	AA50091
15F0604-02	25.0 mL / 25.0 mL	SM22 4500PE-2011	BYF0549	SYF0597	AA50091
15F0604-03	25.0 mL / 25.0 mL	SM22 4500PE-2011	BYF0549	SYF0597	AA50091
15F0604-01	2.00 mL / 2.00 mL	SM22 5220D-2011	BYF0580	SYF0623	AA50076
15F0604-02	2.00 mL / 2.00 mL	SM22 5220D-2011	BYF0580	SYF0623	AA50076

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
15F0604-03	2.00 mL / 2.00 mL	SM22 5220D-2011	BYF0580	SYF0623	AA50076
15F0604-01	6.00 mL / 6.00 mL	SM22 4500CNE-2011	BYF0614	SYF0668	AF50116
15F0604-02	6.00 mL / 6.00 mL	SM22 4500CNE-2011	BYF0614	SYF0668	AF50116
15F0604-03	6.00 mL / 6.00 mL	SM22 4500CNE-2011	BYF0614	SYF0668	AF50116
15F0604-01	5.00 mL / 10.0 mL	EPA420.1	BYF0631	SYF0714	AB50086
15F0604-02	5.00 mL / 10.0 mL	EPA420.1	BYF0631	SYF0714	AB50086
15F0604-03	5.00 mL / 10.0 mL	EPA420.1	BYF0631	SYF0714	AB50086
15F0604-01	25.0 mL / 25.0 mL	EPA351.2 R2.0	BYF0671	SYF0745	AF50127
15F0604-02	25.0 mL / 25.0 mL	EPA351.2 R2.0	BYF0671	SYF0745	AF50127
15F0604-03	25.0 mL / 25.0 mL	EPA351.2 R2.0	BYF0671	SYF0745	AF50127
15F0604-01	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BYF0678	SYF0744	AF50125
15F0604-02	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BYF0678	SYF0744	AF50125
15F0604-03	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BYF0678	SYF0744	AF50125

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			**Preparation Method:**	**SW3510C**	
15F0604-01	900 mL / 1.00 mL	EPA625	BYF0578	SYF0724	AF50122
15F0604-02	950 mL / 1.00 mL	EPA625	BYF0578	SYF0724	AF50122
15F0604-03	950 mL / 1.00 mL	EPA625	BYF0578	SYF0724	AF50122
15F0604-01	900 mL / 1.00 mL	SW8270D	BYF0578	SYF0724	AF50122
15F0604-02	950 mL / 1.00 mL	SW8270D	BYF0578	SYF0724	AF50122
15F0604-03	950 mL / 1.00 mL	SW8270D	BYF0578	SYF0724	AF50122
15F0604-02	980 mL / 1.00 mL	EPA608	BYF0595	SYF0655	AF50030
15F0604-02	980 mL / 1.00 mL	EPA608	BYF0595	SYF0656	AF50006
15F0604-03	940 mL / 1.00 mL	EPA608	BYF0595	SYF0655	AF50030
15F0604-03	940 mL / 1.00 mL	EPA608	BYF0595	SYF0656	AF50006
15F0604-05	970 mL / 1.00 mL	EPA608	BYF0595	SYF0655	AF50030
15F0604-05	970 mL / 1.00 mL	EPA608	BYF0595	SYF0656	AF50006

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides and PCBs by GC/ECD			**Preparation Method:**	**SW3510C**	
15F0604-02	980 mL / 1.00 mL	SW8081B	BYF0595	SYF0655	AF50030
15F0604-03	940 mL / 1.00 mL	SW8081B	BYF0595	SYF0655	AF50030
15F0604-05	970 mL / 1.00 mL	SW8081B	BYF0595	SYF0655	AF50030

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			**Preparation Method:**	**SW5030B**	
15F0604-01	5.00 mL / 5.00 mL	EPA624	BYF0500	SYF0531	AF50060
15F0604-02	5.00 mL / 5.00 mL	EPA624	BYF0500	SYF0531	AF50060
15F0604-03	5.00 mL / 5.00 mL	EPA624	BYF0500	SYF0531	AF50060
15F0604-04	5.00 mL / 5.00 mL	EPA624	BYF0500	SYF0531	AF50060

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Certified Analyses included in this Report

Analyte	Certifications
Colilert 18 QT in Non-Potable Water	
E. Coli	VELAP
Enterolert in Non-Potable Water	
Enterococci	VELAP
EPA1664A in Non-Potable Water	
Oil and Grease	VELAP,NC
EPA200.7 Rev 4.4 in Non-Potable Water	
Aluminum	VELAP
Barium	VELAP,NC
Beryllium	VELAP,NC
Boron	VELAP
Calcium	VELAP,NC
Chromium	VELAP,NC
Cobalt	VELAP,NC
Iron	VELAP,NC
Magnesium	VELAP,NC
Manganese	VELAP,NC
Tin	VELAP,NC
Titanium	VELAP
EPA300.0 R2.1 in Potable Water	
Chloride	VELAP
Fluoride	VELAP
Sulfate	VELAP
EPA350.1 R2.0 in Non-Potable Water	
Ammonia as N	VELAP,NC

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Certified Analyses included in this Report

Analyte	Certifications
EPA351.2 R2.0 in Non-Potable Water	
TKN as N	VELAP,NC
EPA420.1 in Non-Potable Water	
Total Recoverable Phenolics	VELAP,NC
EPA608 in Non-Potable Water	
4,4'-DDD	NC,VELAP
PCB as Aroclor 1016	NC,VELAP
PCB as Aroclor 1221	NC,VELAP
4,4'-DDE	NC,VELAP
PCB as Aroclor 1232	NC,VELAP
PCB as Aroclor 1242	NC,VELAP
4,4'-DDT	NC,VELAP
PCB as Aroclor 1248	NC,VELAP
PCB as Aroclor 1254	NC,VELAP
Aldrin	NC,VELAP
PCB as Aroclor 1260 [2C]	NC,VELAP
alpha-BHC	NC,VELAP
beta-BHC	NC,VELAP
Chlordane	NC,VELAP
delta-BHC	NC,VELAP
Dieldrin	NC,VELAP
Endosulfan I	NC,VELAP
Endosulfan II	NC,VELAP
Endosulfan sulfate	NC,VELAP
Endrin	NC,VELAP
Endrin aldehyde	NC,VELAP
gamma-BHC (Lindane)	NC,VELAP

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Certified Analyses included in this Report

Analyte	Certifications
Heptachlor	NC,VELAP
Heptachlor epoxide	NC,VELAP
Methoxychlor	NC,VELAP
Toxaphene	NC,VELAP
EPA624 in Non-Potable Water	
1,1,1-Trichloroethane	NC,VELAP
1,1,2,2-Tetrachloroethane	NC,VELAP
1,1,2-Trichloroethane	NC,VELAP
1,1-Dichloroethane	NC,VELAP
1,1-Dichloroethylene	NC,VELAP
1,2-Dichlorobenzene	NC,VELAP
1,2-Dichloroethane	NC,VELAP
1,2-Dichloropropane	NC,VELAP
1,3-Dichlorobenzene	NC,VELAP
1,3-Dichloropropene, Total	NC,VELAP
1,4-Dichlorobenzene	NC,VELAP
2-Chloroethyl vinyl ether	NC,VELAP
Acrolein	NC,VELAP
Acrylonitrile	NC,VELAP
Benzene	NC,VELAP
Bromodichloromethane	NC,VELAP
Bromoform	NC,VELAP
Bromomethane	NC,VELAP
Carbon tetrachloride	NC,VELAP
Chlorobenzene	NC,VELAP
Chloroethane	NC,VELAP
Chloroform	NC,VELAP
Chloromethane	NC,VELAP

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Certified Analyses included in this Report

Analyte	Certifications
cis-1,3-Dichloropropene	NC,VELAP
Dibromochloromethane	NC,VELAP
Dichlorodifluoromethane	NC
Ethylbenzene	NC,VELAP
Methylene chloride	NC,VELAP
Tetrachloroethylene (PCE)	NC,VELAP
Toluene	NC,VELAP
trans-1,2-Dichloroethylene	NC,VELAP
trans-1,3-Dichloropropene	NC,VELAP
Trichloroethylene	NC,VELAP
Trichlorofluoromethane	NC,VELAP
Vinyl chloride	NC,VELAP
EPA625 in Non-Potable Water	
1,2,4-Trichlorobenzene	NC,VELAP
1,2-Dichlorobenzene	NC
1,2-Diphenylhydrazine	NC,VELAP
1,3-Dichlorobenzene	NC
1,4-Dichlorobenzene	NC
2,4,6-Trichlorophenol	NC,VELAP
2,4-Dichlorophenol	NC,VELAP
2,4-Dimethylphenol	NC,VELAP
2,4-Dinitrophenol	NC,VELAP
2,4-Dinitrotoluene	NC,VELAP
2,6-Dichlorophenol	NC
2,6-Dinitrotoluene	NC,VELAP
2-Chloronaphthalene	NC,VELAP
2-Chlorophenol	NC,VELAP
2-Nitrophenol	NC,VELAP

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Certified Analyses included in this Report

Analyte	Certifications
3,3'-Dichlorobenzidine	NC,VELAP
4,6-Dinitro-2-methylphenol	NC,VELAP
4-Bromophenyl phenyl ether	NC,VELAP
4-Chlorophenyl phenyl ether	NC,VELAP
4-Nitrophenol	NC,VELAP
Acenaphthene	NC,VELAP
Acenaphthylene	NC,VELAP
Anthracene	NC,VELAP
Benzidine	NC,VELAP
Benzo (a) anthracene	NC,VELAP
Benzo (a) pyrene	NC,VELAP
Benzo (b) fluoranthene	NC,VELAP
Benzo (g,h,i) perylene	NC,VELAP
Benzo (k) fluoranthene	NC,VELAP
bis (2-Chloroethoxy) methane	NC,VELAP
bis (2-Chloroethyl) ether	NC,VELAP
bis (2-Chloroisopropyl) ether	NC,VELAP
bis (2-Ethylhexyl) phthalate	NC,VELAP
Butyl benzyl phthalate	NC,VELAP
Chrysene	NC,VELAP
Dibenz (a,h) anthracene	NC,VELAP
Diethyl phthalate	NC,VELAP
Dimethyl phthalate	NC,VELAP
Di-n-butyl phthalate	NC,VELAP
Di-n-octyl phthalate	NC,VELAP
Fluoranthene	NC,VELAP
Fluorene	NC,VELAP
Hexachlorobenzene	NC,VELAP

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Certified Analyses included in this Report

Analyte	Certifications
Hexachlorobutadiene	NC,VELAP
Hexachlorocyclopentadiene	NC,VELAP
Hexachloroethane	NC,VELAP
Indeno (1,2,3-cd) pyrene	NC,VELAP
Isophorone	NC,VELAP
Naphthalene	NC,VELAP
Nitrobenzene	NC,VELAP
n-Nitrosodimethylamine	NC,VELAP
n-Nitrosodi-n-propylamine	NC,VELAP
n-Nitrosodiphenylamine	NC,VELAP
o-Cresol	NC,VELAP
p-Chloro-m-cresol	NC,VELAP
Pentachlorophenol	NC,VELAP
Phenanthrene	NC,VELAP
Phenol	NC,VELAP
Pyrene	NC,VELAP
NCASI 71.01 in Non-Potable Water	
Color	VELAP
SM22 2540D-2011 in Non-Potable Water	
TSS	VELAP,NC
SM22 4500CNE-2011 in Non-Potable Water	
Cyanide	VELAP,NC
SM22 4500-NO2B-2011 in Non-Potable Water	
Nitrite as N	VELAP
SM22 4500-NO3F-2011 in Non-Potable Water	
Nitrate+Nitrite as N	VELAP

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Certified Analyses included in this Report

Analyte	Certifications
SM22 4500PE-2011 in Non-Potable Water	
Phosphorus, Total	VELAP,NC
SM22 5210B-2011 in Non-Potable Water	
BOD	VELAP,NC
SM22 5220D-2011 in Non-Potable Water	
COD	VELAP,NC
SM22 5310C-2011 in Non-Potable Water	
TOC	VELAP
SM9221E C-2006 in Non-Potable Water	
Fecal Coliform	VELAP
SW8081B in Non-Potable Water	
Mirex	NC,VELAP
SW8270D in Non-Potable Water	
Kepone	VELAP,WVDEP,NC

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2015
NC	North Carolina DENR	495	12/31/2015
PADEP	NELAC-Pennsylvania	001	10/31/2015
VELAP Certificate #4337	NELAC-Virginia Certificate #8065	460021	06/15/2016
WVDEP	West Virginia DEP	350	11/30/2015

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Geosyntec Consultants (Richmond)
Client Site I.D.: CPS/TEL
Submitted To: Scott Sheridan

Date Issued: September 24, 2015 15:02

Qualifiers and Definitions

B	Blank contamination. The recorded result is associated with a contaminated blank.
Cl	Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
E	Estimated concentration, outside calibration range
H	Analysis was performed outside of the method prescribed holding time.
J	The reported result is an estimated value.
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria

RPD	Relative Percent Difference
Qual	Qualifers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor

AIR WATER & SOIL LABORATORIES, INC.

1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

Chain of Custody
Form #: D1331
Rev. 1.0
Effective: Feb 14, 2014

CHAIN OF CUSTODY

COMPANY NAME: Geosyntec Consultants	INVOICE TO: Geosyntec Constultants	PROJECT NAME/Quote #: CPS Page 1 o
CONTACT: Tim Kelly / Scott Sheridan	INVOICE CONTACT: Scott Sheridan	SITE NAME: TEL
ADDRESS: 9211 Arboretum Pkwy, Suite 2000	INVOICE ADDRESS:	PROJECT NUMBER:
PHONE #: 804-767-2206	INVOICE PHONE #: 804-767-2206	P.O. #:
FAX #:	EMAIL: ssheridan@geosyntec.com, tkelly@geosyntec.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT): LINXI CHEN	SAMPLER SIGNATURE: Chen Li	**Turn Around Time:** Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) Dissolved Sb, As, Cd, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn-200.8	Total Sb, As, Cd, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn-200.8	Al, Ba, Be, B, Co, Cr, Fe, Mo, Mn, Sn, Ti, Hardness - 200.7	Dissolved Cr, CrIII, CrVI	Bromide, Fluoride, Chloride, Sulfate	Color	Fecal Coliform, E.Coli, Enterococci	BOD/TSS	COMMENTS
1) **Column A**	X		X			06/17/15	1200	1200	WW	39	x	x	x	x	x	x	x	x	
2) **Column B**	X		X			↓	1300	1300	↓	39	x	x	x	x	x	x	x	x	
3) **Rainwater**	X		X			↓	1015	1015	↓	52	x	x	x	x	x	x	x	x	
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			
10)																			

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Chen Li	06/17/15 1500	FED Ex Express	
RELINQUISHED: FED Ex	DATE / TIME	RECEIVED:	DATE / TIME
		18 JUNE 2015	10.30
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY **COOLER TEMP** 5.4 °C

15F0604

GEOSYNTEC CO 15F0604
CPS
Recd: 06/18/2015 Due: 07/02/2015

AIR WATER & SOIL LABORATORIES, INC.

1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

Chain of Custody
Form #: D1331
Rev. 1.0
Effective: Feb 14, 2014

CHAIN OF CUSTODY

COMPANY NAME: Geosyntec Consultants	INVOICE TO: Geosyntec Constultants	PROJECT NAME/Quote #: CPS Page 3 o
CONTACT: Tim Kelly / Scott Sheridan	INVOICE CONTACT: Scott Sheridan	SITE NAME: TEL
ADDRESS: 9211 Arboretum Pkwy, Suite 2000	INVOICE ADDRESS:	PROJECT NUMBER:
PHONE #: 804-767-2206	INVOICE PHONE #: 804-767-2206	P.O. #:
FAX #:	EMAIL: ssheridan@geosyntec.com, tkelly@geosyntec.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT): LINXI CHEN	SAMPLER SIGNATURE: Chen Li	**Turn Around Time:** Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) MBAS Surfactants	Phenolics	2,3,7,8-TCDD	Tributyltin	Pest+PCB-608 / 8081	Pest-622	Pest-614	SVOC-625 / SVOC-8270	COMMENTS
1) **Column A**	X		X			06/17/15	1200	1200	WW	39	x	x	x	x	x	x	x	x	
2) **Column B**	X		X			↓	1300	1300	↓	39	x	x	x	x	x	x	x	x	
3) **Rainwater**	X		X			↓	1015	1015	↓	52	x	x	x	x	x	x	x	x	
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			
10)																			

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Chen Li	06/17/15 1500	FED Ex Express	
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
FED Ex		[illegible] 18 JUNE 2015 10:30	
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY **COOLER TEMP** 5.6 °C

15F0604

GEOSYNTEC CO 15F0604
CPS
Recd: 06/18/2015 Due: 07/02/2015

AIR WATER & SOIL LABORATORIES, INC.

1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

Chain of Custody
Form #: D1331
Rev. 1.0
Effective: Feb 14, 2014

CHAIN OF CUSTODY

COMPANY NAME: Geosyntec Consultants	INVOICE TO: Geosyntec Constultants	PROJECT NAME/Quote #: CPS Page 2 o
CONTACT: Tim Kelly / Scott Sheridan	INVOICE CONTACT: Scott Sheridan	SITE NAME: TEL
ADDRESS: 9211 Arboretum Pkwy, Suite 2000	INVOICE ADDRESS:	PROJECT NUMBER:
PHONE #: 804-767-2206	INVOICE PHONE #: 804-767-2206	P.O. #:
FAX #:	EMAIL: ssheridan@geosyntec.com, tkelly@geosyntec.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT): LINXI CHEN	SAMPLER SIGNATURE: chen Li	**Turn Around Time:** Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) COD, NO3+NO2	Organic Nitrogen, Total Phosphorus	TOC	Oil and Grease 1664	Sulfide (Total, Dissolved)	Cyanide	Gross Alpha / Beta Activity	Radium-226 / Radium-228	COMMENTS
1) **Column A**	X		X			06/17/15	1200	1200	WW	39	x	x 1	x	x	x	x	x	x	
2) **Column B**	X		X			↓	1300	1300	↓	39	x	x	x	x	x	x	x	x	
3) **Rainwater**	X		X			↓	1015	1015	↓	52	x	x	x	x	x	x	x	x	
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			
10)																			

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Chen Li	06/17/15 1500	FedEx Express	
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
FED EX		18 JUNE 2015	10.30
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY **COOLER TEMP** 5.6 °C

15F0604

GEOSYNTEC CO 15F0604
CPS
Recd: 06/18/2015 Due: 07/02/2015

AIR WATER & SOIL LABORATORIES, INC.

1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

Chain of Custody
Form #: D1331
Rev. 1.0
Effective: Feb 14, 2014

CHAIN OF CUSTODY

COMPANY NAME: Geosyntec Consultants	INVOICE TO: Geosyntec Constultants	PROJECT NAME/Quote #: CPS
CONTACT: Tim Kelly / Scott Sheridan	INVOICE CONTACT: Scott Sheridan	SITE NAME: TEL
ADDRESS: 9211 Arboretum Pkwy, Suite 2000	INVOICE ADDRESS:	PROJECT NUMBER:
PHONE #: 804-767-2206	INVOICE PHONE #: 804-767-2206	P.O. #:
FAX #:	EMAIL: ssheridan@geosyntec.com, tkelly@geosyntec.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT): LINXI CHEN	SAMPLER SIGNATURE: Chen Li	Turn Around Time: Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) VOC-624	Nonylphenol							COMMENTS
1) **Column A**	X		X			06/17/15	1200	1200	WW	39	x	x							
2) **Column B**	X		X			↓	1300	1300	↓	39	x	x							
3) **Rainwater**	X		X			↓	1015	1015	↓	52	x	x							
4) **Trip Blank**											x								
5)																			
6)																			
7)																			
8)																			
9)																			
10)																			

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Chen Li:	06/17/15 1500	FED EX EXPRESS	
RELINQUISHED: FED EX	DATE / TIME	RECEIVED:	DATE / TIME
		18 JUNE 2015	10.30
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY COOLER TEMP 5.0 °C

GEOSYNTEC CO 15F0604
CPS
Recd: 06/18/2015 Due: 07/02/2015

15F0604

v130523082 C 4.xls

AIR WATER & SOIL Laboratories, Inc.

1941 Reymet Road • Richmond, Virginia 23237 • Tel : (804) 358-8295

15F0604

GEOSYNTEC CO 15F0604
CPS
Recd: 06/18/2015 Due: 07/02/2015
v130325002

Sample Conditions Checklist

Opened by: (Initials) TL **Lab ID No.:**

Date Cooler Opened: 18 JUNE 2015

		YES	NO	N/A
1.	How were samples received? Fed Ex ☑ UPS ☐ Courier ☐ Walk In ☐			
2.	Were custody seals used?	☑	☐	☐
3.	If yes, are custody seals unbroken and intact at the date and time of arrival?	☑	☐	☐
4.	Are the custody papers filled out completely and correctly?	☑	☐	☐
5.	Do all bottle labels agree with custody papers?	☑	☐	☐
6.	Are the samples received on ice?	☑	☐	☐
7.	Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C)	☑	☐	☐
8.	Are all samples within holding time for requested laboratory tests?	☐	☑	☐
9	Is a sufficient amount of sample provided to perform the tests indicated?	☐	☑	☐
10	Are all samples in proper containers for the analyses requested?	☑	☐	☐
11	Are all samples appropriately preserved for the analyses requested?	☐	☑	☐
12	Are all volatile organic containers free of headspace?	☑	☐	☐
13	Are all TOX containers free of headspace?	☐	☐	☑
14	Is Trip blank provided with each VOC sample set? Circle applicable method: (Document if trip blank is not received with the sample set)	☑	☐	☐

EPA 8011 EPA 504 EPA 8260 EPA 624

RSK-175 EPA 8015 (GRO) EPA 8021

EPA 524 *GRO Wisconsin DNR (water and/or methanol trip blank must be provided)

*** See preservation log for Wisconsin soil DRO.**

COMMENTS

1 cooler not received due to shipping error; do not have sample containers for: Column A - Dioxins, Pest 614, Pest 622, Pest 608/8081, total Sulfide; only 1 TBT container for Column A received: Remaining samples to be delivered tomorrow 6/19. Per Tim Kelly, samples that have exceeded holding time are to be analyzed out of hold. GD 6/18/15

FOR LAB USE ONLY:

CrVI preserved date/time: _____

Buffer Sol'n ID: _____ Analyst intials: _____

1N NaOH ID: _____ or 5N NaOH ID: _____

THIS DOCUMENT IS UNCONTROLLED WHEN PRINTED
F1302 Sample Condition 5_0.xls

Metals were received with pH=6,8,10.
HNO3 was added at 13:30 on 18 JUNE 2015 by Tafral Middleton in the Log-In to bring pH=<2.
TC 18 JUNE 2015

AIR WATER & SOIL LABORATORIES

Order ID 15F0604

Sample Preservation Log

Sample Preservation Log
Form #: F1301
Rev # 4.0
Effective: Mar 13, 2015

Date Performed: 18 JUNE 2015

Analyst Performing Check: TC

P/A = Present/Absent

Sample ID	Container ID	Metals			Cyanide			Sulfide			Ammonia			TKN			Phos, Tot			NO3+NO2			DRO			Pesticide (8081/608)			SVOC (8270/625)			COD			Phenolics		
		pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	Res.Cl as Received		Res.Cl P/A (If adjust.)	Res.Cl as Received		Res.Cl P/A (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)
		< 2	Other		> 12	Other		> 9	Other		< 2	Other		< 2	Other		< 2	Other		< 2	Other		< 2	Other		Present	Absent		Present	Absent		< 2	Other		< 2	Other	
01	A		10	<2																																
01	N																			/												/				
01	O										/			/			/																			
01	U				/																															
01	Z																																	/		
01 ~~AB~~	AB																									/			/							
02	B		8	<2																																
02	N																			/												/				
02	O										/			/			/																			
02	V				/																															
02	AA																																	/		
02	AE																									/			/							
03	B		6	<2																																
03	N																			/																
03	O										/			/			/																			

NaOH ID: _____ HCL ID: _____

H2SO4 ID: _____ HNO3 ID: SEO1613

DRO-Wisconsin soil samples must be preserved with MeCl2 within 72 hours of sample collection - NOTIFY EXTRACTION DEPARTMENT.

Metals were received with pH= 6,8,10 .
HNO3 was added at 13.30 on
18 June 2015 by Tafral Middleton
in the Log-In to bring pH=<2.
TL 18 June 2015

AIR WATER & SOIL

15F0604

Order ID

Sample Preservation Log

Date Performed: 18 June 2015

Sample Preservation Log
Form #: F1301
Rev # 4.0
Effective: Mar 13, 2015

Analyst Performing Check: TL

P/A = Present/Absent

Sample ID	Container ID	Metals			Cyanide			Sulfide			Ammonia			TKN			Phos, Tot			NO3+NO2			DRO			Pesticide (8081/608)			SVOC (8270/625)			COD			Phenolics		
		pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)	Res.Cl as Received		Res.Cl P/A (If adjust.)	Res.Cl as Received		Res.Cl P/A (If adjust.)	pH as Received		Final pH (If adjust.)	pH as Received		Final pH (If adjust.)
		< 2	Other		> 12	Other		> 9	Other		< 2	Other		< 2	Other		< 2	Other		< 2	Other		< 2	Other		Present	Absent		Present	Absent		< 2	Other		< 2	Other	
03	V				/																															
03	AA																																	/		
03	AF																									/			/							

NaOH ID: _____ HCL ID: _____

H2SO4 ID: _____ HNO3 ID: SEA1613

DRO-Wisconsin soil samples must be preserved with MeCl2 within 72 hours of sample collection - NOTIFY EXTRACTION DEPARTMENT.

AIR WATER & SOIL LABORATORIES, INC.

1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

Chain of Custody
Form #: D1331
Rev. 1.0
Effective: Feb 14, 2014

CHAIN OF CUSTODY

COMPANY NAME: Geosyntec Consultants	INVOICE TO: Geosyntec Consultants	PROJECT NAME/Quote #: CPS
CONTACT: Tim Kelly / Scott Sheridan	INVOICE CONTACT: Scott Sheridan	SITE NAME: TEL
ADDRESS: 9211 Arboretum Pkwy, Ste 200	INVOICE ADDRESS:	PROJECT NUMBER:
PHONE #: 804-767-2206	INVOICE PHONE #: 804-767-2206	P.O. #:
FAX #:	EMAIL: ssheridan@geosyntec.com, tkelly@geosyntec.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT): LINXI CHEN	SAMPLER SIGNATURE: Chen Li	Turn Around Time: Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other WW

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) 2,3,7,8-TCDD	Pest-614	Pest-622	Pest 608/8081	Total sulfide	TBT (HCl)			COMMENTS
1) Column A	X					06/18/15	1425	1425	WW	6	X	X	X	X	X	X			
2)																			
3)																			
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			
10)																			

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Chen Li	06/18/15 1450	FEDEX	6/19/15 10
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
FEDEX			6/19/15 1430
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY COOLER TEMP 4.4 °C

GEOSYNTEC CO] 15F0604
CPS
Recd: 06/19/2015 Due: 07/06/2015

v130325002

AIR WATER & SOIL Laboratories, Inc.
1941 Reymet Road • Richmond, Virginia 23237 • Tel : (804) 358-8295

GEOSYNTEC CO] 15F0604
CPS

Recd: 06/19/2015 Due: 07/06/2015

v130325002

Sample Conditions Checklist

Opened by: (Initials) JNO **Lab ID No.:**

Date Cooler Opened: 6/19/15

		YES	NO	N/A
1.	How were samples received? Fed Ex ☑ UPS ☐ Courier ☐ Walk In ☐			
2.	Were custody seals used?	☐	☑	☐
3.	If yes, are custody seals unbroken and intact at the date and time of arrival?	☐	☐	☑
4.	Are the custody papers filled out completely and correctly?	☑	☐	☐
5.	Do all bottle labels agree with custody papers?	☑	☐	☐
6.	Are the samples received on ice?	☑	☐	☐
7.	Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C)	☑	☐	☐
8.	Are all samples within holding time for requested laboratory tests?	☑	☐	☐
9	Is a sufficient amount of sample provided to perform the tests indicated?	☑	☐	☐
10	Are all samples in proper containers for the analyses requested?	☑	☐	☐
11	Are all samples appropriately preserved for the analyses requested?	☑	☐	☐
12	Are all volatile organic containers free of headspace?	☐	☐	☑
13	Are all TOX containers free of headspace?	☐	☐	☑
14	Is Trip blank provided with each VOC sample set? Circle applicable method: (Document if trip blank is not received with the sample set)	☐	☐	☑

EPA 8011 EPA 504 EPA 8260 EPA 624

RSK-175 EPA 8015 (GRO) EPA 8021

EPA 524 *GRO Wisconsin DNR (water and/or methanol trip blank must be provided)

*** See preservation log for Wisconsin soil DRO.**

COMMENTS

FOR LAB USE ONLY:

CrVI preserved date/time: _____

Buffer Sol'n ID: _____ Analyst intials: _____

1N NaOH ID: _____ or 5N NaOH ID: _____

AIR WATER SOIL LABORATORIES, INC.

Sample Preservation Log

Order ID 15F0604

Date Performed: 6/19/15

Analyst Performing Check: JR

P/A = Present/Absent

Sample ID	Container ID	Metals			Cyanide			Sulfide			Ammonia			TKN			Phos, Tot			NO3+NO2			DRO			Pesticide (8081/608)			SVOC (8270/625)								
		pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	Res.Cl as Received		Res.Cl P/A (if adjust.)	Res.Cl as Received		Res.Cl P/A (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)
		< 2	Other		> 12	Other		> 9	Other		< 2	Other		< 2	Other		< 2	Other		< 2	Other		< 2	Other		Present	Absent		Present	Absent			Other			Other	
-05	A																										✓									

NaOH ID: _____ HCL ID: _____

H2SO4 ID: _____ HNO3 ID: _____

DRO-Wisconsin soil samples must be preserved with MeCl2 within 72 hours of sample collection - NOTIFY EXTRACTION DEPARTMENT.

ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Friday, June 26, 2015
Air, Water and Soil (AI001)
Attn: JP Verheul
1941 Reymet Road
Richmond, VA 23237

RE: Laboratory Results for
Project Number: 15F0604, Project Name/Desc: 15F0604
ENCO Workorder(s): A503783

Dear JP Verheul,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, June 19, 2015.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Ronald Wambles For David Camacho

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 15F0604-01 **Lab ID: A503783-01** **Sampled: 06/17/15 12:00** **Received: 06/19/15 11:52**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 200.8	12/14/15	06/22/15 10:45	06/23/15 13:43
EPA 200.8	12/14/15	06/22/15 10:45	06/25/15 11:48
EPA 245.1	07/15/15	06/24/15 11:30	06/25/15 08:20
EPA 245.1	07/15/15	06/24/15 11:30	06/25/15 08:23

Client ID: 15F0604-01 **Lab ID: A503783-01RE1** **Sampled: 06/17/15 12:00** **Received: 06/19/15 11:52**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 200.8	12/14/15	06/22/15 10:45	06/23/15 13:54
EPA 200.8	12/14/15	06/22/15 10:45	06/25/15 11:52

Client ID: 15F0604-02 **Lab ID: A503783-02** **Sampled: 06/17/15 13:00** **Received: 06/19/15 11:52**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 200.8	12/14/15	06/22/15 10:45	06/23/15 13:46
EPA 200.8	12/14/15	06/22/15 10:45	06/25/15 11:59
EPA 245.1	07/15/15	06/24/15 11:30	06/25/15 08:26
EPA 245.1	07/15/15	06/24/15 11:30	06/25/15 08:29

Client ID: 15F0604-02 **Lab ID: A503783-02RE1** **Sampled: 06/17/15 13:00** **Received: 06/19/15 11:52**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 200.8	12/14/15	06/22/15 10:45	06/23/15 13:57
EPA 200.8	12/14/15	06/22/15 10:45	06/25/15 12:03

Client ID: 15F0604-03 **Lab ID: A503783-03** **Sampled: 06/17/15 10:15** **Received: 06/19/15 11:52**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 200.8	12/14/15	06/22/15 10:45	06/23/15 13:50
EPA 200.8	12/14/15	06/22/15 10:45	06/25/15 12:10
EPA 245.1	07/15/15	06/24/15 11:30	06/25/15 08:32
EPA 245.1	07/15/15	06/24/15 11:30	06/25/15 08:35

Client ID: 15F0604-03 **Lab ID: A503783-03RE1** **Sampled: 06/17/15 10:15** **Received: 06/19/15 11:52**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 200.8	12/14/15	06/22/15 10:45	06/23/15 14:01
EPA 200.8	12/14/15	06/22/15 10:45	06/25/15 12:13

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: 15F0604-01 **Lab ID: A503783-01**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Antimony - Total	3.44		0.110	2.00	ug/L	EPA 200.8	
Antimony - Dissolved	4.49		0.110	2.00	ug/L	EPA 200.8	LG-01
Arsenic - Total	49.5		0.610	1.00	ug/L	EPA 200.8	
Arsenic - Dissolved	4.14		0.610	1.00	ug/L	EPA 200.8	LG-01
Cadmium - Dissolved	0.261	J	0.110	0.300	ug/L	EPA 200.8	LG-01
Copper - Total	2.39		0.220	1.00	ug/L	EPA 200.8	
Copper - Dissolved	2.28		0.220	1.00	ug/L	EPA 200.8	LG-01
Nickel - Total	4.48		0.320	1.00	ug/L	EPA 200.8	
Nickel - Dissolved	3.66		0.320	1.00	ug/L	EPA 200.8	LG-01
Zinc - Total	5.71		1.60	5.00	ug/L	EPA 200.8	
Zinc - Dissolved	3.79	J	1.60	5.00	ug/L	EPA 200.8	LG-01

Client ID: 15F0604-01 **Lab ID: A503783-01RE1**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Selenium - Total	344	D	6.50	10.0	ug/L	EPA 200.8	
Selenium - Dissolved	305	D	6.50	10.0	ug/L	EPA 200.8	LG-01

Client ID: 15F0604-02 **Lab ID: A503783-02**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Antimony - Total	3.29		0.110	2.00	ug/L	EPA 200.8	
Antimony - Dissolved	3.22		0.110	2.00	ug/L	EPA 200.8	LG-01
Arsenic - Total	43.9		0.610	1.00	ug/L	EPA 200.8	
Arsenic - Dissolved	4.91		0.610	1.00	ug/L	EPA 200.8	LG-01
Copper - Total	2.10		0.220	1.00	ug/L	EPA 200.8	
Copper - Dissolved	1.97		0.220	1.00	ug/L	EPA 200.8	LG-01
Nickel - Total	4.67		0.320	1.00	ug/L	EPA 200.8	
Nickel - Dissolved	3.95		0.320	1.00	ug/L	EPA 200.8	LG-01
Zinc - Total	3.73	J	1.60	5.00	ug/L	EPA 200.8	
Zinc - Dissolved	5.29		1.60	5.00	ug/L	EPA 200.8	LG-01

Client ID: 15F0604-02 **Lab ID: A503783-02RE1**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Selenium - Total	271	D	6.50	10.0	ug/L	EPA 200.8	
Selenium - Dissolved	205	D	6.50	10.0	ug/L	EPA 200.8	LG-01

Client ID: 15F0604-03 **Lab ID: A503783-03**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Copper - Total	1.29		0.220	1.00	ug/L	EPA 200.8	
Copper - Dissolved	0.643	J	0.220	1.00	ug/L	EPA 200.8	LG-01
Nickel - Total	1.76		0.320	1.00	ug/L	EPA 200.8	
Nickel - Dissolved	1.35		0.320	1.00	ug/L	EPA 200.8	LG-01

Client ID: 15F0604-03 **Lab ID: A503783-03RE1**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Zinc - Total	175	D	16.0	50.0	ug/L	EPA 200.8	
Zinc - Dissolved	162	D	16.0	50.0	ug/L	EPA 200.8	LG-01

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

www.encolabs.com

ANALYTICAL RESULTS

Description: 15F0604-01 **Lab Sample ID:** A503783-01 **Received:** 06/19/15 11:52

Matrix: Waste Water **Sampled:** 06/17/15 12:00 **Work Order:** A503783

Project: 15F0604 **Sampled By:**

Metals by EPA 200 Series Methods

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Antimony [7440-36-0]^	**3.44**		ug/L	1	0.110	2.00	5F22015	EPA 200.8	06/25/15 11:48	JMA	
Arsenic [7440-38-2]^	**49.5**		ug/L	1	0.610	1.00	5F22015	EPA 200.8	06/25/15 11:48	JMA	
Cadmium [7440-43-9]^	0.110	U	ug/L	1	0.110	0.300	5F22015	EPA 200.8	06/25/15 11:48	JMA	
Copper [7440-50-8]^	**2.39**		ug/L	1	0.220	1.00	5F22015	EPA 200.8	06/25/15 11:48	JMA	
Lead [7439-92-1]^	0.160	U	ug/L	1	0.160	0.500	5F22015	EPA 200.8	06/25/15 11:48	JMA	
Mercury [7439-97-6]^	0.023	U	ug/L	1	0.023	0.200	5F18013	EPA 245.1	06/25/15 08:23	JMA	
Nickel [7440-02-0]^	**4.48**		ug/L	1	0.320	1.00	5F22015	EPA 200.8	06/25/15 11:48	JMA	
Selenium [7782-49-2]^	**344**	D	ug/L	10	6.50	10.0	5F22015	EPA 200.8	06/25/15 11:52	JMA	
Silver [7440-22-4]^	0.029	U	ug/L	1	0.029	0.100	5F22015	EPA 200.8	06/25/15 11:48	JMA	
Thallium [7440-28-0]^	0.058	U	ug/L	1	0.058	0.100	5F22015	EPA 200.8	06/25/15 11:48	JMA	
Zinc [7440-66-6]^	**5.71**		ug/L	1	1.60	5.00	5F22015	EPA 200.8	06/25/15 11:48	JMA	

Metals (Dissolved) by EPA 200 Series Methods

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Antimony [7440-36-0]^	**4.49**		ug/L	1	0.110	2.00	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01
Arsenic [7440-38-2]^	**4.14**		ug/L	1	0.610	1.00	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01
Cadmium [7440-43-9]^	**0.261**	J	ug/L	1	0.110	0.300	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01
Copper [7440-50-8]^	**2.28**		ug/L	1	0.220	1.00	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01
Lead [7439-92-1]^	0.160	U	ug/L	1	0.160	0.500	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01
Mercury [7439-97-6]^	0.023	U	ug/L	1	0.023	0.200	5F18013	EPA 245.1	06/25/15 08:20	JMA	LG-01
Nickel [7440-02-0]^	**3.66**		ug/L	1	0.320	1.00	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01
Selenium [7782-49-2]^	**305**	D	ug/L	10	6.50	10.0	5F22016	EPA 200.8	06/23/15 13:54	JMA	LG-01
Silver [7440-22-4]^	0.029	U	ug/L	1	0.029	0.100	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01
Thallium [7440-28-0]^	0.058	U	ug/L	1	0.058	0.100	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01
Zinc [7440-66-6]^	**3.79**	J	ug/L	1	1.60	5.00	5F22016	EPA 200.8	06/23/15 13:43	JMA	LG-01

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

www.encolabs.com

ANALYTICAL RESULTS

Description: 15F0604-02 **Lab Sample ID:** A503783-02 **Received:** 06/19/15 11:52

Matrix: Waste Water **Sampled:** 06/17/15 13:00 **Work Order:** A503783

Project: 15F0604 **Sampled By:**

Metals by EPA 200 Series Methods

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Antimony [7440-36-0]^	**3.29**		ug/L	1	0.110	2.00	5F22015	EPA 200.8	06/25/15 11:59	JMA	
Arsenic [7440-38-2]^	**43.9**		ug/L	1	0.610	1.00	5F22015	EPA 200.8	06/25/15 11:59	JMA	
Cadmium [7440-43-9]^	0.110	U	ug/L	1	0.110	0.300	5F22015	EPA 200.8	06/25/15 11:59	JMA	
Copper [7440-50-8]^	**2.10**		ug/L	1	0.220	1.00	5F22015	EPA 200.8	06/25/15 11:59	JMA	
Lead [7439-92-1]^	0.160	U	ug/L	1	0.160	0.500	5F22015	EPA 200.8	06/25/15 11:59	JMA	
Mercury [7439-97-6]^	0.023	U	ug/L	1	0.023	0.200	5F18013	EPA 245.1	06/25/15 08:29	JMA	
Nickel [7440-02-0]^	**4.67**		ug/L	1	0.320	1.00	5F22015	EPA 200.8	06/25/15 11:59	JMA	
Selenium [7782-49-2]^	**271**	D	ug/L	10	6.50	10.0	5F22015	EPA 200.8	06/25/15 12:03	JMA	
Silver [7440-22-4]^	0.029	U	ug/L	1	0.029	0.100	5F22015	EPA 200.8	06/25/15 11:59	JMA	
Thallium [7440-28-0]^	0.058	U	ug/L	1	0.058	0.100	5F22015	EPA 200.8	06/25/15 11:59	JMA	
Zinc [7440-66-6]^	**3.73**	J	ug/L	1	1.60	5.00	5F22015	EPA 200.8	06/25/15 11:59	JMA	

Metals (Dissolved) by EPA 200 Series Methods

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Antimony [7440-36-0]^	**3.22**		ug/L	1	0.110	2.00	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01
Arsenic [7440-38-2]^	**4.91**		ug/L	1	0.610	1.00	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01
Cadmium [7440-43-9]^	0.110	U	ug/L	1	0.110	0.300	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01
Copper [7440-50-8]^	**1.97**		ug/L	1	0.220	1.00	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01
Lead [7439-92-1]^	0.160	U	ug/L	1	0.160	0.500	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01
Mercury [7439-97-6]^	0.023	U	ug/L	1	0.023	0.200	5F18013	EPA 245.1	06/25/15 08:26	JMA	LG-01
Nickel [7440-02-0]^	**3.95**		ug/L	1	0.320	1.00	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01
Selenium [7782-49-2]^	**205**	D	ug/L	10	6.50	10.0	5F22016	EPA 200.8	06/23/15 13:57	JMA	LG-01
Silver [7440-22-4]^	0.029	U	ug/L	1	0.029	0.100	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01
Thallium [7440-28-0]^	0.058	U	ug/L	1	0.058	0.100	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01
Zinc [7440-66-6]^	**5.29**		ug/L	1	1.60	5.00	5F22016	EPA 200.8	06/23/15 13:46	JMA	LG-01

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: 15F0604-03 **Lab Sample ID:** A503783-03 **Received:** 06/19/15 11:52

Matrix: Waste Water **Sampled:** 06/17/15 10:15 **Work Order:** A503783

Project: 15F0604 **Sampled By:**

Metals by EPA 200 Series Methods

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Antimony [7440-36-0]^	0.110	U	ug/L	1	0.110	2.00	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Arsenic [7440-38-2]^	0.610	U	ug/L	1	0.610	1.00	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Cadmium [7440-43-9]^	0.110	U	ug/L	1	0.110	0.300	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Copper [7440-50-8]^	**1.29**		ug/L	1	0.220	1.00	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Lead [7439-92-1]^	0.160	U	ug/L	1	0.160	0.500	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Mercury [7439-97-6]^	0.023	U	ug/L	1	0.023	0.200	5F18013	EPA 245.1	06/25/15 08:35	JMA	
Nickel [7440-02-0]^	**1.76**		ug/L	1	0.320	1.00	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Selenium [7782-49-2]^	0.650	U	ug/L	1	0.650	1.00	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Silver [7440-22-4]^	0.029	U	ug/L	1	0.029	0.100	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Thallium [7440-28-0]^	0.058	U	ug/L	1	0.058	0.100	5F22015	EPA 200.8	06/25/15 12:10	JMA	
Zinc [7440-66-6]^	**175**	D	ug/L	10	16.0	50.0	5F22015	EPA 200.8	06/25/15 12:13	JMA	

Metals (Dissolved) by EPA 200 Series Methods

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Antimony [7440-36-0]^	0.110	U	ug/L	1	0.110	2.00	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Arsenic [7440-38-2]^	0.610	U	ug/L	1	0.610	1.00	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Cadmium [7440-43-9]^	0.110	U	ug/L	1	0.110	0.300	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Copper [7440-50-8]^	**0.643**	J	ug/L	1	0.220	1.00	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Lead [7439-92-1]^	0.160	U	ug/L	1	0.160	0.500	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Mercury [7439-97-6]^	0.023	U	ug/L	1	0.023	0.200	5F18013	EPA 245.1	06/25/15 08:32	JMA	LG-01
Nickel [7440-02-0]^	**1.35**		ug/L	1	0.320	1.00	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Selenium [7782-49-2]^	0.650	U	ug/L	1	0.650	1.00	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Silver [7440-22-4]^	0.029	U	ug/L	1	0.029	0.100	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Thallium [7440-28-0]^	0.058	U	ug/L	1	0.058	0.100	5F22016	EPA 200.8	06/23/15 13:50	JMA	LG-01
Zinc [7440-66-6]^	**162**	D	ug/L	10	16.0	50.0	5F22016	EPA 200.8	06/23/15 14:01	JMA	LG-01

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Metals by EPA 200 Series Methods - Quality Control

Batch 5F18013 - EPA 7470A

Blank (5F18013-BLK1) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:39

Analyte	Result	Flag	POQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	0.023	U	0.200	ug/L							

Blank (5F18013-BLK2) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:42

Analyte	Result	Flag	POQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	0.023	U	0.200	ug/L							

LCS (5F18013-BS1) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:45

Analyte	Result	Flag	POQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.18		0.200	ug/L	5.00		104	85-115			

Matrix Spike (5F18013-MS1) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:52

Source: A503749-01

Analyte	Result	Flag	POQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	3.92		0.200	ug/L	5.00	0.048	78	70-130			

Matrix Spike Dup (5F18013-MSD1) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:55

Source: A503749-01

Analyte	Result	Flag	POQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	3.87		0.200	ug/L	5.00	0.048	76	70-130	1	10	

Post Spike (5F18013-PS1) Prepared: 06/25/2015 06:00 Analyzed: 06/25/2015 07:58

Source: A503749-01

Analyte	Result	Flag	POQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.15		0.200	ug/L	5.61	0.045	91	75-125			

Batch 5F22015 - EPA 3005A

Blank (5F22015-BLK1) Prepared: 06/22/2015 10:45 Analyzed: 06/25/2015 09:19

Analyte	Result	Flag	POQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	1.10	U	20.0	ug/L							
Arsenic	6.10	U	10.0	ug/L							
Cadmium	1.10	U	3.00	ug/L							
Copper	2.20	U	10.0	ug/L							
Lead	1.60	U	5.00	ug/L							
Nickel	3.20	U	10.0	ug/L							
Selenium	6.50	U	10.0	ug/L							
Silver	0.290	U	1.00	ug/L							
Thallium	0.580	U	1.00	ug/L							
Zinc	16.0	U	50.0	ug/L							

Blank (5F22015-BLK2) Prepared: 06/22/2015 10:45 Analyzed: 06/25/2015 09:22

Analyte	Result	Flag	POQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.110	U	2.00	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Metals by EPA 200 Series Methods - Quality Control

Batch 5F22015 - EPA 3005A - Continued

Blank (5F22015-BLK2) Continued Prepared: 06/22/2015 10:45 Analyzed: 06/25/2015 09:22

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.610	U	1.00	ug/L							
Cadmium	0.110	U	0.300	ug/L							
Copper	0.220	U	1.00	ug/L							
Lead	0.160	U	0.500	ug/L							
Nickel	0.320	U	1.00	ug/L							
Selenium	0.650	U	1.00	ug/L							
Silver	0.029	U	0.100	ug/L							
Thallium	0.058	U	0.100	ug/L							
Zinc	1.60	U	5.00	ug/L							

LCS (5F22015-BS1) Prepared: 06/22/2015 10:45 Analyzed: 06/25/2015 09:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	47.9		20.0	ug/L	50.0		96	85-115			
Arsenic	474		10.0	ug/L	500		95	85-115			
Cadmium	49.7		3.00	ug/L	50.0		99	85-115			
Copper	502		10.0	ug/L	500		100	85-115			
Lead	500		5.00	ug/L	500		100	85-115			
Nickel	516		10.0	ug/L	500		103	85-115			
Selenium	452		10.0	ug/L	500		90	85-115			
Silver	51.7		1.00	ug/L	50.0		103	85-115			
Thallium	51.2		1.00	ug/L	50.0		102	85-115			
Zinc	460		50.0	ug/L	500		92	85-115			

Matrix Spike (5F22015-MS1) Prepared: 06/22/2015 10:45 Analyzed: 06/25/2015 09:33

Source: A503780-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	49.4		20.0	ug/L	50.0	1.10 U	99	70-130			
Arsenic	488		10.0	ug/L	500	7.35	96	70-130			
Cadmium	50.6		3.00	ug/L	50.0	1.10 U	101	70-130			
Copper	507		10.0	ug/L	500	2.20 U	101	70-130			
Lead	498		5.00	ug/L	500	1.60 U	100	70-130			
Nickel	523		10.0	ug/L	500	3.20 U	105	70-130			
Selenium	443		10.0	ug/L	500	6.50 U	89	70-130			
Silver	51.2		1.00	ug/L	50.0	0.290 U	102	70-130			
Thallium	50.1		1.00	ug/L	50.0	0.580 U	100	70-130			
Zinc	469		50.0	ug/L	500	16.0 U	94	70-130			

Matrix Spike Dup (5F22015-MSD1) Prepared: 06/22/2015 10:45 Analyzed: 06/25/2015 09:37

Source: A503780-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	49.9		20.0	ug/L	50.0	1.10 U	100	70-130	1	30	
Arsenic	476		10.0	ug/L	500	7.35	94	70-130	3	30	
Cadmium	49.3		3.00	ug/L	50.0	1.10 U	99	70-130	3	30	
Copper	503		10.0	ug/L	500	2.20 U	101	70-130	0.8	30	
Lead	494		5.00	ug/L	500	1.60 U	99	70-130	0.7	30	
Nickel	520		10.0	ug/L	500	3.20 U	104	70-130	0.7	30	
Selenium	460		10.0	ug/L	500	6.50 U	92	70-130	4	30	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Metals by EPA 200 Series Methods - Quality Control

Batch 5F22015 - EPA 3005A - Continued

Matrix Spike Dup (5F22015-MSD1) Continued Prepared: 06/22/2015 10:45 Analyzed: 06/25/2015 09:37

Source: A503780-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Silver	50.2		1.00	ug/L	50.0	0.290 U	100	70-130	2	30	
Thallium	49.8		1.00	ug/L	50.0	0.580 U	100	70-130	0.5	30	
Zinc	468		50.0	ug/L	500	16.0 U	94	70-130	0.2	30	

Post Spike (5F22015-PS1) Prepared: 06/25/2015 08:00 Analyzed: 06/25/2015 09:40

Source: A503780-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	4.67		2.00	ug/L	4.90	0.031	95	75-125			
Arsenic	47.6		1.00	ug/L	49.0	0.721	96	75-125			
Cadmium	4.93		0.300	ug/L	4.90	-0.007	101	75-125			
Copper	50.4		1.00	ug/L	49.0	0.156	102	75-125			
Lead	48.9		0.500	ug/L	49.0	0.020	100	75-125			
Nickel	52.2		1.00	ug/L	49.0	0.104	106	75-125			
Selenium	45.1		1.00	ug/L	49.0	-0.064	92	75-125			
Silver	5.05		0.100	ug/L	4.90	-0.014	103	75-125			
Thallium	4.88		0.100	ug/L	4.90	-0.005	100	75-125			
Zinc	47.4		5.00	ug/L	49.0	0.787	95	75-125			

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Batch 5F18013 - EPA 7470A

Blank (5F18013-BLK1) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	0.023	U	0.200	ug/L							

Blank (5F18013-BLK2) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:42

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	0.023	U	0.200	ug/L							LG-01

LCS (5F18013-BS1) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:45

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.18		0.200	ug/L	5.00		104	85-115			

Matrix Spike (5F18013-MS1) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:52

Source: A503749-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	3.92		0.200	ug/L	5.00	0.0477	78	70-130			

Matrix Spike Dup (5F18013-MSD1) Prepared: 06/24/2015 11:30 Analyzed: 06/25/2015 07:55

Source: A503749-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	3.87		0.200	ug/L	5.00	0.0477	76	70-130	1	10	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Batch 5F18013 - EPA 7470A - Continued

Post Spike (5F18013-PS1) Prepared: 06/25/2015 06:00 Analyzed: 06/25/2015 07:58

Source: A503749-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.15		0.200	ug/L	5.61	0.0450	91	75-125			

Batch 5F22016 - EPA 3005A

Blank (5F22016-BLK1) Prepared: 06/22/2015 10:45 Analyzed: 06/23/2015 13:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.110	U	2.00	ug/L							
Arsenic	0.610	U	1.00	ug/L							
Cadmium	0.110	U	0.300	ug/L							
Copper	0.220	U	1.00	ug/L							
Lead	0.160	U	0.500	ug/L							
Nickel	0.320	U	1.00	ug/L							
Selenium	0.650	U	1.00	ug/L							
Silver	0.029	U	0.100	ug/L							
Thallium	0.058	U	0.100	ug/L							
Zinc	1.60	U	5.00	ug/L							

Blank (5F22016-BLK2) Prepared: 06/22/2015 10:45 Analyzed: 06/23/2015 13:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.110	U	2.00	ug/L							LG-01
Arsenic	0.610	U	1.00	ug/L							LG-01
Cadmium	0.110	U	0.300	ug/L							LG-01
Copper	0.220	U	1.00	ug/L							LG-01
Lead	0.160	U	0.500	ug/L							LG-01
Nickel	0.320	U	1.00	ug/L							LG-01
Selenium	0.650	U	1.00	ug/L							LG-01
Silver	0.029	U	0.100	ug/L							LG-01
Thallium	0.058	U	0.100	ug/L							LG-01
Zinc	1.60	U	5.00	ug/L							LG-01

LCS (5F22016-BS1) Prepared: 06/22/2015 10:45 Analyzed: 06/23/2015 13:14

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	4.88		2.00	ug/L	5.00		98	85-115			
Arsenic	46.7		1.00	ug/L	50.0		93	85-115			
Cadmium	4.81		0.300	ug/L	5.00		96	85-115			
Copper	49.9		1.00	ug/L	50.0		100	85-115			
Lead	50.3		0.500	ug/L	50.0		101	85-115			
Nickel	51.4		1.00	ug/L	50.0		103	85-115			
Selenium	46.1		1.00	ug/L	50.0		92	85-115			
Silver	4.95		0.100	ug/L	5.00		99	85-115			
Thallium	4.98		0.100	ug/L	5.00		100	85-115			
Zinc	47.4		5.00	ug/L	50.0		95	85-115			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Batch 5F22016 - EPA 3005A - Continued

LCS Dup (5F22016-BSD1) Prepared: 06/22/2015 10:45 Analyzed: 06/23/2015 13:18

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	4.91		2.00	ug/L	5.00		98	85-115	0.6	20	
Arsenic	49.1		1.00	ug/L	50.0		98	85-115	5	20	
Cadmium	4.84		0.300	ug/L	5.00		97	85-115	0.8	20	
Copper	49.9		1.00	ug/L	50.0		100	85-115	0.01	20	
Lead	49.4		0.500	ug/L	50.0		99	85-115	2	20	
Nickel	50.0		1.00	ug/L	50.0		100	85-115	3	20	
Selenium	47.1		1.00	ug/L	50.0		94	85-115	2	20	
Silver	5.06		0.100	ug/L	5.00		101	85-115	2	20	
Thallium	4.94		0.100	ug/L	5.00		99	85-115	0.8	20	
Zinc	47.8		5.00	ug/L	50.0		96	85-115	0.9	20	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a "tentative identification".
P	Greater than 25% concentration difference was observed between the primary and secondary GC column. The lower concentration is reported.
LG-01	Sample filtered in laboratory.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AIR WATER & SOIL LABORATORIES, INC.

ENCO-FL
10775 Central Port Drive
Orlando, FL 32824

CHAIN OF CUSTODY

A503789

PAGE 1 OF 1

COMPANY NAME: AWS Labs, Inc.	INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #:	
CONTACT: JP Verheul	INVOICE CONTACT: Jennifer Sult	SITE NAME:	15F0604
ADDRESS: 1941 Reymet Road, Richmond, VA 23237	INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23	PROJECT NUMBER:	15F0604
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #:	382044
FAX #:	EMAIL: support@awslabs.com	Pretreatment Program:	
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:	
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	Turn Around Time: ↓	

Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) Dissolved Sb, As, Cd, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn-200.8	Total Sb, As, Cd, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn-200.8	COMMENTS
1) 15F0604-01	x					17 Jun 15	12.00		WW	2	x	x	Please note that samples for dissolved metals are to be lab-filtered
2) 15F0604-02	x					↓	13.00		↓	2	x	x	x DUE 2 July 2015
3) 15F0604-03	x					↓	10.15		↓	2	x	x	
4)													
5)													
6)													
7)													
8)													
9)													

RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME
[signature]	18 June 2015 17.00	UPS Next Day Air Saver	
RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME
		[signature]	6/19 1152
RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY

COOLER TEMP 4.0 °C

ENCO SUB COC.xls

AWS 0189

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421

www.capefearanalytical.com

June 30, 2015

Ms. Jessica Reich
Air Water & Soil
1941 Reymet Road
Richmond, Virginia 23237

Re: Dioxin & HRMS PCB's subcontract
Work Order: 7799
SDG: 15F0604

Dear Ms. Reich:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 19, 2015. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynthia Larkins
Project Manager

Purchase Order: 382044
Enclosures

AIR WATER & SOIL LABORATORIES, INC.

Cape Fear
3306 Kitty Hawk Rd., Suite 120
Wilmington, NC 28405

CFA WO # 7799

CHAIN OF CUSTODY

COMPANY NAME: AWS Labs, Inc.	INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #:
CONTACT: JP Verheul	INVOICE CONTACT: Jennifer Sult	SITE NAME: 15F0604
ADDRESS: 1941 Reymet Road, Richmond, VA 23237	INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23	PROJECT NUMBER: 15F0604
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: 382044
FAX #:	EMAIL: support@awslabs.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	Turn Around Time: ↓

Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) 2,3,7,8-TCDD 8290 only								COMMENTS
1) 15F0604-02	x					17 JUNE'15	13.00	13.00	WW	1	x								DUE 2 July 2015
2) 15F0604-03	x					17 JUNE'15	10.15	10.15	WW	2	x								DUPE IF NEEDED
3)																			
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[signature]	18 JUNE 2015 17.00	FPS GROUND	
RELINQUISHED:	DATE / TIME	RECEIVED: [signature]	DATE / TIME 6/19/15 1010
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY

COOLER TEMP 4.4 °C

CF SUB COC.xls

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: AWSL	Work Order: 7799
Shipping Company: UPS	Date/Time Received: 19JUN15 1010

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			✓
Samples identified as Foreign Soil?			✓

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			✓

Air Witness: _____

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: ice bags blue ice dry ice none other (describe) 4, 4°C
4	Aqueous samples found to have visible solids?			✓	Sample IDs, containers affected:
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: pH=11 on 15F0604-02, pH=8 on both containers of 15F0604-03 If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
7	Samples received within holding time?	✓			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?			✓	Sample IDs, containers affected: See below
10	Number of containers received match number indicated on COC?	✓		~~✓~~	Sample IDs, containers affected: ~~See below~~ CJ 19JUN15
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Collection time on container 2 of 2 for sample ~~150~~ 15F0604-03 is 1140, COC has 1015.
CJ 19JUN15

Checklist performed by: Initials: CJ Date: 19JUN15

Subject: RE: 15F0604
From: "JP Verheul" <jverheul@awslabs.com>
Date: 6/22/2015 9:13 AM
To: "'Cynde Larkins'" <cynde.larkins@cfanalytical.com>

Good morning Cynde,

Please use 10:15 for the sampling time. I had to laugh when I read your email; please use a "Mr." if you must be formal, but you are welcome to just call me JP.

If you have any other questions, please do not hesitate to ask.

JP Verheul

Laboratory Services / Chemist
Air Water & Soil Laboratories, Inc
jverheul@awslabs.com
804-358-8295
1941 Reymet Rd, Richmond, VA 23237
www.awslabs.com

Confidentiality Notice
The information contained in this document is privileged, confidential, and protected under applicable law. It is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of the communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately and destroy the document.

-----Original Message-----
From: Cynde Larkins [mailto:cynde.larkins@cfanalytical.com]
Sent: Friday, June 19, 2015 6:24 PM
To: JP Verheul
Subject: 15F0604

JP,

Will you please verify the collection time for 15F0604-03? One container has 1140 and the second container has 1015.

Thank you,

PS - I apologize, but I don't know if you are a Mr. or a Ms. Will you tell me what I am supposed to use in front of the Verheul?

--
Cynde Larkins
Project Manager
Cape Fear Analytical
3306 Kitty Hawk Road
Suite 120
Wilmington, NC 28405
(910) 795-0421

How was your customer experience? Customer service is a high priority for us, so we listen to what our customers have to say! Thank you for taking time to email us your thoughts and opinions at feedback@cfanalytical.com

CONFIDENTIALITY NOTICE: This e-mail and any files transmitted with it are the property of Cape Fear Analytical, LLC. All rights,including without limitation copyright,are reserved. The proprietary information contained in this e-mail message, and any files transmitted with it, is intended for the use of the recipient(s) named above. If the reader of this e-mail is not the intended recipient, you are hereby notified that you have received this e-mail in error and that any review, distribution or copying of this e-mail or any files transmitted with it is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately and delete the original message and any files transmitted. The unauthorized use of this e-mail or any files transmitted with it is prohibited and disclaimed by Cape Fear Analytical, LLC.

High Resolution Dioxins and Furans Analysis

Case Narrative

HDOX Case Narrative
Air Water & Soil (AWSL)
SDG 15F0604
Work Order 7799

Method/Analysis Information

Product:	**TCDD only by SW846 Method 8290A in Liquids**
Analytical Method:	SW846 8290A
Extraction Method:	SW846 3520C
Analytical Batch Number:	29330
Clean Up Batch Number:	29329
Extraction Batch Number:	29328

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8290A:

Sample ID	Client ID
7799001	15F0604-02
7799002	15F0604-03
12013672	Method Blank (MB)
12013673	Laboratory Control Sample (LCS)
12013674	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 14.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

System Configuration
This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP750_2	Primary Dioxin Analysis	Dioxin Analysis	DB-5MS	60m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC
3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report
for

AWSL001 Air Water & Soil

Client SDG: 15F0604 CFA Work Order: 7799

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a surrogate compound

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: **Name: Heather Patterson**

Date: 30 JUN 2015 **Title: Data Validator**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**7799001**	**Date Collected:**	**06/17/2015 13:00**	**Matrix:**	**WATER**
Client Sample:	**8290 TCDD Water**	**Date Received:**	**06/19/2015 10:10**		
Client ID:	**15F0604-02**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/28/2015 13:33**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_6-11**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**917.1 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.45		pg/L	1.45	10.9

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1800	2180	pg/L	82.7	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**7799002**	**Date Collected:**	**06/17/2015 10:15**	**Matrix:**	**WATER**
Client Sample:	**8290 TCDD Water**	**Date Received:**	**06/19/2015 10:10**		
Client ID:	**15F0604-03**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/28/2015 14:20**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_6-12**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**901.6 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.64		pg/L	1.64	11.1

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1860	2220	pg/L	83.7	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 15F0604

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12013673	LCS for batch 29328	13C-2,3,7,8-TCDD		81.8	(40%-135%)
12013674	LCSD for batch 29328	13C-2,3,7,8-TCDD		66.2	(40%-135%)
12013672	MB for batch 29328	13C-2,3,7,8-TCDD		80.3	(40%-135%)
7799001	15F0604-02	13C-2,3,7,8-TCDD		82.7	(40%-135%)
7799002	15F0604-03	13C-2,3,7,8-TCDD		83.7	(40%-135%)

* Recovery outside Acceptance Limits
# Column to be used to flag recovery values
D Sample Diluted

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: **15F0604** **Sample Type:** **Laboratory Control Sample**

Client ID: **LCS for batch 29328** **Matrix:** **WATER**

Lab Sample ID: **12013673**

Instrument: **HRP750** **Analysis Date:** **06/27/2015 18:39** **Dilution:** **1**

Analyst: **MJC** **Prep Batch ID:** **29328**

Batch ID: **29330**

CAS No.		Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits
1746-01-6	LCS	2,3,7,8-TCDD	200	204	102	70-130

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: **15F0604** **Sample Type:** **Laboratory Control Sample Duplicate**

Client ID: **LCSD for batch 29328** **Matrix:** **WATER**

Lab Sample ID: **12013674**

Instrument: **HRP750** **Analysis Date:** **06/27/2015 19:26** **Dilution:** **1**

Analyst: **MJC** **Prep Batch ID:** **29328**

Batch ID: **29330**

CAS No.		Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD	2,3,7,8-TCDD	200	206	103	70-130	0.819	0-20

Method Blank Summary

SDG Number:	**15F0604**	**Client:**	**AWSL001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 29328**	**Instrument ID:**	**HRP750**	**Data File:**	**A26JUN15A_5-3**
Lab Sample ID:	**12013672**	**Prep Date:**	**25-JUN-15**	**Analyzed:**	**06/27/15 20:12**
Column:					

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 29328	12013673	A26JUN15A_5-1	06/27/15	1839
02	LCSD for batch 29328	12013674	A26JUN15A_5-2	06/27/15	1926
03	15F0604-02	7799001	A26JUN15A_6-11	06/28/15	1333
04	15F0604-03	7799002	A26JUN15A_6-12	06/28/15	1420

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**12013672**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 29328**				
Client ID:	**MB for batch 29328**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/27/2015 20:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_5-3**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.38		pg/L	1.38	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1610	2000	pg/L	80.3	(40%-135%)

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**12013673**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 29328**				
Client ID:	**LCS for batch 29328**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/27/2015 18:39**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_5-1**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		204		pg/L	1.62	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1640	2000	pg/L	81.8	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**12013674**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 29328**				
Client ID:	**LCSD for batch 29328**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/27/2015 19:26**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_5-2**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		206		pg/L	2.10	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1320	2000	pg/L	66.2	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 01, 2015

Ms. Jessica L. Reich
Air, Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237

RE: Project: 15F0604
Pace Project No.: 30151268

Dear Ms. Reich:
Enclosed are the analytical results for sample(s) received by the laboratory on June 19, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: 15F0604
Pace Project No.: 30151268

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: PA014572014-4
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 15F0604
Pace Project No.: 30151268

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30151268001	**15F0604-01**	Water	06/17/15 12:00	06/19/15 09:45
30151268002	**15F0604-02**	Water	06/17/15 13:00	06/19/15 09:45
30151268003	**15F0604-03**	Water	06/17/15 10:15	06/19/15 09:45

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 15F0604
Pace Project No.: 30151268

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30151268001	**15F0604-01**	EPA 900.0	FCC	2
		EPA 903.1	JC2	1
		EPA 904.0	JLW	1
30151268002	**15F0604-02**	EPA 900.0	FCC	2
		EPA 903.1	JC2	1
		EPA 904.0	JLW	1
30151268003	**15F0604-03**	EPA 900.0	FCC	2
		EPA 903.1	JC2	1
		EPA 904.0	JLW	1

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 15F0604
Pace Project No.: 30151268

Method: **EPA 900.0**
Description: 900.0 Gross Alpha/Beta
Client: Air, Water & Soil Laboratories
Date: July 01, 2015

General Information:
3 samples were analyzed for EPA 900.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 15F0604
Pace Project No.: 30151268

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Air, Water & Soil Laboratories
Date: July 01, 2015

General Information:
3 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 15F0604
Pace Project No.: 30151268

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Air, Water & Soil Laboratories
Date: July 01, 2015

General Information:
3 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 15F0604
Pace Project No.: 30151268

Sample: 15F0604-01 **Lab ID: 30151268001** Collected: 06/17/15 12:00 Received: 06/19/15 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the samples to meet the sample preservation requirement of pH <2 for radiological analyses.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**7.40 ± 4.67 (7.41) C:NA T:NA**	pCi/L	06/23/15 20:22	12587-46-1	
Gross Beta	EPA 900.0	**11.1 ± 2.87 (3.04) C:NA T:NA**	pCi/L	06/23/15 20:22	12587-47-2	
Radium-226	EPA 903.1	**0.607 ± 0.599 (0.912) C:NA T:87%**	pCi/L	06/29/15 13:46	13982-63-3	
Radium-228	EPA 904.0	**-0.0934 ± 0.334 (0.803) C:74% T:85%**	pCi/L	06/30/15 11:50	15262-20-1	

Sample: 15F0604-02 **Lab ID: 30151268002** Collected: 06/17/15 13:00 Received: 06/19/15 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the samples to meet the sample preservation requirement of pH <2 for radiological analyses.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**5.86 ± 4.60 (7.78) C:NA T:NA**	pCi/L	06/23/15 20:22	12587-46-1	
Gross Beta	EPA 900.0	**13.0 ± 3.34 (3.52) C:NA T:NA**	pCi/L	06/23/15 20:22	12587-47-2	
Radium-226	EPA 903.1	**0.722 ± 0.528 (0.591) C:NA T:92%**	pCi/L	06/29/15 14:49	13982-63-3	
Radium-228	EPA 904.0	**0.891 ± 0.434 (0.743) C:73% T:84%**	pCi/L	06/30/15 14:57	15262-20-1	

Sample: 15F0604-03 **Lab ID: 30151268003** Collected: 06/17/15 10:15 Received: 06/19/15 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the samples to meet the sample preservation requirement of pH <2 for radiological analyses.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**-0.136 ± 0.668 (1.90) C:NA T:NA**	pCi/L	06/24/15 07:28	12587-46-1	
Gross Beta	EPA 900.0	**0.329 ± 0.711 (1.65) C:NA T:NA**	pCi/L	06/24/15 07:28	12587-47-2	
Radium-226	EPA 903.1	**0.0474 ± 0.474 (0.900) C:NA T:93%**	pCi/L	06/29/15 14:02	13982-63-3	
Radium-228	EPA 904.0	**-0.103 ± 0.408 (0.920) C:70% T:70%**	pCi/L	06/30/15 14:57	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 15F0604
Pace Project No.: 30151268

QC Batch: RADC/24944 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 30151268001, 30151268002, 30151268003

METHOD BLANK: 913462 Matrix: Water
Associated Lab Samples: 30151268001, 30151268002, 30151268003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.299 ± 0.323 (0.815) C:74% T:89%	pCi/L	06/30/15 11:50	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 15F0604
Pace Project No.: 30151268

QC Batch: RADC/24916 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 30151268001, 30151268002, 30151268003

METHOD BLANK: 911967 Matrix: Water
Associated Lab Samples: 30151268001, 30151268002, 30151268003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0122 ± 0.511 (0.961) C:NA T:94%	pCi/L	06/29/15 13:07	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 15F0604
Pace Project No.: 30151268

QC Batch: RADC/24901 Analysis Method: EPA 900.0
QC Batch Method: EPA 900.0 Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30151268001, 30151268002, 30151268003

METHOD BLANK: 911410 Matrix: Water
Associated Lab Samples: 30151268001, 30151268002, 30151268003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.598 ± 0.796 (1.69) C:NA T:NA	pCi/L	06/24/15 06:24	
Gross Beta	0.127 ± 0.712 (1.69) C:NA T:NA	pCi/L	06/24/15 06:24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 15F0604
Pace Project No.: 30151268

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

AIR WATER & SOIL LABORATORIES, INC.

Pace Analytical
1638 Roseytown Rd. Suites
Greensboro, PA 15601

WO#:30151268

30151268

CHAIN OF CUSTODY

COMPANY NAME: AWS Labs, Inc.	INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #:
CONTACT: JP Verheul	INVOICE CONTACT: Jennifer Sult	SITE NAME: 15F0604
ADDRESS: 1941 Reymet Road, Richmond, VA 23237	INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23	PROJECT NUMBER: 15F0604
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: 382044
FAX #:	EMAIL: support@awslabs.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	Turn Around Time:

Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) Gross Alpha / Beta Activity (HNO3)	Combined Radium 226 & 228 (HNO3)	COMMENTS
1) 15F0604-01	x					17 June '15	12.00		WW	3	x	x	001
2) 15F0604-02	x					↓	13.00		↓	3	x	x	002
3) 15F0604-03	x					↓	10.15		↓	3	x	x	003
4)													
5)													
6)													
7)													
8)													

DUE 2 July 2015

RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME
[signature]	18 JUNE 2015 17.00	UPS Next Day Air Saver	
RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME
		[signature] Pace 6/19/15 0945	
RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY

COOLER TEMP _____ °C

Pace SUB COC.xls

Sample Condition Upon Receipt

VEW

Pace Analytical

Client Name: Air Water Soil Project # 30151268

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1ZF516E13983236 75

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes No

Packing Material: Bubble Wrap ✓ Bubble Bags ___ None ___ Other _____

Thermometer Used NA Type of Ice: ~~Wet~~ Blue None ☑ Samples on Ice, cooling process has begun

Cooler Temp.: Observed Temp.: NA °C Correction Factor: ____ °C Final Temp: ____ °C

Date and initials of person examining contents: VEW 6/19/15

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WA	☑Yes ☐No ☐N/A	12.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13. 6/19/15 1040 3mL HNO3 to each bottle
All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenols	☐Yes ☑No ☐Yes ☑No	Initial when completed VEW Lot # of added preservative DLS-04493
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 6/20/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

Project Number: 30151268

Client Name: Air Water + Soil

Item No.	001	003										
Matrix Code	WT	←										
Glass Jar (120 / 250 / 500 / 1L)												
Soil kit (2 SB, 1M, soil jar)												
Chemistry (250 / 500 / 1L)												
Organics (1L)												
Nutrient (250 / 500)												
Phenolics (250 ml)												
TOC (40 ml / 250 ml)												
TOX (250 ml)												
Total Metals												
Dissolved Metals preserved Y N												
O & G (1L)												
TPH (1L)												
VOA (40 ml 30 ml)												
Cyanide (250 ml)												
Sulfide (500 ml)												
Bacteria (120 ml)												
Wipes / swipe/ smear/ filter												
Radchem Nalgene (125 / 250 / 500 / 1L) Q-1 Q-2	3	←										
Radchem Nalgene (1/2 gal. / 1 gal.L)												
Cubitainer (500 ml / 4L)												
Ziploc												
Other												
Other												

SCURF Back (C016-4 15May2012).xls

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Air Water & Soil Laboratories
1941 Reymet Rd
Richmond VA 23237

July 02, 2015

Project: 15F0604

Submittal Date: 06/20/2015
Group Number: 1570831
PO Number: 15F0604
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
15F0604-05 Grab Water	7938069

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Air Water & Soil Laboratories	Attn: JP Verheul
ELECTRONIC COPY TO	Air Water & Soil Laboratories	Attn: Support

Respectfully Submitted,

Angela M. Miller
Specialist

(717) 556-7260

Sample Description: 15F0604-05 Grab Water
15F0604

LL Sample # WW 7938069
LL Group # 1570831
Account # 12477

Project Name: 15F0604

Collected: 06/18/2015 14:25

Submitted: 06/20/2015 10:50
Reported: 07/02/2015 16:10

Air Water & Soil Laboratories
1941 Reymet Rd
Richmond VA 23237

15604

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Pesticides	**EPA 622**		ug/l	ug/l	
12144	Demeton-O	298-03-3	N.D.	6.2	1
12144	Demeton-S	126-75-0	N.D.	6.2	1
12144	Diazinon	333-41-5	N.D.	6.2	1
12144	Dursban (Chlorpyrifos)	2921-88-2	N.D.	6.2	1
12144	Guthion (Azinphos-methyl)	86-50-0	N.D.	6.2	1

The response for diazinon in the continuing calibration verification standard is outside the QC acceptance limits. The response is -12% which would have marginal impact on the data.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12144	OP Pest water 622 Master	EPA 622	1	151760003A	06/27/2015 04:42	Richard A Shober	1
12822	OP Pest 622 Extraction	EPA 622	1	151760003A	06/25/2015 17:15	JoElla L Rice	1

Quality Control Summary

Client Name: Air Water & Soil Laboratories Group Number: 1570831
Reported: 07/02/2015 16:10

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 151760003A	Sample number(s): 7938069							
Demeton-O	N.D.	6.0	ug/l	32	32	21-115	2	20
Demeton-S	N.D.	6.0	ug/l	75	71	16-132	6	20
Diazinon	N.D.	6.0	ug/l	66	66	18-154	1	20
Dursban (Chlorpyrifos)	N.D.	6.0	ug/l	83	85	76-122	2	20
Guthion (Azinphos-methyl)	N.D.	6.0	ug/l	81	82	37-134	1	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: OP Pest water 622 Master
Batch number: 151760003A

	2-Nitro-m-xylene
7938069	50
Blank	56
LCS	55
LCSD	54
Limits:	40-148

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

AIR WATER & SOIL LABORATORIES, INC.

Eurofins Lancaster
2425 New Holland Pike
Lancaster, PA 17601

12477 | 1570831 | 7938069

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: AWS Labs, Inc.	INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #: 15F0604
CONTACT: JP Verheul	INVOICE CONTACT: Jennifer Sult	SITE NAME:
ADDRESS: 1941 Reymet Road, Richmond, VA 23237	INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23	PROJECT NUMBER: 15F0604
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: 15F0604
FAX #:	EMAIL: support@awslabs.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	**Turn Around Time:**

Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) Pest622: Chlorpyrifos, Demeton-O, Demeton-S, Diazinon, Guthion							COMMENTS
																		RESULTS DUE BY 7/3/15
1) 15F0604-05	G					6/18/15	1425			1	X							
2)																		
3)																		
4)																		
5)																		
6)																		
7)																		
8)																		
9)																		
10)																		

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME 6.20.15 1525

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY **COOLER TEMP** 3.7 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 79663

Group Number(s): 1570831

Client: AWS

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	06/20/2015 10:50
Number of Packages:	1	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 14:40 on 06/20/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	3.7	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
ww

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Air Water & Soil Laboratories
1941 Reymet Rd
Richmond VA 23237

July 02, 2015

Project: 15F0604

Submittal Date: 06/19/2015
Group Number: 1570462
PO Number: 382044
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
15F0604-02 Grab Water	7935453
15F0604-03 Grab Water	7935454
15F0604-03 MS Grab Water	7935455
15F0604-03 MSD Grab Water	7935456

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Air Water & Soil Laboratories	Attn: JP Verheul
ELECTRONIC COPY TO	Air Water & Soil Laboratories	Attn: Support

Respectfully Submitted,

Angela M. Miller
Specialist

(717) 556-7260

Sample Description: 15F0604-02 Grab Water
15F0604

LL Sample # WW 7935453
LL Group # 1570462
Account # 12477

Project Name: 15F0604

Collected: 06/17/2015 13:00

Submitted: 06/19/2015 08:10
Reported: 07/02/2015 15:34

Air Water & Soil Laboratories
1941 Reymet Rd
Richmond VA 23237

60402

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Pesticides	**EPA 622**		**ug/l**	**ug/l**	
12144	Demeton-O	298-03-3	N.D.	6.5	1
12144	Demeton-S	126-75-0	N.D.	6.5	1
12144	Diazinon	333-41-5	N.D.	6.5	1
12144	Dursban (Chlorpyrifos)	2921-88-2	N.D.	6.5	1
12144	Guthion (Azinphos-methyl)	86-50-0	N.D.	6.5	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12144	OP Pest water 622 Master	EPA 622	1	151710006A	06/27/2015 00:04	Richard A Shober	1
12822	OP Pest 622 Extraction	EPA 622	1	151710006A	06/21/2015 03:00	Karen L Beyer	1

Sample Description: 15F0604-03 Grab Water
15F0604

LL Sample # WW 7935454
LL Group # 1570462
Account # 12477

Project Name: 15F0604

Collected: 06/17/2015 10:15

Submitted: 06/19/2015 08:10
Reported: 07/02/2015 15:34

Air Water & Soil Laboratories
1941 Reymet Rd
Richmond VA 23237

60403

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Pesticides	**EPA 622**		**ug/l**	**ug/l**	
12144	Demeton-O	298-03-3	N.D.	6.2	1
12144	Demeton-S	126-75-0	N.D.	6.2	1
12144	Diazinon	333-41-5	N.D.	6.2	1
12144	Dursban (Chlorpyrifos)	2921-88-2	N.D.	6.2	1
12144	Guthion (Azinphos-methyl)	86-50-0	N.D.	6.2	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12144	OP Pest water 622 Master	EPA 622	1	151710006A	06/27/2015 00:39	Richard A Shober	1
12822	OP Pest 622 Extraction	EPA 622	1	151710006A	06/21/2015 03:00	Karen L Beyer	1

Sample Description: 15F0604-03 MS Grab Water
15F0604

LL Sample # WW 7935455
LL Group # 1570462
Account # 12477

Project Name: 15F0604

Collected: 06/17/2015 10:15

Submitted: 06/19/2015 08:10
Reported: 07/02/2015 15:34

Air Water & Soil Laboratories
1941 Reymet Rd
Richmond VA 23237

60403

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Pesticides	**EPA 622**		ug/l	ug/l	
12144	Demeton-O	298-03-3	< 6.2	6.2	1
12144	Demeton-S	126-75-0	8.7	6.2	1
12144	Diazinon	333-41-5	15	6.2	1
12144	Dursban (Chlorpyrifos)	2921-88-2	19	6.2	1
12144	Guthion (Azinphos-methyl)	86-50-0	15	6.2	1

The response fordiazinon in the continuing calibration verification standard is outside the QC acceptance limits. Since this sample is the matrix spike, the data is reported.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12144	OP Pest water 622 Master	EPA 622	1	151710006A	06/27/2015 01:48	Richard A Shober	1
12822	OP Pest 622 Extraction	EPA 622	1	151710006A	06/21/2015 03:00	Karen L Beyer	1

Sample Description: 15F0604-03 MSD Grab Water
15F0604

LL Sample # WW 7935456
LL Group # 1570462
Account # 12477

Project Name: 15F0604

Collected: 06/17/2015 10:15

Submitted: 06/19/2015 08:10
Reported: 07/02/2015 15:34

Air Water & Soil Laboratories
1941 Reymet Rd
Richmond VA 23237

60403

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Pesticides	**EPA 622**		ug/l	ug/l	
12144	Demeton-O	298-03-3	< 6.3	6.3	1
12144	Demeton-S	126-75-0	11	6.3	1
12144	Diazinon	333-41-5	15	6.3	1
12144	Dursban (Chlorpyrifos)	2921-88-2	19	6.3	1
12144	Guthion (Azinphos-methyl)	86-50-0	18	6.3	1

The response fordiazinon in the continuing calibration verification standard is outside the QC acceptance limits. Since this sample is the matrix spike duplicate, the data is reported.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12144	OP Pest water 622 Master	EPA 622	1	151710006A	06/27/2015 02:23	Richard A Shober	1
12822	OP Pest 622 Extraction	EPA 622	1	151710006A	06/21/2015 03:00	Karen L Beyer	1

Quality Control Summary

Client Name: Air Water & Soil Laboratories Group Number: 1570462
Reported: 07/02/2015 15:34

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 151710006A	Sample number(s): 7935453-7935456							
Demeton-O	N.D.	6.0	ug/l	33		21-115		
Demeton-S	N.D.	6.0	ug/l	62		16-132		
Diazinon	N.D.	6.0	ug/l	71		18-154		
Dursban (Chlorpyrifos)	N.D.	6.0	ug/l	82		76-122		
Guthion (Azinphos-methyl)	N.D.	6.0	ug/l	76		37-134		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 151710006A	Sample number(s): 7935453-7935456 UNSPK: 7935454								
Demeton-O	40	41	38-121	6	20				
Demeton-S	59	72	56-142	22*	20				
Diazinon	71	71	59-124	3	20				
Dursban (Chlorpyrifos)	92	88	64-112	2	20				
Guthion (Azinphos-methyl)	71	86	13-161	21*	20				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: OP Pest water 622 Master
Batch number: 151710006A

	2-Nitro-m-xylene
7935453	68
7935454	66
7935455	67
7935456	63
Blank	67
LCS	65
MS	67
MSD	63
Limits:	40-148

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Air Water & Soil Laboratories Group Number: 1570462
Reported: 07/02/2015 15:34

Surrogate Quality Control

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

AIR WATER & SOIL LABORATORIES, INC.

Eurofins Lancaster
2425 New Holland Pike
Lancaster, PA 17601

12477 | 1570462 | 7935453-56

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: AWS Labs, Inc.	INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #:
CONTACT: JP Verheul	INVOICE CONTACT: Jennifer Sult	SITE NAME: 15F0604
ADDRESS: 1941 Reymet Road, Richmond, VA 23237	INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23	PROJECT NUMBER: 15F0604
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: 382044
FAX #: EMAIL: support@awslabs.com		Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	Turn Around Time: ↓

Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) Pest622: Chlorpyrifos, Demeton-O, Demeton-S, Diazinon, Guthion							COMMENTS
1) 15F0604-02	x					17 Jun '15	13.00		WW	1	x							DUE 2 July 2015
2) 15F0604-03	x					17 Jun '15	10.15	10.15	WW	3	x							MS/MSD IF NEEDED
3)																		
4)																		
5)																		
6)																		
7)																		
8)																		
9)																		
10)																		

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[signature]	18 JUNE 2015 17.00	UPS GROUND	
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
		[signature]	6/19/15 0810

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY

COOLER TEMP 5.1 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 79098

Group Number(s): 1570462

Client: Air, Water & Soil

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	06/19/2015 8:10
Number of Packages:	1	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Kristin Zeigler (2123) at 08:54 on 06/19/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	8013596-IR	5.0	IR	Wet	Y	Loose	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T : 717-656-2300
F : 717-656-2681
ww

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421
www.capefearanalytical.com

July 07, 2015

Ms. Jessica Reich
Air Water & Soil
1941 Reymet Road
Richmond, Virginia 23237

Re: Dioxin & HRMS PCB's subcontract
Work Order: 7814
SDG: 15F0604_2

Dear Ms. Reich:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 23, 2015. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynthia Larkins
Project Manager

Purchase Order: Internal
Enclosures

AIR WATER & SOIL LABORATORIES, INC.

Cape Fear
3306 Kitty Hawk Rd., Suite 120
Wilmington, NC 28405

7814
WO #~~7799~~ CR 29 JUN 15

CHAIN OF CUSTODY

COMPANY NAME: AWS Labs, Inc.	INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #: 15F0604
CONTACT: JP Verheul	INVOICE CONTACT: Jennifer Sult	SITE NAME:
ADDRESS: 1941 Reymet Road, Richmond, VA 23237	INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23	PROJECT NUMBER: 15F0604
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: ~~15F0604~~ 382051
FAX #:	EMAIL: support@awslabs.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	**Turn Around Time:**

Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) 2,3,7,8-TCDD 8290 only								COMMENTS
1) 15F0664-05	X					6/18/15	1425		WW	1	X								RESULTS DUE BY 7/6/15
2)																			
3)																			
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[signature]	6/22/15 1700	[signature]	
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
		[signature]	6/23/15 1022
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY **COOLER TEMP** 2.0 °C

CF SUB COC.xls

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

7814

Client: AWS	Work Order: ~~7799~~ CR 29JUN15
Shipping Company: UPS	Date/Time Received: 6/23/15 1022

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?		✓	
Samples identified as Foreign Soil?		✓	

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			✓

Air Witness: _____

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: ice bags blue ice dry ice none other (describe) 2.0
4	Aqueous samples found to have visible solids?			✓	Sample IDs, containers affected:
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#: None
7	Samples received within holding time?	✓			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
10	Number of containers received match number indicated on COC?	✓			Sample IDs, containers affected:
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CKC Date: 6/23/15

CF-UD-F-007

High Resolution Dioxins and Furans Analysis

Case Narrative

HDOX Case Narrative
Air Water & Soil (AWSL)
SDG 15F0604_2
Work Order 7814

Method/Analysis Information

Product:	**TCDD only by SW846 Method 8290A in Liquids**
Analytical Method:	SW846 8290A
Extraction Method:	SW846 3520C
Analytical Batch Number:	29330
Clean Up Batch Number:	29329
Extraction Batch Number:	29328

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8290A:

Sample ID	Client ID
7814001	15F0604-05
12013672	Method Blank (MB)
12013673	Laboratory Control Sample (LCS)
12013674	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 14.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

System Configuration
This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP750_2	Primary Dioxin Analysis	Dioxin Analysis	DB-5MS	60m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC
3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report
for

AWSL001 Air Water & Soil

Client SDG: 15F0604_2 CFA Work Order: 7814

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.
h Preparation or preservation holding time was exceeded

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: **Name: Heather Patterson**

Date: 07 JUL 2015 **Title: Data Validator**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604_2**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**7814001**	**Date Collected:**	**06/18/2015 14:25**	**Matrix:**	**WATER**
Client Sample:	**8290 TCDD Water**	**Date Received:**	**06/23/2015 10:22**		
Client ID:	**15F0604-05**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/28/2015 15:07**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_6-13**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**908.6 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.34		pg/L	1.34	11.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1740	2200	pg/L	79.1	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 15F0604_2

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12013673	LCS for batch 29328	13C-2,3,7,8-TCDD		81.8	(40%-135%)
12013674	LCSD for batch 29328	13C-2,3,7,8-TCDD		66.2	(40%-135%)
12013672	MB for batch 29328	13C-2,3,7,8-TCDD		80.3	(40%-135%)
7814001	15F0604-05	13C-2,3,7,8-TCDD		79.1	(40%-135%)

* Recovery outside Acceptance Limits
# Column to be used to flag recovery values
D Sample Diluted

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: **15F0604_2** **Sample Type:** **Laboratory Control Sample**

Client ID: **LCS for batch 29328** **Matrix:** **WATER**

Lab Sample ID: **12013673**

Instrument: **HRP750** **Analysis Date:** **06/27/2015 18:39** **Dilution:** **1**

Analyst: **MJC** **Prep Batch ID:** **29328**

Batch ID: **29330**

CAS No.		Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits
1746-01-6	LCS	2,3,7,8-TCDD	200	204	102	70-130

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: **15F0604_2** **Sample Type:** **Laboratory Control Sample Duplicate**

Client ID: **LCSD for batch 29328** **Matrix:** **WATER**

Lab Sample ID: **12013674**

Instrument: **HRP750** **Analysis Date:** **06/27/2015 19:26** **Dilution:** **1**

Analyst: **MJC** **Prep Batch ID:** **29328**

Batch ID: **29330**

CAS No.		Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD	2,3,7,8-TCDD	200	206	103	70-130	0.819	0-20

Method Blank Summary

SDG Number:	**15F0604_2**	**Client:**	**AWSL001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 29328**	**Instrument ID:**	**HRP750**	**Data File:**	**A26JUN15A_5-3**
Lab Sample ID:	**12013672**	**Prep Date:**	**25-JUN-15**	**Analyzed:**	**06/27/15 20:12**
Column:					

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 29328	12013673	A26JUN15A_5-1	06/27/15	1839
02	LCSD for batch 29328	12013674	A26JUN15A_5-2	06/27/15	1926
03	15F0604-05	7814001	A26JUN15A_6-13	06/28/15	1507

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604_2**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**12013672**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 29328**				
Client ID:	**MB for batch 29328**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/27/2015 20:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_5-3**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.38		pg/L	1.38	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1610	2000	pg/L	80.3	(40%-135%)

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604_2**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**12013673**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 29328**				
Client ID:	**LCS for batch 29328**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/27/2015 18:39**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_5-1**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		204		pg/L	1.62	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1640	2000	pg/L	81.8	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**15F0604_2**	**Client:**	**AWSL001**	**Project:**	**AWSL00110**
Lab Sample ID:	**12013674**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 29328**				
Client ID:	**LCSD for batch 29328**			**Prep Basis:**	**As Received**
Batch ID:	**29330**	**Method:**	**SW846 8290A**		
Run Date:	**06/27/2015 19:26**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A26JUN15A_5-2**			**Dilution:**	**1**
Prep Batch:	**29328**	**Prep Method:**	**SW846 3520C**		
Prep Date:	**25-JUN-15**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		206		pg/L	2.10	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1320	2000	pg/L	66.2	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Universal Laboratories
20 Research Drive, Hampton, VA 23666
TELEPHONE: (757)865-0880
TOLL FREE: (800)695-2162
FAX: (757)865-8014

REPORT OF ANALYSIS

TO: Air Water & Soil Laboratories

Ms. Jennifer Sult
1941 Reymet Road
Richmond, VA 23237

Order ID:	1506334
Receive Date:	06/18/2015
Print Date:	7/10/2015
Quote Number:	
PO Number:	382044
COC Name:	15F0604 TBT
Report Date:	July 10, 2015

This report contains the analytical results for the indicated Project and Order. The results contained in this report relate only to the samples identified in this Order. The analytical results meet all requirements of NELAC unless specifically stated. This report shall not be reproduced except in full.

The data in this report has been reviewed and validated by: _____
Signature

Danny Thornton Jr.
Name

Project Supervisor
Title

15F0604-01 Collection Date: 06/17/2015 12:00

Lab ID: 1506334-001

Permit: Matrix: AQUEOUS

Analysis of Butyltins in Env. Samples	Result	Unit	Analysis Date	Analyst	Qualifier	RL	Cert#
Tributyltin	ND	ug/L	6-25-2015 08:51:17 PM	BD		0.03	460036
surrogate Tripentyltin (% Recovery)	108	%	6-25-2015 08:51:17 PM	BD		49.5-150.5	

15F0604-02 Collection Date: 06/17/2015 13:00

Lab ID: 1506334-002

Permit: Matrix: AQUEOUS

Analysis of Butyltins in Env. Samples	Result	Unit	Analysis Date	Analyst	Qualifier	RL	Cert#
Tributyltin	ND	ug/L	28 Jun 2015 10:00 am	BD		0.03	460036
surrogate Tripentyltin (% Recovery)	128	%	28 Jun 2015 10:00 am	BD		49.5-150.5	

15F0604-03 Collection Date: 06/17/2015 10:50

Lab ID: 1506334-003

Permit: Matrix: AQUEOUS

Analysis of Butyltins in Env. Samples	Result	Unit	Analysis Date	Analyst	Qualifier	RL	Cert#
Tributyltin	ND	ug/L	28 Jun 2015 10:57 am	BD		0.03	460036
surrogate Tripentyltin (% Recovery)	103	%	28 Jun 2015 10:57 am	BD		49.5-150.5	

Analytical Quality Control Results Report

TBT ***Batch: 062515-001***

LIMS ID	Test	Parameter	Result	RL	Qual	Accuracy Control	Precision Control
062515-001-MB-01	Tributyltin - AQ MB	Tributyltin	0 ug/L	0.03			
		surrogate Tripentyltin (% Recovery)	149.0 %			49.5 - 150.5	
062515-001-LCS-01	Tributyltin - AQ LCS	surrogate Tripentyltin (% Recovery)	143 %			49.5 - 150.5	
		Tributyltin (% Recovery)	124 %			69.5 - 130.5	

Glossary of Terms and Abbreviations

ND	No Analyte Detected
NR	No Results available, analyte not in instrument calibration
RL	(Reporting Limit) The minimum levels, concentrations, or quantities of a target analyte that can be reported within a specified degree of confidence. Generally, this number is equal to or just above the lowest calibration standard run with the analytical batch.
B	Analyte was found in the method blank
D	RPD outside acceptable limits
H	Holding time exceeeded
IS	Internal standard outside acceptable limits
J	Result above calibration curve - results are approximate
L	LCS Outside acceptable limits
MI	Matrix interence
MS	Matrix spike recovery outside acceptable limits
QC	Method QC criteria not met
S	Surrogate outside acceptable limits
V	ICV/CCV/FCV outside acceptable limits
LCS	(Laboratory Control Sample) A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	Method Detection Limitis is an estimate of the minimum amount of a substance that an analytical process can reliably detect
RPD	(Relative Percent Difference) The difference between a set of duplicates or sample spike duplicates.
MS/MSD	(Matrix Spike or Matrix Spike Duplicate) A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analytes concentration is available. Matrix Spikes are used, for example, to determine the effect of the matrix on a method's recovery efficiency.
Calibration Verfication	(Initial, Continuing, or Final) A standard analyzed at different times to verify that the initial calibration curve is still valid.
Holding Time	The maximum time that samples may be held prior to analysis and still be considered valid or not compromised.
Internal Standard	A known amount of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method.
Method Blank	A sample of a matrix similar to the batch associated samples (when available) that is free from the analytes of interest and is processed simulatanously with and under the same conditions as samples.
Surrogate	A substance with properties that mimic the analyte of interest. It is unlikely to be found in environmental samples and is added to them for quality control purposes in Organics.
EPL	Exceeds Permit Limit. This is a qualifier to denote that the result exceeds the permit limit of the sample location.
Exceeds Benchmark Concentration	Result Exceeds Benchmark concentration listed in the General Permit. Benchmark Concentrations are primarily used to determine the overall effectivenss of the Stormwater pollution prevention plan. Excedence of Benchamrk concentrations does NOT constitute a violation of this permit and does NOT indicate that violation of a water quality standard has occured.

REPORT OF ANALYSIS

CLIENT: Air Water & Soil Laboratories, Inc.
ATTN: Katrina Cooke
ADDRESS: 1941 Reymet Road
Richmond, VA 23237
PHONE: 804-358-8295
FAX: support@awslabs.com

Special Notes:
Supplement to Report No.:15-09057 15:37
(Revised Note Hex. Chromium out of holding time)

SAMPLE COLLECTED BY: CLIENT
GRAB COLLECTION:
Date: 6/17/2015 Time: 1200
COMPOSITE COLLECTION:
Start Date: Time:
End Date: Time:

PICK UP BY: CLIENT
SAMPLE RECEIPT:
Date: 6/18/2015 Time: 1430
NUMBER OF CONTAINERS: 5
SAMPLE CONDITION: ☑ Good ☐ Other (See C-O-C)
REPORT NO: 15-09057 15:31

SAMPLE ID: 15F0604-01
SAMPLE NO: 15-09057

Parameter	Method Number	JRA QL	Result	Unit	Analyst	Date	Time
Surfactants	*5540C	0.10	< 0.10	mg/L	PEJ	06/19/15	0943
Nonylphenol	D7065-06	5	< 5	ug/L	CLH	06/25/15	0600
Dissolved Sulfide(HACH)	HACH8131	0.05	<0.05 M	mg/L	EFA	06/18/15	1555
Dissolved Chromium	200.7	0.001	0.048	mg/L	EFA	06/25/15	1316
Hexavalent Chromium	*3500Cr B	0.003	0.056 H	mg/L	EFA	06/18/15	1507

NOTES:

JRA Quantification Level is the concentration of the lowest calibration standard above zero with a reliable signal.

Reproduction of this report is not permitted, except in full, without written approval from James R Reed & Associates.

The results on this report relate only to the sample(s) provided for analysis.

Results conform to NELAC standards, where applicable, unless otherwise indicated.

*SM 2011

Hexavalent was received out of holding time, analyze per client.
Dissolved Chromium filtered in the lab.

M- Matrix spike % recovery outside acceptance range.

H- Holding time exceeded.

Authorized By: Elaine Claiborne
Elaine Claiborne, Laboratory Director
Date: 14-Jul-15

James R. Reed & Associates
770 Pilot House Drive, Newport News, VA 23606
(757) 873-4703 ● Fax: (757) 873-1498

VELAP# 460013
EPA# VA00015

REPORT OF ANALYSIS

CLIENT: Air Water & Soil Laboratories, Inc.
ATTN: Katrina Cooke
ADDRESS: 1941 Reymet Road
Richmond, VA 23237
PHONE: 804-358-8295
FAX: support@awslabs.com

Special Notes:
Supplement to Report No.:15-09058 15:34
(Revised Note Hex. Chromium out of holding time)

SAMPLE COLLECTED BY: CLIENT
GRAB COLLECTION:
Date: 6/17/2015 Time: 1300
COMPOSITE COLLECTION:
Start Date: Time:
End Date: Time:

PICK UP BY: CLIENT
SAMPLE RECEIPT:
Date: 6/18/2015 Time: 1430
NUMBER OF CONTAINERS: 7
SAMPLE CONDITION: ☑ Good ☐ Other (See C-O-C)
REPORT NO: 15-09058 15:31

SAMPLE ID: 15F0604-02
SAMPLE NO: 15-09058

Parameter	Method Number	JRA QL	Result	Unit	Analyst	Date	Time
Surfactants	*5540C	0.10	< 0.10	mg/L	PEJ	06/19/15	0943
Nonylphenol	D7065-06	5	< 5	ug/L	CLH	06/25/15	0641
Dissolved Sulfide(HACH)	HACH8131	0.05	< 0.05	mg/L	EFA	06/18/15	1555
Sulfide by Hach	HACH 8131	0.05	< 0.05	mg/L	EFA	06/18/15	1555
Dissolved Chromium	200.7	0.001	0.059	mg/L	EFA	06/25/15	1321
Hexavalent Chromium	*3500Cr B	0.003	0.061 H	mg/L	EFA	06/18/15	1507
Parathion	614	1	< 1	ug/L	JFS	06/24/15	0759
Malathion	614	1	< 1	ug/L	JFS	06/24/15	0759

REPORT OF ANALYSIS

SAMPLE ID: 15F0604-02
SAMPLE NO: 15-09058

Parameter	Method Number	JRA QL	Result	Unit	Analyst Date	Time

NOTES:

JRA Quantification Level is the concentration of the lowest calibration standard above zero with a reliable signal.

Reproduction of this report is not permitted, except in full, without written approval from James R Reed & Associates.

The results on this report relate only to the sample(s) provided for analysis.

Results conform to NELAC standards, where applicable, unless otherwise indicated.

*SM 2011
Hexavalent was received out of holding time, analyze per client.

Dissolved Chromium filtered in the lab.

H- Holding time exceeded.

Authorized By: Elaine Claiborne

Elaine Claiborne, Laboratory Director

Date: 14-Jul-15

James R. Reed & Associates
770 Pilot House Drive, Newport News, VA 23606
(757) 873-4703 ● Fax: (757) 873-1498

VELAP# 460013
EPA# VA00015

REPORT OF ANALYSIS

CLIENT: Air Water & Soil Laboratories, Inc.
ATTN: Katrina Cooke
ADDRESS: 1941 Reymet Road
Richmond, VA 23237
PHONE: 804-358-8295
FAX: support@awslabs.com

Special Notes:
Supplement to Report No.:15-09059 15:34
(Revised Note Hex. Chromium out of holding time)

SAMPLE COLLECTED BY: CLIENT
GRAB COLLECTION:
Date: 6/17/2015 Time: 1015
COMPOSITE COLLECTION:
Start Date: Time:
End Date: Time:

PICK UP BY: CLIENT
SAMPLE RECEIPT:
Date: 6/18/2015 Time: 1430
NUMBER OF CONTAINERS: 11
SAMPLE CONDITION: ☑ Good ☐ Other (See C-O-C)
REPORT NO: 15-09059 15:31

SAMPLE ID: 15F0604-03
SAMPLE NO: 15-09059

Parameter	Method Number	JRA QL	Result	Unit	Analyst	Date	Time
Surfactants	*5540C	0.10	< 0.10	mg/L	PEJ	06/19/15	0943
Nonylphenol	D7065-06	5	< 5	ug/L	CLH	06/25/15	0723
Dissolved Sulfide(HACH)	HACH8131	0.05	< 0.05	mg/L	EFA	06/18/15	1555
Sulfide by Hach	HACH 8131	0.05	< 0.05	mg/L	EFA	06/18/15	1555
Dissolved Chromium	200.7	0.001	< 0.001	mg/L	EFA	06/25/15	1324
Hexavalent Chromium	*3500Cr B	0.003	<0.003 H	mg/L	EFA	06/18/15	1507
Chromium III	200.7	0.003	< 0.003	mg/L	EFA	06/25/15	1324
Parathion	614	1	< 1	ug/L	JFS	06/24/15	0839
Malathion	614	1	< 1	ug/L	JFS	06/24/15	0839

REPORT OF ANALYSIS

SAMPLE ID: 15F0604-03
SAMPLE NO: 15-09059

Parameter	Method Number	JRA QL	Result	Unit	Analyst Date	Time

NOTES:

JRA Quantification Level is the concentration of the lowest calibration standard above zero with a reliable signal.

Reproduction of this report is not permitted, except in full, without written approval from James R Reed & Associates.

The results on this report relate only to the sample(s) provided for analysis.

Results conform to NELAC standards, where applicable, unless otherwise indicated.

*SM 2011
Hexavalent was received out of holding time, analyze per client.

Dissolved Chromium filtered in the lab.

H- Holding time exceeded.

Authorized By: Elaine Claiborne

Elaine Claiborne, Laboratory Director

Date: 14-Jul-15

James R. Reed & Associates
770 Pilot House Drive, Newport News, VA 23606
(757) 873-4703 ● Fax: (757) 873-1498

VELAP# 460013
EPA# VA00015

AIR WATER & SOIL LABORATORIES, INC.

James R Reed
770 Pilot House Drive
Newport News, VA 23606

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: AWS Labs, Inc.	INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #:
CONTACT: JP Verheul	INVOICE CONTACT: Jennifer Sult	SITE NAME: 15F0604
ADDRESS: 1941 Reymet Road, Richmond, VA 23237	INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23	PROJECT NUMBER: 15F0604
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: 382044
FAX #:	EMAIL: support@awslabs.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	Turn Around Time: ↓

Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

ANALYSIS / (PRESERVATIVE)

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	A MBAS Surfactants	B Nonylphenol ASTM D7065 (H2SO4)	C Total & Dissolved Sulfide (HACH Method EFA 6.18.15)	D Pesticides-614-Malathion, Parathion	E Dissolved Chromium 200.7	F ~~Dissolved~~ Total EFA 6.18.15 Hexavalent Chromium SM3500Cr B	~~Dissolved~~ Total EFA 6.18.15 Trivalent Chromium SM3500Cr B		COMMENTS: Metals to be concentrated to meet required QL's; Dissolved Metals to be Lab-Filtered
1) 15F0604-01	x			15 09057		17 JUNE'15	12.00		WW	5	x	x	DIS. ONLY		x	x	x		DUE 2 July 2015
2) 15F0604-02	x			09058		↓	13.00		↓	7	x	x	x	x	x	x	x		
3) 15F0604-03	x			09059		↓	10.15		↓	11	x	x	x	x	x	x	x		MS/MSD AVAIL
4)																			FOR NON. AND
5)																			614
6)																			
7)																			X RUN SAMPLES
8)																			OUT OF HOLD TIME.
9)																			
10)																			

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[signature]	6/18 2:30	Mandy Hall	6/18/15 1430
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY

COOLER TEMP 4.3/5.8 °C

JRR SUB COC.xls

James R. Reed & Associates
Environmental Testing
770 Pilot House Drive • Newport News, Virginia 23606
(757) 873-4703 • Fax 873-1498

QA/QC DATA SUMMARY

Client Sample ID: 15F0604-01 to 15F0604-03

JRA ID No.: 15-09057 to 15-09059

Sample Collection Date: JUNE 17, 2015

General Case Narrative

Sample Receipt:

On June 17, 2015, grab samples were collected by client representative between 1015 and 1300. Samples were brought to our facility by client representative and received by Mendy Hall of James R. Reed and Associates on June 17, 2015 at 1430. Twenty three sample containers were received, all in good condition with no noted irregularities upon arrival with the exception of Hexavalent Chromium. Samples for Hexavalent Chromium were received out of holding and noted on the chain of custody by client representative to continue with analysis.

Analysis:

Samples were analyzed following Reed and Associates Standard Operating Procedure referencing VELAP certified methodologies. The VELAP certified methods used are noted in the QC Summary. Analyses were performed within required regulatory holding times, with the exception of Hexavalent Chromium. No analytical or quality assurance problems were noted during analysis or in final data review and reporting. All applicable data qualifiers are noted on the final report.

Data Summary:

The enclosed data package includes the quality control performed with a table summarizing the recoveries and acceptance criteria of QC measures required for the test method. Any technical problems encountered are flagged on the final report or QC Summary. The information provided satisfies the QA/QC requirements as set forth in the quality assurance manual, and unless otherwise noted, is in compliance with all technical and regulatory conditions of the laboratory's certification.

If you should have any questions, please do not hesitate to contact me at (757) 873-4703.

Trish Greiner
QA/QC Director

SAMPLE RECEIPT SUMMARY

JRA ID	CLIENT SAMPLE ID	GRAB DATE	TIME
15-09057	15F0604-01	6/17/2015	1200
15-09058	15F0604-02	6/17/2015	1300
15-09059	15F0604-03	6/17/2015	1015

QUALITY CONTROL SUMMARY

JRA ID No.: 15-09057 CLIENT ID: 15F0604-01

PARAMETER	LRB mg/L	JRA QL	CCC Recovery	CCC Limits	LFB Recovery (%)	LFB Limits	MS Recovery (%)	Recovery Limits (%)	Duplicate RPD (≤20%)	Analysis Date	Method Number
Surfactants	< QL	0.10 mg/L	0.916	0.90 - 1.10	108	80-120	80	80-120	1.6	6/19/2015	5540C
Nonylphenol	< QL	5 ug/L	54.5	36.0 - 62.0	94	56 - 112	68	56-112	0.0	6/24-25/2015	D7065-06
Diss. Sulfide (HACH)	< QL	0.05 mg/L	0.107	0.90 - 1.10	100	80-120	29*	80-120	0.0	6/18/2015	HACH8131
Diss. Chromium	< QL	0.001 mg/L	0.097	0.09 - 0.11	106	85-115	91	70-130	2.1	6/25/2015	200.7
Hexavalent Chromium	< QL	0.003 mg/L	0.046	0.045 - 0.055	91	85-115	86	70-130	1.3	6/18/2015	3500CrB

Surrogates (Nonylphenol)	% R	Limits %
N-NP	78	22 - 165
N-NP1EO	67	0- 252

Note: Spikes (accuracy) and duplicates (precision) on this report may not necessarily reflect spikes and duplicates of the above referenced samples.

* The spike recovery is outside control limits possibly due to sample matrix interference.

The above values satisfy the QA/QC requirements as set forth in the Quality Assurance Plan.

Respectfully Submitted,

Trish Greiner
QA/QC Director

LEGEND:
LRB-Laboratory Reagent Blank LFB-Laboratory Fortified Blank
QL-Quantitation Limit MS-Matrix Spike
RPD-Relative Percent Difference
CCC-Continuing Calibration Check

QUALITY CONTROL SUMMARY

JRA ID No.: 15-09058 CLIENT ID: 15F0604-02

PARAMETER	LRB mg/L	JRA QL	CCC Recovery	CCC Limits	LFB Recovery (%)	LFB Limits	MS Recovery (%)	Recovery Limits (%)	Duplicate RPD (≤20%)	Analysis Date	Method Number
Surfactants	< QL	0.10 mg/L	0.916	0.90 - 1.10	108	80-120	80	80-120	1.6	6/19/2015	5540C
Nonylphenol	< QL	5 ug/L	54.5	36.0 - 62.0	94	56 - 112	68	56-112	0.0	6/24-25/2015	D7065-06
Diss. Sulfide (HACH)	< QL	0.05 mg/L	0.107	0.90 - 1.10	100	80-120	29*	80-120	0.0	6/18/2015	HACH8131
Sulfide (HACH)	< QL	0.05 mg/L	0.107	0.90 - 1.10	100	80-120	29*	80-120	0.0	6/18/2015	HACH8131
Diss. Chromium	< QL	0.001 mg/L	0.097	0.09 - 0.11	106	85-115	91	70-130	2.1	6/25/2015	200.7
Hexavalent Chromium	< QL	0.003 mg/L	0.046	0.045 - 0.055	91	85-115	86	70-130	1.3	6/18/2015	3500CrB
Malathion	< QL	1 ug/L	5.18	4.50 - 5.50	106	73 - 144	105	66 - 174	0.0	6/23-24/2015	614
Parathion	< QL	1 ug/L	5.12	4.50 - 5.50	90	60 - 130	91	35 - 156	0.0	6/23-24/2015	614

Surrogates (Nonylphenol)	% R	Limits %
N-NP	81	22 - 165
N-NP1EO	85	0- 252

Surrogates (614)	% R	Limits %
DMNB	74	36 - 124

Note: Spikes (accuracy) and duplicates (precision) on this report may not necessarily reflect spikes and duplicates of the above referenced samples.

* The spike recovery is outside control limits possibly due to sample matrix interference.

The above values satisfy the QA/QC requirements as set forth in the Quality Assurance Plan.

Respectfully Submitted,

Trish Greiner
QA/QC Director

LEGEND:
LRB-Laboratory Reagent Blank LFB-Laboratory Fortified Blank
QL-Quantitation Limit MS-Matrix Spike
RPD-Relative Percent Difference
CCC-Continuing Calibration Check

QUALITY CONTROL SUMMARY

JRA ID No.: 15-09059 CLIENT ID: 15F0604-03

PARAMETER	LRB mg/L	JRA QL	CCC Recovery	CCC Limits	LFB Recovery (%)	LFB Limits	MS Recovery (%)	Recovery Limits (%)	Duplicate RPD (≤20%)	Analysis Date	Method Number
Surfactants	< QL	0.10 mg/L	0.916	0.90 - 1.10	108	80-120	80	80-120	1.6	6/19/2015	5540C
Nonylphenol	< QL	5 ug/L	54.5	36.0 - 62.0	94	56 - 112	68	56-112	0.0	6/24-25/2015	D7065-06
Diss. Sulfide (HACH)	< QL	0.05 mg/L	0.107	0.90 - 1.10	100	80-120	29*	80-120	0.0	6/18/2015	HACH8131
Sulfide (HACH)	< QL	0.05 mg/L	0.107	0.90 - 1.10	100	80-120	29*	80-120	0.0	6/18/2015	HACH8131
Diss. Chromium	< QL	0.001 mg/L	0.097	0.09 - 0.11	106	85-115	91	70-130	2.1	6/25/2015	200.7
Chromium III	< QL	0.003 mg/L	0.097	0.09 - 0.11	106	85-115	91	70-130	2.1	6/25/2015	200.7
Hexavalent Chromium	< QL	0.003 mg/L	0.046	0.045 - 0.055	91	85-115	86	70-130	1.3	6/18/2015	3500CrB
Malathion	< QL	1 ug/L	5.18	4.50 - 5.50	106	73 - 144	105	66 - 174	0.0	6/23-24/2015	614
Parathion	< QL	1 ug/L	5.12	4.50 - 5.50	90	60 - 130	91	35 - 156	0.0	6/23-24/2015	614

Surrogates (Nonylphenol)	% R	Limits %
N-NP	66	22 - 165
N-NP1EO	60	0- 252

Surrogates (614)	% R	Limits %
DMNB	72	36 - 124

Note: Spikes (accuracy) and duplicates (precision) on this report may not necessarily reflect spikes and duplicates of the above referenced samples.

* The spike recovery is outside control limits possibly due to sample matrix interference.

The above values satisfy the QA/QC requirements as set forth in the Quality Assurance Plan.

Respectfully Submitted,

Trish Greiner
QA/QC Director

LEGEND:
LRB-Laboratory Reagent Blank LFB-Laboratory Fortified Blank
QL-Quantitation Limit MS-Matrix Spike
RPD-Relative Percent Difference
CCC-Continuing Calibration Check

REPORT OF ANALYSIS

CLIENT: Air Water & Soil Laboratories, Inc.
ATTN: Katrina Cooke
ADDRESS: 1941 Reymet Road
Richmond, VA 23237
PHONE: 804-358-8295
FAX: support@awslabs.com

Special Notes:

SAMPLE COLLECTED BY: CLIENT
GRAB COLLECTION:
Date: 6/18/2015 Time: 1425
COMPOSITE COLLECTION:
Start Date: Time:
End Date: Time:

PICK UP BY: CLIENT
SAMPLE RECEIPT:
Date: 6/19/2015 Time: 1225
NUMBER OF CONTAINERS: 2
SAMPLE CONDITION: ☑ Good ☐ Other (See C-O-C)
REPORT NO: 15-09105 15:34

SAMPLE ID: 15F0604-05
SAMPLE NO: 15-09105

Parameter	Method Number	JRA QL	Result	Unit	Analyst	Date	Time
Sulfide by Hach	HACH 8131	0.05	<0.05 M	mg/L	EFA	06/19/15	1550
Parathion	614	1	< 1	ug/L	JFS	06/24/15	0959
Malathion	614	1	< 1	ug/L	JFS	06/24/15	0959

NOTES:

JRA Quantification Level is the concentration of the lowest calibration standard above zero with a reliable signal.

Reproduction of this report is not permitted, except in full, without written approval from James R Reed & Associates.

The results on this report relate only to the sample(s) provided for analysis.

Results conform to NELAC standards, where applicable, unless otherwise indicated.

M- Matrix spike % recovery outside acceptance range.

Authorized By: Elaine Claiborne

Elaine Claiborne, Laboratory Director

Date: 25-Jun-15

AIR WATER & SOIL LABORATORIES, INC.

James R Reed
770 Pilot House Drive
Newport News, VA 23606

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: AWS Labs, Inc.	INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #: 15F0604
CONTACT: JP Verheul	INVOICE CONTACT: Jennifer Sult	SITE NAME: 15F0604
ADDRESS: 1941 Reymet Road, Richmond, VA 23237	INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23	PROJECT NUMBER: 15F0604
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: 150604
FAX #: EMAIL: support@awslabs.com		Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	Turn Around Time: Results due by 7/3/15

Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) MBAS Surfactants	Nonylphenol ASTM D7065 (H2SO4)	Total & Dissolved Sulfide (ZnAc) A	Pesticides-614-Malathion, Parathion B	Dissolved Chromium 200.7	Dissolved Hexavalent Chromium SM3500Cr B	Dissolved Trivalent Chromium SM3500Cr B		COMMENTS
15-09105																			Metals to be concentrated to meet required QL's; Dissolved Metals to be Lab-Filtered
1) 15F0604-05	X					6/18/15	1425			2			X	X					
2)																			
3)																			
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			
10)																			

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[signature]	6-19-15 12:35	[signature]	6-19-15 1225
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY

COOLER TEMP 3.4 °C

JRR SUB COC.xls

James R. Reed & Associates
Environmental Testing
770 Pilot House Drive • Newport News, Virginia 23606
(757) 873-4703 • Fax 873-1498

QA/QC DATA SUMMARY

Client Sample ID: 15F0604-05

JRA ID No.: 15-09105

Sample Collection Date: JUNE 18, 2015

General Case Narrative

Sample Receipt:

On June 18, 2015, a grab sample was collected by client representative at 1425. The sample was brought to our facility by client representative and received by Jeanette Chambers of James R. Reed and Associates on June 19, 2015 at 1225. Two sample containers were received in good condition with no noted irregularities upon arrival.

Analysis:

Samples were analyzed following Reed and Associates Standard Operating Procedure referencing VELAP certified methodologies. The VELAP certified methods used are noted in the QC Summary. Analyses were performed within required regulatory holding times. No analytical or quality assurance problems were noted during analysis or in final data review and reporting. All applicable data qualifiers are noted on the final report.

Data Summary:

The enclosed data package includes the quality control performed with a table summarizing the recoveries and acceptance criteria of QC measures required for the test method. Any technical problems encountered are flagged on the final report or QC Summary. The information provided satisfies the QA/QC requirements as set forth in the quality assurance manual, and unless otherwise noted, is in compliance with all technical and regulatory conditions of the laboratory's certification.

If you should have any questions, please do not hesitate to contact me at (757) 873-4703.

Trish Greiner
QA/QC Director

SAMPLE RECEIPT SUMMARY

JRA ID	CLIENT SAMPLE ID	GRAB DATE	TIME
15-09105	15F0604-05	6/18/2015	1425

QUALITY CONTROL SUMMARY

JRA ID No.: 15-09105 CLIENT ID: 15F0604-05

PARAMETER	LRB mg/L	JRA QL	CCC Recovery	CCC Limits	LFB Recovery (%)	LFB Limits	MS Recovery (%)	MS Recovery Limits (%)	Duplicate RPD (≤20%)	Analysis Date	Method Number
Sulfide (HACH)	< QL	0.05 mg/L	0.102	0.90 - 1.10	97	80-120	24*	80-120	4.4	6/19/2015	HACH8131
Malathion	< QL	1 ug/L	5.18	4.50 - 5.50	106	73 - 144	105	66 - 174	0.0	6/23-24/2015	614
Parathion	< QL	1 ug/L	5.12	4.50 - 5.50	90	60 - 130	91	35 - 156	0.0	6/23-24/2015	614

Surrogates (614)	% R	Limits %
DMNB	70	36 - 124

Note: Spikes (accuracy) and duplicates (precision) on this report may not necessarily reflect spikes and duplicates of the above referenced samples.

* The spike recovery is outside control limits possibly due to sample matrix interference.

The above values satisfy the QA/QC requirements as set forth in the Quality Assurance Plan.

Respectfully Submitted,

Trish Greiner
QA/QC Director

LEGEND:
LRB-Laboratory Reagent Blank
QL-Quantitation Limit
CCC-Continuing Calibration
RPD-Relative Percent Difference
LFB-Laboratory Fortified Blank
MS-Matrix Spike

Dominion Resources Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
Web Address: www.dom.com

Dominion

Overnight Delivery
Return Receipt Requested

June 9, 2014

Mrs. Emilee Adamson
Department of Environmental Quality
Water Division
Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060

RE: Dominion – Chesterfield Power Station: Toxics Management Report – Outfalls 001, 002 & 003

Dear Mrs. Adamson:

Enclosed are the 2013 / 2014 toxics monitoring results for Chesterfield Power Station's Outfalls 001, 002 and 003, which is required by the facility's VPDES Permit No. VA0004146, Part I, Condition B.17.

Outfall 001: Annual 48 hour Static Acute test using *Ceriodaphnia dubia (C. dubia)* organisms yielded a LC_{50} test result of greater than 100% and a $T.U._{Ac}$ of less than 1.00. The annual Chronic 3-Brood Static Renewal and Survival and Reproduction test using *C. dubia* organisms yielded results for NOEC of 100 and a $T.U._{C}$ of 1.00 for both survival and reproduction.

Outfall 002: Annual 48 hour Static Acute test using *C. dubia* organisms yielded a LC_{50} test result of greater than 100% and a $T.U._{Ac}$ of less than 1.00. The annual Chronic 3-Brood Static Renewal and Survival and Reproduction test using *C. dubia* organisms yielded results for NOEC of 100 and a $T.U._{C}$ of 1.00 for both survival and reproduction.

Outfall 003: Annual 48 hour Static Acute test using *C. dubia* organisms yielded a LC_{50} test result of greater than 100% and a $T.U._{Ac}$ of less than 1.00. The annual Chronic 3-Brood Static Renewal and Survival and Reproduction test using *C. dubia* organisms yielded results for NOEC of 100 and a $T.U._{C}$ of 1.00 for both survival and reproduction.

Our contract laboratory Coastal Bioanalysts, Inc. in Gloucester, Virginia performed all WET tests using DEQ-approved test protocols. Two copies of all the data sheets relative to the

toxicity tests, including bench sheets, chain of custody forms, and computer printouts of statistical analyses are enclosed with this letter.

The reported measurements were obtained by employing methods of analysis that are legally required, or otherwise appropriate to the monitoring objective, and are being reported in accordance with the regulatory requirements. The reported measurements truly, accurately, and completely represent the observed results of the monitoring required, but only the observed results. Those measurements are subject to the accuracy, precision, detection, and quantitation limitations associated with those methods in the subject sample matrices at the concentrations present in the sample. Any regulatory actions that may be taken based on these measurements must account for these limitations.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions concerning these results or any other aspect of this report, please contact Rick Woolard at (804) 273-2991.

Sincerely,

Cathy C. Taylor
Director, Electric Environmental Services

Attachments: (2 Copies)

Please scan signed original + attachments and rename file as:

File Name: **CH - 2014 6-9 Outfalls 001-002 & 003 TMP Rpt**

Please send renamed scanned document to:

Ed Baine
Pam Faggert
Josh Bennett
Dawn Garber – Approved via email
Karen Canody
Glenn Johnson
Rick Woolard
Glenn Bishop
Taylor Allen
Catherine Smith

Documentum: Chesterfield PS / Water - NPDES / Compliance Reporting and Supporting Documents

Mrs. Adamson
June 9, 2014

First Copy of Results
Outfalls 001, 002 & 003

Client: Dominion Virginia Power
Project ID: VPOW1330
Client Sample ID: Chesterfield Power Station outfall 001
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	Prepared By:
Mr. Glenn Bishop Dominion Virginia Power Environmental Compliance and Policy 4111 Castlewood Road Richmond, VA 23234	Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director

Acute Test Results*

Species-Test Method	48-h LC50	95% C.L.	$T.U._{Ac}$	NOAEC
C. dubia EPA 2002.0	>100	N/A	<1.00	N/A

Chronic Test Results*

Species-Test Method	Endpoint	NOEC	LOEC	ChrV	PMSD	$T.U._C$	IC25	48-h LC50	LC50 95% C.L.	$T.U._{Ac}$
C. dubia	Survival	100	>100	>100	N/A	1.00	N/A	>100	N/A	<1.00
EPA 1002.0	Reproduction	100	>100	>100	24	1.00	>100	N/A	N/A	N/A

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

Acute Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	591	548-638	Yes
(7/5/13-7/7/13)	CC	99	544	457-630	

Chronic Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Survival		Reproduction (# Young)					RTT in Control?
		Cont.	NOEC	Cont.	NOEC	PMSD	IC25	IC25 A.L.	
C. dubia 1002.0	RTT	100	500	32.4	250	19	374	N/A	Yes
(7/5/13-7/11/13)	CC	97	500	25.5	250	23	317	226-407	

Note: RTT = Reference Toxicant Test, CC = Control Chart, Cont. = Control group.

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory. Unless noted below, these test results meet all requirements of NELAP.

APPROVED:

Peter F. De Lisle, Ph.D.
Technical Director

7/17/13
Date

Deviations from, additions to, or exclusions from the test method, non-standard conditions or data qualifiers and, as appropriate, a statement of compliance/non-compliance: **NONE**

VELAP# 460030
EPA# VA01116

Client: Dominion Virginia Power
Project ID: VPOW1330
Client Sample ID: Chesterfield Power Station outfall 001
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

C B I
Coastal Bioanalysts, Inc.

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

Chronic Value (ChrV): The geometric mean of the NOEC and LOEC. Units are same as test concentration units.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

IC25: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 25% reduction in test organism growth, reproduction, etc. The lower the IC25, the more toxic the chemical or sample. Units are same as test concentration units.

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

LOEC: Lowest-observable-effect-concentration. The lowest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit a statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Units are same as test concentration units.

PMSD: Percent Minimum Significant Difference: The minimum difference which can exist between a test treatment and the controls in a particular test and be statistically significant; a measure of test sensitivity. The lower the PMSD the more sensitive the test.

N/A: Not applicable.

N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

NOEC: No-observable-effect-concentration. The highest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit no statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Some regulatory definitions also require that the NOEC be less than the LOEC. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. $T.U._{Ac} = 100/LC50$. $T.U._{Chr} = 100/NOEC$ or $100/IC25$. A dimensionless unit.

VELAP# 460030
EPA# VA01116

C. dubia daily biological measurements (EPA 2002.0) Template version ACD-STAT-5trt-061113

TRTMNT (% Effl)	Rep	Live Day 0	Live Day 1	Live Day 2	Final Mean Live		
C	A	5	5	5	100.0		
	B	5	5	5			
Lab	C	5	5	5			
Control	D	5	5	5			
#1	A	5	5	5	95.0		
6.25	B	5	5	4			
% Effl	C	5	5	5			
	D	5	5	5			
# 2	A	5	5	5	100.0		
12.5	B	5	5	5			
% Effl	C	5	5	5			
	D	5	5	5			
# 3	A	5	5	5	100.0		
25.0	B	5	5	5			
% Effl	C	5	5	5			
	D	5	5	5			
# 4	A	5	5	5	100.0		
50.0	B	5	5	5			
% Effl	C	5	5	5			
	D	5	5	5			
# 5	A	5	5	5	100.0		
100	B	5	5	5			
% Effl	C	5	5	5		Test Duration:	[illegible]
	D	5	5	5			TAC 48+/-0.5h
INITIALS:		PB	GB	GB	% CONTROL SURVIVAL:		[illegible]
DATE & TIME:		7/11/13 15:21	7/12/13 9:32	07/13/13 15:32			TAC = 90%

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE				
	SPECIES:	Ceriodaphnia dubia		
	ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater		
	FEEDING PRIOR TO TEST:	YCT + Selenastrum capricornutum		
	FEEDING DURING TEST:	None -YCT + Selenastrum 2+ h before test		
	SOURCE:	CBI Stock cultures		
	ACCLIMATION TEMP (o C):	25		
	BROOD RELEASE START DATE & TIME:	7/10/13 16:20		
	BROOD RELEASE END DATE & TIME:	7/11/13 9:50		
	DATE/TIME WATER ADDED:	7/11/13 15:15		
	DATE/TIME ANIMALS ADDED:	7/11/13 15:21		
	ANIMAL AGE WINDOW:	17h 30m		
	MAX AGE AT TEST START:	[illegible]		TAC Max. 24 h
	TEST SET UP BY:		PB	
	SAMPLE COLLECTION DATE &TIME:	7/10/13 11:03	SAMPLE USED	B
TEST ID:	SAMPLE AGE AT TEST START:	[illegible]	TAC Max 36 h	
VPOW1330ACD	PEER REVIEW BY (INITIALS/DATE):		GB. PB	7/13/13 15:37

Ceriodaphnia daily water quality bench sheet (EPA METHOD 2002.0) Template version ACD-STAT-5trt-061113

	TRTMNT	Day 0 Initial	Day 1	Day 2 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.70	8.07	7.86	7.88	0.19	7.70	8.07
	1	7.73	8.04	7.88	7.88	0.16	7.73	8.04
	2	7.75	8.01	7.91	7.89	0.13	7.75	8.01
	3	7.73	7.97	7.93	7.88	0.13	7.73	7.97
	4	7.71	7.93	8.04	7.89	0.17	7.71	8.04
	5	7.73	7.89	8.05	7.89	0.16	7.73	8.05
Temp (o C)	C	25	25	25	25	0.0	25	25
	1	25	25	25	25	0.0	25	25
	2	25	25	25	25	0.0	25	25
	3	25	25	25	25	0.0	25	25
	4	25	25	25	25	0.0	25	25
	5	25	25	25	25	0.0	25	25
Diss. Oxygen (mg/l)	C	8.2	8.2	7.8	8.1	0.2	7.8	8.2
	1	8.2	8.2	7.8	8.1	0.2	7.8	8.2
	2	8.2	8.2	7.9	8.1	0.2	7.9	8.2
	3	8.2	8.1	7.9	8.1	0.2	7.9	8.2
	4	8.2	8.1	8.0	8.1	0.1	8.0	8.2
	5	8.2	8.2	8.1	8.2	0.1	8.1	8.2
Cond. (uS/cm)	C	293		298	295	2.1	293	296
	1	287			287		287	287
	2	283			283		283	283
	3	271			271		271	271
	4	238			238		238	238
	5	149		152	151	2.1	149	152
Replicate measured		Flask	Surrogate	C				
Initials		PB	GB	GB				
		TRC (mg/l) in highest conc. at end of test:		N/A				

Changes & Notes (Initials, date, specific change or notes)								
	Test chamber:	30 ml glass vial:	☑					
		Other:						
	Test solution vol. (15 ml min):	15 ml:	☑					
		Other (ml):						
	Illumination & photoperiod:	50-100 ft-c 16L:8D			Template Number:	9		
	Number of replicates/treatment:	4						
	Initial number animals/replicate:	5						
	Test Aerated?	N/A			Date & Time Air Start:	N/A		
TEST ID	TRT ID:	1	2	3	4	5		
VPOW1330ACD	CONC(%):	6.25	12.5	25.0	50.0	100		

Ceriodaphnia test set up bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

Test chamber:	~30 ml glass vial:	☑	Illumination & photoperiod:	50-100 ft-c 16L:8D	
	Other:		Number of replicates/treatment:	10	
Test solution volume:	15 ml:	☑	Initial number animals/replicate:	1	
	Other (ml):		Template #:	14	

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia	
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater	
FEEDING (Culture &Test):	YCT + Selenastrum capricornutum mix	
SOURCE:	CBI Stock cultures	
ACCLIMATION TEMP (o C):	25	
BROOD RELEASE FROM:	7/9/13 12:05	
BROOD RELEASE TO:	7/9/13 14:15	
DATE/TIME WATER ADDED:	7/10/13 11:52	
DATE/TIME ANIMALS ADDED:	7/10/13 12:04	
ANIMAL AGE WINDOW (TAC 8 h):		
MAX AGE AT TEST START (TAC 24 h):		
TEST SET UP BY:	AG	
TEST ID:	VPOW1330CCD	
PEER REVIEW BY (Initial/Date):	PB	7/17/13 10:21
VPOW1330CCD		

Ceriodaphnia daily water quality bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

	TRTMNT	Day 0 Initial	Day 1 Final	Day 1 Initial	Day 2 Final	Day 2 Initial	Day 3 Final	Day 3 Initial	Day 4 Final	Day 4 Initial	Day 5 Final	Day 5 Initial	Day 6 Final	Day 6 Initial	Day 7 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.70	7.86	7.64	7.69	7.74	7.94	7.98	7.76	7.53	7.53	7.71	7.73			7.75	0.15	7.53	7.98
	1	7.70	8.03	7.64	7.87	7.74	7.98	7.95	7.88	7.58	7.62	7.73	7.76			7.79	0.15	7.58	8.03
	2	7.72	8.03	7.66	7.91	7.79	8.03	7.94	7.88	7.63	7.60	7.73	7.79			7.81	0.15	7.60	8.03
	3	7.72	8.03	7.68	7.92	7.79	8.13	7.90	7.90	7.65	7.65	7.73	7.81			7.83	0.15	7.65	8.13
	4	7.72	8.03	7.68	7.91	7.78	8.13	7.88	7.92	7.65	7.65	7.74	7.82			7.83	0.15	7.65	8.13
	5	7.68	8.03	7.68	7.87	7.73	8.13	7.80	7.92	7.65	7.65	7.70	7.76			7.80	0.18	7.65	8.13
Temp. (o C)	C	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	1	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	2	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	3	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	4	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	5	25	25	25	25	25	25	24	25	25	25	25	25			25	0.3	24	25
Diss. Oxygen (mg/l)	C	8.2	8.4	8.2	8.2	8.0	8.3	8.2	8.5	7.9	7.7	8.2	8.1			8.2	0.2	7.7	8.5
	1	8.2	8.5	8.2	8.2	8.0	8.4	8.2	8.6	7.8	7.8	8.2	8.0			8.2	0.2	7.8	8.6
	2	8.2	8.4	8.2	8.2	8.0	8.5	8.2	8.7	7.8	7.9	8.2	8.1			8.2	0.2	7.8	8.7
	3	8.2	8.5	8.2	8.3	7.9	8.5	8.2	8.7	7.8	7.9	8.2	8.1			8.2	0.3	7.8	8.7
	4	8.2	8.6	8.2	8.2	7.9	8.6	8.2	8.9	7.8	8.0	8.2	8.1			8.2	0.3	7.8	8.9
	5	8.2	8.7	8.2	8.3	8.1	8.7	8.3	8.9	7.9	8.0	8.2	8.1			8.3	0.3	7.9	8.9
Cond. (uS/cm)	C	294		294		292		297		292		291				293	2.2	291	297
	1	294		294		293		292		294		291				293	1.3	291	294
	2	293		293		292		290		292		295				293	1.6	290	295
	3	283		282		283		286		283		287				284	2.0	282	287
	4	254		254		257		264		261		265				259	4.9	254	265
	5	153		159		162		170		176		173				166	8.9	153	176
Replicate measured		S	B	S	J	S	E	S	A	S	C	S	G			NOTE: Final D.O. Values >8.3 mg/l (saturation) may occur due to photosynthetic activity of algal food.			
Initials		AG	AG		KK		GB		RCD		GB		BJA						
Changes & Notes (initials, date, specific change or notes)																			
VPOW1338CCD												TRT ID:	1	2	3	4	5		
												CONC:	1.60%	2.00%	10.0%	30.0%	100%		

Ceriodaphnia daily reproduction count bench sheet (EPA METHOD 1002.0) Template version CCD Strt 061013

TREATMENT		Rep A Day 1	Rep B Day 1	Rep C Day 1	Rep D Day 2	Rep E Day 2	Rep F Day 2	Rep G Day 2	TOTALS (REPRO)
	A	0	0	0	3	4	0	16	
	B	0	0	0	3	10	0	20	
	C	0	0	0	3	12	0	20	
Lab	D	0	0	0	5	10	0	20	
Controls	E	0	0	0	5	10	0	20	
	F	0	0	0	3	10	0	16	
	G	0	0	0	4	10	0	18	
	H	0	0	0	4	8	0	18	
	I	0	0	0	6	14	0	18	
	J	0	0	0	6	12	0	14	
	A	0	0	0	5	10	0	12	
#1	B	0	0	0	4	12	0	18	
	C	0	0	0	3	10	0	20	
1.00%	D	0	0	0	4	8	0	22	
	E	0	0	0	4	12	0	20	
Vol. Eff:	F	0	0	0	0	0	0	0	
	G	0	0	0	4	12	0	16	
	H	0	0	0	6	10	0	20	
	I	0	0	0	3	10	0	16	
	J	0	0	0	5	12	0	20	
	A	0	0	0	5	10	0	16	
#2	B	0	0	0	3	10	0	20	
	C	0	0	0	3	12	0	16	
2.00%	D	0	0	0	4	8	0	22	
	E	0	0	0	5	10	0	12	
Vol. Eff:	F	0	0	0	5	12	0	20	
	G	0	0	0	6	12	0	18	
	H	0	0	0	5	12	0	20	
	I	0	0	0	5	12	0	22	
	J	0	0	0	4	8	0	20	
	A	0	0	0	4	8	0	20	
#3	B	0	0	0	5	8	0	22	
	C	0	0	0	3	8	0	20	
4.00%	D	0	0	0	5	12	0	22	
	E	0	0	0	3	12	0	18	
Vol. Eff:	F	0	0	0	4	8	0	14	
	G	0	0	0	5	8	0	20	
	H	0	0	0	3	12	0	14	
	I	0	0	0	5	10	0	16	
	J	0	0	0	4	12	0	20	
	A	0	0	0	6	8	0	16	
#4	B	0	0	0	2	10	0	18	
	C	0	0	0	2	10	0	16	
30.0%	D	0	0	0	5	12	0	20	
	E	0	0	0	5	8	0	20	
Vol. Eff:	F	0	0	0	3	0	0	0	
	G	0	0	0	5	12	0	20	
	H	0	0	0	2	12	0	16	
	I	0	0	0	3	12	0	14	
	J	0	0	0	4	10	0	20	
	A	0	0	0	5	10	0	12	
#5	B	0	0	0	5	10	0	12	
	C	0	0	0	4	8	0	18	
100%	D	0	0	0	1	10	0	18	
	E	0	0	0	4	12	0	14	
Vol. Eff:	F	0	0	0	4	8	0	16	
	G	0	0	0	6	12	0	20	
	H	0	0	0	3	2	0	0	
	I	0	0	0	4	12	0	12	
	J	0	0	0	5	10	0	16	
INITIALS:		AG	AG	KK	GB	RCD	GB	BJA	
DATE & TIME:		7/10/13 12:04	7/11/13 13:46	7/12/13 11:39	7/13/13 13:53	7/14/13 13:19	7/15/13 10:23	7/16/13 11:11	
SAMPLE USED:		A	B	B	C	C	C		
CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE									
VHOW1330CC1		Avg. young/surviving control (TAC 15 min):				Surv. controls with 3 broods:		10	

SAMPLE COLLECTION

SAMPLE	COLLECTION DATE & TIME
A	7/9/13 10:27
B	7/10/13 11:01
C	7/12/13 10:36
D	
E	

SAMPLE AGING

	7/10/13 12:04
	7/11/13 13:46
	7/11/13 19:46
	7/12/13 11:39
	7/13/13 13:53
	7/15/13 10:23

Ceriodaphnia daily survival count bench sheet (EPA METHOD 1002.0) Template version CCD 5brt 061013

	A	1	1	1	1	1	1	1	1	F		29
	B	1	1	1	1	1	1	1	1	F		33
	C	1	1	1	1	1	1	1	1	F		35
	D	1	1	1	1	1	1	1	1	F		35
	E	1	1	1	1	1	1	1	1	F		35
	F	1	1	1	1	1	1	1	1	F		29
	G	1	1	1	1	1	1	1	1	F		32
	H	1	1	1	1	1	1	1	1	F	30	30
	I	1	1	1	1	1	1	1	1	F	36	36
	J	1	1	1	1	1	1	1	1	F	31	31
	A	1	1	1	1	1	1	1	1	F		
#1	B	1	1	1	1	1	1	1	1	F		
	C	1	1	1	1	1	1	1	1	F		
1.00%	D	1	1	1	1	1	1	1	1	F		
	E	1	1	1	1	1	1	1	1	F		
	F	1	1	1	0	0	0	0	0	F		
	G	1	1	1	1	1	1	1	1	F		
	H	1	1	1	1	1	1	1	1	F		
	I	1	1	1	1	1	1	1	1	F		
	J	1	1	1	1	1	1	1	1	F		
	A	1	1	1	1	1	1	1	1	F		
#2	B	1	1	1	1	1	1	1	1	F		
	C	1	1	1	1	1	1	1	1	F		
2.00%	D	1	1	1	1	1	1	1	1	F		
	E	1	1	1	1	1	1	1	1	F		
	F	1	1	1	1	1	1	1	1	F		
	G	1	1	1	1	1	1	1	1	F		
	H	1	1	1	1	1	1	1	1	F		
	I	1	1	1	1	1	1	1	1	F		
	J	1	1	1	1	1	1	1	1	F		
	A	1	1	1	1	1	1	1	1	F		
#3	B	1	1	1	1	1	1	1	1	F		
	C	1	1	1	1	1	1	1	1	F		
10.0%	D	1	1	1	1	1	1	1	1	F		
	E	1	1	1	1	1	1	1	1	F		
	F	1	1	1	1	1	1	1	1	F		
	G	1	1	1	1	1	1	1	1	F		
	H	1	1	1	1	1	1	1	1	F		
	I	1	1	1	1	1	1	1	1	F		
	J	1	1	1	1	1	1	1	1	F		
	A	1	1	1	1	1	1	1	1	F		
#4	B	1	1	1	1	1	1	1	1	F		
	C	1	1	1	1	1	1	1	1	F		
30.0%	D	1	1	1	1	1	1	1	1	F		
	E	1	1	1	1	1	1	1	1	F		
	F	1	1	1	1	0	0	0	0	F		
	G	1	1	1	1	1	1	1	1	F		
	H	1	1	1	1	1	1	1	1	F		
	I	1	1	1	1	1	1	1	1	F		
	J	1	1	1	1	1	1	1	1	F		
	A	1	1	1	1	1	1	1	1	F		
#5	B	1	1	1	1	1	1	1	1	F		
	C	1	1	1	1	1	1	1	1	F		
100%	D	1	1	1	1	1	1	1	1	F		
	E	1	1	1	1	1	1	1	1	F		
	F	1	1	1	1	1	1	1	1	F		
	G	1	1	1	1	1	1	1	1	F		
	H	1	1	1	1	1	1	1	1	F		
	I	1	1	1	1	1	1	1	1	F		
	J	1	1	1	1	1	1	1	1	F		

See Reproduction Sheet for Renewal Information | See ToxCalc printout for summary survival & reproduction data

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	
VFOW1300CCD-2	% Control survival (TAC 80% min): 90% % Surviving controls with 3 broods (TAC 60% min): 100%

Ceriodaphnia Survival and Reproduction Test-6 Day Survival

Start Date:	Test ID: VPOW1330	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

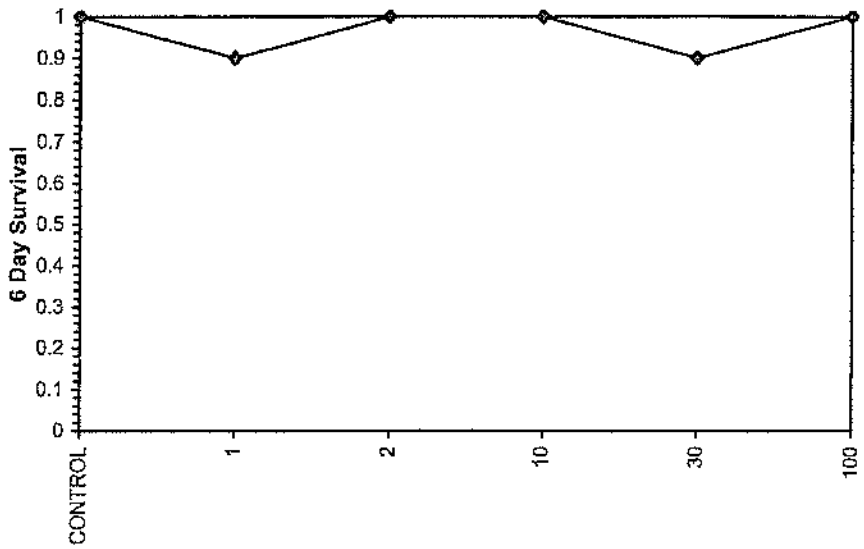
Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical
CONTROL	1.0000	1.0000	0	10	10	10		
1	0.9000	0.9000	1	9	10	10	0.5000	0.0500
2	1.0000	1.0000	0	10	10	10	1.0000	0.0500
10	1.0000	1.0000	0	10	10	10	1.0000	0.0500
30	0.9000	0.9000	1	9	10	10	0.5000	0.0500
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1330	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	23.000	33.000	35.000	35.000	35.000	29.000	32.000	30.000	36.000	31.000
1	27.000	34.000	33.000	34.000	36.000	0.000	32.000	36.000	29.000	37.000
2	31.000	33.000	31.000	34.000	27.000	37.000	36.000	37.000	39.000	32.000
10	32.000	35.000	31.000	39.000	33.000	26.000	33.000	29.000	31.000	36.000
30	30.000	30.000	28.000	37.000	33.000	3.000	37.000	30.000	29.000	34.000
100	27.000	27.000	28.000	29.000	30.000	28.000	38.000	5.000	28.000	33.000

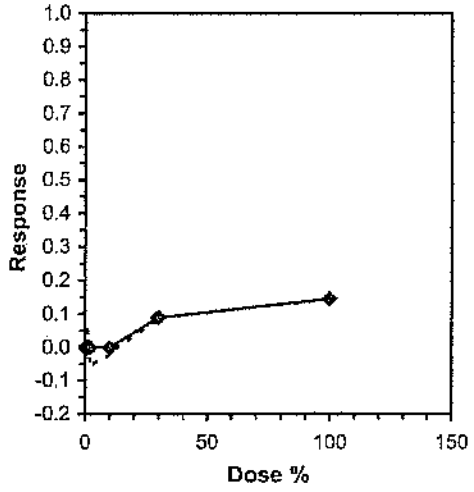
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
CONTROL	31.900	1.0000	31.900	23.000	36.000	12.315	10			31.975	1.0000
1	29.800	0.9342	29.800	0.000	37.000	36.685	10	108.50	75.00	31.975	1.0000
2	33.700	1.0564	33.700	27.000	39.000	10.749	10	118.50	75.00	31.975	1.0000
10	32.500	1.0188	32.500	26.000	39.000	11.259	10	107.00	75.00	31.975	1.0000
30	29.100	0.9122	29.100	3.000	37.000	33.374	10	96.50	75.00	29.100	0.9101
100	27.300	0.8558	27.300	5.000	38.000	31.275	10	79.50	75.00	27.300	0.8538

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.76056	1.035	-2.5877	8.361
Bartlett's Test indicates unequal variances (p = 6.43E-04)	21.5287	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	21.122			
IC10	42.542			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			

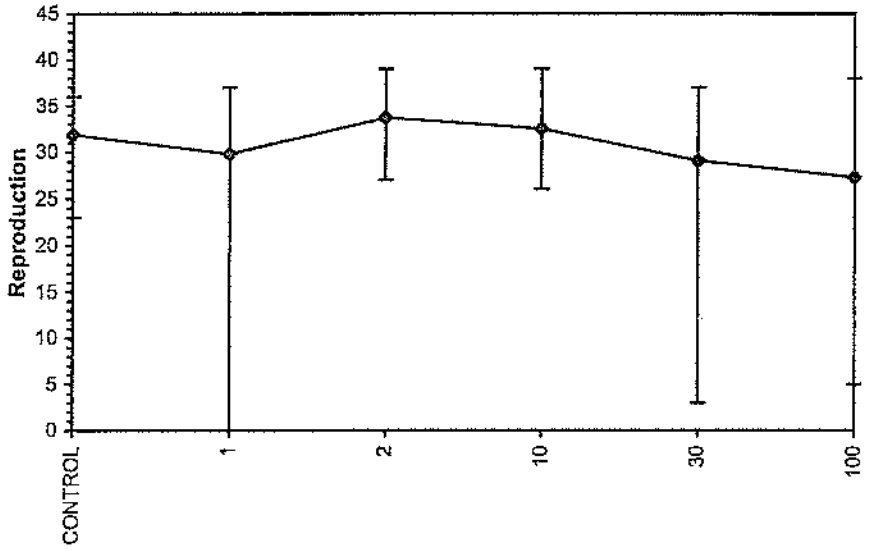


Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1330	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

Comments: DATA ENTERED BY PB

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1330	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:	DATA ENTERED BY PB		

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	23.000	33.000	35.000	35.000	35.000	29.000	32.000	30.000	36.000	31.000
1	27.000	34.000	33.000	34.000	36.000	0.000	32.000	36.000	29.000	37.000
2	31.000	33.000	31.000	34.000	27.000	37.000	36.000	37.000	39.000	32.000
10	32.000	35.000	31.000	39.000	33.000	26.000	33.000	29.000	31.000	36.000
30	30.000	30.000	28.000	37.000	33.000	3.000	37.000	30.000	29.000	34.000
100	27.000	27.000	28.000	29.000	30.000	28.000	38.000	5.000	28.000	33.000

			Transform: Untransformed						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
CONTROL	31.900	1.0000	31.900	23.000	36.000	12.315	10			
1	29.800	0.9342	29.800	0.000	37.000	36.685	10	0.634	2.287	7.569
2	33.700	1.0564	33.700	27.000	39.000	10.749	10	-0.544	2.287	7.569
10	32.500	1.0188	32.500	26.000	39.000	11.259	10	-0.181	2.287	7.569
30	29.100	0.9122	29.100	3.000	37.000	33.374	10	0.846	2.287	7.569
100	27.300	0.8558	27.300	5.000	38.000	31.275	10	1.390	2.287	7.569

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.76056	1.035	-2.5877	8.361
Bartlett's Test indicates unequal variances (p = 6.43E-04)	21.5287	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	7.56881	0.23727	57.2167	54.7796	0.40129	5, 54

DUNNETTS TEST FOR PMSD ONLY PD

Effluent and Dilution Water Log (Freshwater Tests). FWEFFL061013

Initial sample characterization	Bottle(1):	A1	B1	C1						
	Arrival Temp. (oC, from CoC):	1	1	1						
	TRC (mg/l)(2):	<DL	<DL	<DL						
	TRC Corrected(2):	☒	☒	☒	☐	☐	☐	☐	☐	
	Hardness (mg/l):	70	60	66						
	Alkalinity (mg/l):	53	51	47						
	NH3-N (mg/l):	<1.0	<1.0	<1.0						
	Color/Appearance(3):	CY	CY	CY						
	Obvious odor?	NO	NO	NO						
	Date & Time:	7/10/13 11:14	7/11/13 10:45	7/13/13 11:55						
	Initials:	GB	PB	GB						
Sample prep measure-ments	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE
	Bottle(s):	A1	B1	B1	C1	C1	C1			B1
	Prep. Temp. (oC):	25	25	25	24	25	25			25
	D.O. (mg/l) After Warming:	10.8	8.8	8.8	10.4	10.4	10.7			8.8
	Aeration Time (min):	2.5	1.5	1.5	2.5	2.5	2.5			2
	Adjusted D.O. (mg/l):	8.2	8.2	8.2	8.2	8.1	8.2			8.2
	Final pH (S.U.):	7.56	7.68	7.75	7.49	7.79	7.60			7.60
	Conductivity (uS/cm)(4):	145	151	NA	164	NA	NA			149
	Final TRC (mg/l)(5):	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D.
	Sample Filtered (60 um)?	☑	☑	☑	☑	☑	☑	☑	☐	☐
	Date & Time:	7/10/13 11:39	7/11/13 13:24	7/12/13 10:56	7/13/13 13:34	7/14/13 12:55	7/15/13 10:04			7/11/13 15:03
	Initials:	AG	AG	KK	GB	RCD	GB			PB
Dilution water	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE
	Vol. Number:	2	3	3	1	1	1			3
	Temperature (oC):	25	25	25	25	25	25			25
	Conductivity (uS/cm):	293	293	293	291	291	293			293
	D.O. (mg/l):	8.2	8.2	8.2	8.2	8.2	8.2			8.2
	pH (S.U.):	7.70	7.70	7.68	7.68	7.68	7.65			7.70
	Hardness (mg/l):	84	100	100	98	98	98			100
	Alcalinity (mg/l):	60	57	57	60	60	60			57
	Date & Time:	7/10/13 8:20	7/11/13 8:50	7/12/13 8:50	7/13/13 9:05	7/14/13 9:30	7/15/13 8:55			7/11/13 8:50
	Initials:	GB	AG	GB	RCD	AG	GB			AG
	Changes & Notes (initials, date, specific change or notes)									
	Peer review Initial/Date:	PB, GB	7/17/13 10:05	DILUTION WATER TYPE:	Mod. Hard Synthetic Freshwater (EFA)					
PROJECT ID:	VPOW1330	ADDITIONAL EFFLUENT TREATMENT:								

ND=Not Determined/Measured, NA=Not Applicable. (1) First character of lab sample ID on chain of custody AND bottle number. N=collection series. Together with Project ID constitutes entire sample bottle ID. (2) TRC MDL 0.02 mg/l; CL 0.22 mg/l. Corrected value if Mn, Cr potential positive interference. Corrected using KI and NaAsO2 (3) C-clear, O-opaque (1-slight, 2-moderate, 3-heavy); Y-yellow, B-brown, Bl-black, G-green, P-pink, Gy-grey, Or-orange. (4) Measured on first use of sample only. (5) Final TRC measured only if chlorine present in initial characterization.

SUMMARY WATER QUALITY DATA

MEAN	S.D.	MIN.	MAX.	PARAMETER
	0.0	1	1	Arrival Temp.
65	5.0	60	70	Hardness (mg/l)
50	3.1	47	53	Alkalinity (mg/l)

MEAN	S.D.	MIN.	MAX.	
25	0.4	24	25	Temp. (oC)
8.2	0.0	8.1	8.2	D.O. (mg/l)
7.66	0.11	7.49	7.79	pH (S.U.)
155	13.4	145	164	Cond. (uS/cm)

MEAN	S.D.	MIN.	MAX.	
25	0.0	25	25	Temp. (oC)
293	0.8	291	293	Cond. (uS/cm)
8.2	0.0	8.2	8.2	D.O. (mg/l)
7.68	0.02	7.65	7.70	pH (S.U.)
98	5.2	84	100	Hardness (mg/l)
59	1.5	57	60	Alkalinity (mg/l)

VPDW1330-A 13-0509

~~Sunday~~+Monday / Tuesday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 001 State VA

Sampler Name WMS

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/8/13 1600 To (Date/Time) 7/9/13 1037

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/9/13 Time 1037 Effluent Temp (°C) 19.9

Composite Temp (°C) 10.7

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1037	NA	NA	7.7	NA	<dL
Composite		NA	NA	NA	NA	NA

WMS

I certify that the above information is correct _____

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WMS	7/9/13 1500	
		7/10/13 1100	[illegible] 1°C

VP0W13705

Tuesday / Wednesday

CBI 13-0516

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 001 State VA

Sampler Name WKM

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA ~~Effluent~~ Temp(°C) NA

Composite Sample: From (Date/Time) 7/10/13 1000 To (Date/Time) 7/11/13 1103

Sampling Frequency 4 sample periods, one every 6 ~~hours~~

Composite Subsample: Date 7/11/13 Time 1103 Effluent Temp (°C) 33.1

Composite Temp (°C) 14.3

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1103	NA	NA	7.7	NA	<dL
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WKM

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WKM	7/11/13 1500	
		7/11/13 1045	P Blanco @ 1°C

① mobile changed per Glenn Bishop PB

VPDW1330-C 13-0527

Thursday / Friday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 001 State VA

Sampler Name WHB

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/11/13 1600 To (Date/Time) 7/12/13 1038 ✓

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/12/13 Time ✓ 1038 Effluent Temp (°C) ✓ 30.7

Composite Temp (°C) 13.9 ✓

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	✓ 1038	NA	NA	✓ 7.7	NA	✓ <QL
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WHB

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	7/12/13 WHB	7/12/13 1500	
		7/13/13 1145	D.A. IAL

Client: Dominion Virginia Power
Project ID: VPOW1331
Client Sample ID: Chesterfield Power Station outfall 002
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	**Prepared By:**
Mr. Glenn Bishop Dominion Virginia Power Environmental Compliance and Policy 4111 Castlewood Road Richmond, VA 23234	Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director

Acute Test Results*

Species-Test Method	48-h LC50	95% C.L.	$T.U._{Ac}$	NOAEC
C. dubia EPA 2002.0	>100	N/A	<1.00	N/A

Chronic Test Results*

Species-Test Method	Endpoint	NOEC	LOEC	ChrV	PMSD	$T.U._C$	IC25	48-h LC50	LC50 95% C.L.	$T.U._{Ac}$
C. dubia	Survival	100	>100	>100	N/A	1.00	N/A	>100	N/A	<1.00
EPA 1002.0	Reproduction	100	>100	>100	18	1.00	>100	N/A	N/A	N/A

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

Acute Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	591	548-638	Yes
(7/5/13-7/7/13)	CC	99	544	457-630	

Chronic Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Survival		Reproduction (# Young)					RTT in Control?
		Cont.	NOEC	Cont.	NOEC	PMSD	IC25	IC25 A.L.	
C. dubia 1002.0	RTT	100	500	32.4	250	19	374	N/A	Yes
(7/5/13-7/11/13)	CC	97	500	25.5	250	23	317	226-407	

Note: RTT = Reference Toxicant Test, CC = Control Chart, Cont. = Control group.

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory. Unless noted below, these test results meet all requirements of NELAP.

APPROVED:

Peter F. De Lisle, Ph.D.
Technical Director

7/17/13
Date

Deviations from, additions to, or exclusions from the test method, non-standard conditions or data qualifiers and, as appropriate, a statement of compliance/non-compliance: **NONE**

VELAP# 460030
EPA# VA01116

Client: Dominion Virginia Power
Project ID: VPOW1331
Client Sample ID: Chesterfield Power Station outfall 002
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

C B I
Coastal Bioanalysts, Inc.

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

Chronic Value (ChrV): The geometric mean of the NOEC and LOEC. Units are same as test concentration units.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

IC25: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 25% reduction in test organism growth, reproduction, etc. The lower the IC25, the more toxic the chemical or sample. Units are same as test concentration units.

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

LOEC: Lowest-observable-effect-concentration. The lowest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit a statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Units are same as test concentration units.

PMSD: Percent Minimum Significant Difference: The minimum difference which can exist between a test treatment and the controls in a particular test and be statistically significant; a measure of test sensitivity. The lower the PMSD the more sensitive the test.

N/A: Not applicable.

N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

NOEC: No-observable-effect-concentration. The highest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit no statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Some regulatory definitions also require that the NOEC be less than the LOEC. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. $T.U._{Ac} = 100/LC50$. $T.U._{Chr} = 100/NOEC$ or $100/IC25$. A dimensionless unit.

VELAP# 460030
EPA# VA01116

C. dubia daily biological measurements (EPA 2002.0) Template version ACD-STAT-5trt-061113

TRTMNT (% Effl)	Rep	# Live Day 0	# Live Day 1	# Live Day 2	Final Mean % Live		
C	A	5	5	5	95.0		
	B	5	5	4			
Lab	C	5	5	5			
Control	D	5	5	5			
#1	A	5	5	5	100.0		
6.25	B	5	5	5			
% Effl	C	5	5	5			
	D	5	5	5			
# 2	A	5	5	5	100.0		
12.5	B	5	5	5			
% Effl	C	5	5	5			
	D	5	5	5			
# 3	A	5	5	5	100.0		
25.0	B	5	5	5			
% Effl	C	5	5	5			
	D	5	5	5			
# 4	A	5	5	5	95.0		
50.0	B	5	5	5			
% Effl	C	5	5	4			
	D	5	5	5			
# 5	A	5	5	5	100.0		
100	B	5	5	5			
% Effl	C	5	5	5		Test Duration:	[illegible]
	D	5	5	5			TAC 48+/-0.5h
INITIALS:		PB	GB	GB	% CONTROL SURVIVAL:		[illegible]
DATE & TIME:		7/11/13 15:37	7/12/13 9:35	07/13/13 15:39			TAC = 90%

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE				
	SPECIES:	Ceriodaphnia dubia		
	ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater		
	FEEDING PRIOR TO TEST:	YCT + Selenastrum capricornutum		
	FEEDING DURING TEST:	None -YCT + Selenastrum 2+ h before test		
	SOURCE:	CBI Stock cultures		
	ACCLIMATION TEMP (o C):	25		
	BROOD RELEASE START DATE & TIME:	7/10/13 16:20		
	BROOD RELEASE END DATE & TIME:	7/11/13 9:50		
	DATE/TIME WATER ADDED:	7/11/13 15:20		
	DATE/TIME ANIMALS ADDED:	7/11/13 15:37		
	ANIMAL AGE WINDOW:	17h 30m		
	MAX AGE AT TEST START:	[illegible]		TAC Max. 24 h
	TEST SET UP BY:		PB	
	SAMPLE COLLECTION DATE &TIME:	7/10/13 11:00	SAMPLE USED	B
TEST ID:	SAMPLE AGE AT TEST START:	[illegible]	TAC Max 36 h	
VPOW1331ACD	PEER REVIEW BY (INITIALS/DATE):		GB. PB	7/13/13 15:39

Ceriodaphnia daily water quality bench sheet (EPA METHOD 2002.0) Template version ACD-STAT-5trt-061113

	TRTMNT	Day 0 Initial	Day 1	Day 2 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.70	8.10	7.90	7.90	0.20	7.70	8.10
	1	7.71	8.07	7.94	7.91	0.18	7.71	8.07
	2	7.75	8.05	7.96	7.92	0.15	7.75	8.05
	3	7.76	8.01	7.95	7.91	0.13	7.76	8.01
	4	7.78	7.99	7.98	7.92	0.12	7.78	7.99
	5	7.80	7.94	8.02	7.92	0.11	7.80	8.02
Temp. (o C)	C	25	25	25	25	0.0	25	25
	1	25	25	25	25	0.0	25	25
	2	25	25	25	25	0.0	25	25
	3	25	25	25	25	0.0	25	25
	4	25	25	25	25	0.0	25	25
	5	25	25	25	25	0.0	25	25
Diss. Oxygen (mg/l)	C	8.2	8.1	7.8	8.0	0.2	7.8	8.2
	1	8.2	8.1	7.8	8.0	0.2	7.8	8.2
	2	8.2	8.1	7.9	8.1	0.2	7.9	8.2
	3	8.2	8.0	7.9	8.0	0.2	7.9	8.2
	4	8.2	8.0	8.0	8.1	0.1	8.0	8.2
	5	8.2	7.9	8.2	8.1	0.2	7.9	8.2
Cond. (uS/cm)	C	293		293	293	0.0	293	293
	1	283			283		283	283
	2	281			281		281	281
	3	275			275		275	275
	4	243			243		243	243
	5	150		159	155	6.4	150	159
Replicate measured		Flask	Surrogate	B				
Initials		PB	GB	GB				
		TRC (mg/l) in highest conc. at end of test:		N/A				

Changes & Notes (Initials, date, specific change or notes)								
	Test chamber:	30 ml glass vial:	☑					
		Other:						
	Test solution vol. (15 ml min):	15 ml:	☑					
		Other (ml):						
	Illumination & photoperiod:	50-100 ft-c 16L:8D				Template Number:	14	
	Number of replicates/treatment:	4						
	Initial number animals/replicate:	5						
	Test Aerated?	N/A	Date & Time Air Start:	N/A				
TEST ID	TRT ID:	1	2	3	4	5		
VPOW1331ACD	CONC(%):	6.25	12.5	25.0	50.0	100		

Ceriodaphnia test set up bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

Test chamber:	~30 ml glass vial:	☑	Illumination & photoperiod:	50-100 ft-c 16L:8D	
	Other:		Number of replicates/treatment:	10	
Test solution volume:	15 ml:	☑	Initial number animals/replicate:	1	
	Other (ml):		Template #:	5	

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia	
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater	
FEEDING (Culture &Test):	YCT + Selenastrum capricornutum mix	
SOURCE:	CBI Stock cultures	
ACCLIMATION TEMP (o C):	25	
BROOD RELEASE FROM:	7/9/13 14:15	
BROOD RELEASE TO:	7/9/13 16:35	
DATE/TIME WATER ADDED:	7/10/13 13:26	
DATE/TIME ANIMALS ADDED:	7/10/13 13:40	
ANIMAL AGE WINDOW (TAC 8 h):		
MAX AGE AT TEST START (TAC 24 h):		
TEST SET UP BY:	AG	
TEST ID:	VPOW1331CCD	
PEER REVIEW BY (Initial/Date):	PB	7/17/13 10:25

VPOW1331CCD

Ceriodaphnia daily water quality bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

	TRTMNT	Day 0 Initial	Day 1 Final	Day 1 Initial	Day 2 Final	Day 2 Initial	Day 3 Final	Day 3 Initial	Day 4 Final	Day 4 Initial	Day 5 Final	Day 5 Initial	Day 6 Final	Day 6 Initial	Day 7 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.67	7.81	7.72	7.78	7.90	8.04	7.88	7.95	7.70	7.99	7.66	8.03			7.84	0.14	7.66	8.04
	1	7.67	7.88	7.74	7.87	7.90	8.15	7.86	8.01	7.70	7.95	7.70	8.07			7.88	0.15	7.67	8.15
	2	7.67	7.90	7.74	7.92	7.87	8.17	7.84	8.09	7.70	8.02	7.72	8.10			7.90	0.17	7.67	8.17
	3	7.67	7.92	7.74	7.94	7.85	8.19	7.82	8.13	7.70	8.04	7.74	8.12			7.91	0.18	7.67	8.19
	4	7.66	7.94	7.74	7.95	7.85	8.21	7.82	8.13	7.70	8.05	7.76	8.12			7.91	0.19	7.66	8.21
	5	7.65	7.97	7.67	7.93	7.75	8.16	7.77	8.09	7.66	8.02	7.76	8.01			7.87	0.18	7.65	8.16
Temp. (o.C)	C	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	1	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	2	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	3	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	4	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	5	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
Diss. Oxygen (mg/l)	C	8.2	8.1	7.9	8.5	8.2	8.4	7.9	8.4	8.2	8.5	8.1	8.7			8.3	0.2	7.9	8.7
	1	8.2	8.2	7.8	8.5	8.2	8.4	7.8	8.5	8.2	8.4	8.1	8.7			8.3	0.3	7.8	8.7
	2	8.2	8.2	7.7	8.5	8.2	8.8	7.7	8.5	8.2	8.4	8.1	8.9			8.3	0.4	7.7	8.9
	3	8.2	8.3	7.8	8.5	8.2	8.7	7.7	8.5	8.2	8.6	8.1	9.1			8.3	0.4	7.6	9.1
	4	8.2	8.3	7.7	8.6	8.2	8.9	7.8	8.6	8.2	8.6	8.1	8.9			8.3	0.4	7.7	8.9
	5	8.1	8.6	7.7	8.6	8.2	8.8	7.8	8.6	8.2	8.7	8.1	8.6			8.3	0.4	7.7	8.8
Cond (uS/cm)	C	294		290		297		290		293		295				293	2.9	290	297
	1	294		294		294		293		293		295				294	1.1	293	295
	2	293		293		293		294		293		296				294	1.2	293	296
	3	282		286		283		285		285		288				285	2.1	282	288
	4	254		257		261		261		260		264				260	3.5	254	264
	5	152		172		173		182		178		179				173	10.8	152	182
Replicate measured		S	B	S	E	S	I	S	G	S	J	S	F			NOTE: Final D.O. Values >8.3 mg/l (saturation) may occur due to photosynthetic activity of algal food.			
Initials		AG	RCD		GB		RCD		BJA		AG		AG						
Changes & Notes (initials, date, specific change or notes)																			
VEDW1331CCD5											TRT ID:	1	2	3	4	5			
											CONC:	1.00%	2.00%	10.0%	30.0%	100%			

Ceriodaphnia daily reproduction count bench sheet (EPA METHOD 1002.0) Template version CCD 5rt 061013

	A	0	0	0	6	5	0	16
	B	0	0	0	4	12	0	16
	C	0	0	0	6	10	0	16
Lab	D	0	0	0	6	10	0	14
Control	E	0	0	0	0	5	0	10
	F	0	0	0	4	0	12	16
	G	0	0	0	4	0	10	16
	H	0	0	0	6	5	0	16
	I	0	0	0	6	12	0	14
	J	0	0	0	4	10	0	16
	A	0	0	0	4	8	0	14
#1	B	0	0	0	6	10	0	16
	C	0	0	0	2	10	0	16
1.00%	D	0	0	0	6	10	0	18
	E	0	0	0	0	8	0	18
Vol. Effl:	F	0	0	0	4	0	6	18
	G	0	0	0	2	0	10	18
	H	0	0	0	4	8	0	18
	I	0	0	0	6	12	0	14
	J	0	0	0	4	10	0	14
	A	0	0	0	4	8	0	14
#2	B	0	0	0	4	10	0	20
	C	0	0	0	4	10	0	16
2.00%	D	0	0	0	4	10	0	16
	E	0	0	0	0	8	0	18
Vol. Effl:	F	0	0	0	4	10	0	20
	G	0	0	0	4	12	0	16
	H	0	0	0	6	8	0	20
	I	0	0	0	4	10	0	16
	J	0	0	0	6	12	0	16
	A	0	0	0	4	0	12	0
#3	B	0	0	0	6	10	0	16
	C	0	0	0	4	8	0	14
10.0%	D	0	0	0	6	12	0	16
	E	0	0	0	0	8	0	16
Vol. Effl:	F	0	0	0	4	0	10	18
	G	0	0	0	4	12	0	16
	H	0	0	0	4	10	0	16
	I	0	0	0	6	8	0	14
	J	0	0	0	4	8	0	14
	A	0	0	0	0	5	8	0
#4	B	0	0	0	2	10	0	20
	C	0	0	0	4	5	0	7
30.0%	D	0	0	0	4	8	0	16
	E	0	0	0	4	6	0	16
Vol. Effl:	F	0	0	0	6	10	0	14
	G	0	0	0	4	6	0	14
	H	0	0	0	4	0	12	16
	I	0	0	0	2	0	8	10
	J	0	0	0	4	12	0	16
	A	0	0	0	6	0	8	16
#5	B	0	0	0	4	0	14	16
	C	0	0	0	2	0	6	8
100%	D	0	0	0	4	10	0	14
	E	0	0	0	0	4	0	14
Vol. Effl:	F	0	0	0	6	0	8	16
	G	0	0	0	4	0	12	14
	H	0	0	0	6	10	0	18
	I	0	0	0	6	10	0	16
	J	0	0	0	6	10	0	14
3 INITIALS:	1	AG	RCD	GB	RCD	BJA	AG	AG
DATE & TIME:		7/10/13 13:40	7/11/13 13:14	7/12/13 12:55	7/13/13 14:22	7/14/13 14:30	7/15/13 14:15	7/16/13 15:34
SAMPLE USED:		A	B	B	C	C	C	

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE

VPOW133 CCD5rt | Avg. young/surviving control (TAC 15 min): | Surv. controls with 3 broods: 9

SAMPLE COLLECTION

SAMPLE	COLLECTION DATE & TIME
A	7/9/13 10:20
B	7/10/13 11:00
C	7/12/13 10:30
D	
E	

SAMPLE AGING

7/10/13 13:40
7/11/13 13:14
7/12/13 12:55
7/13/13 14:22
7/15/13 14:15

Ceriodaphnia daily survival count bench sheet (EPA METHOD 1002.0) Template version CCD 5brt 061013

	A	1	1	1	1	1	1	1	1	F	30	30
	B	1	1	1	1	1	1	1	1	F	34	34
	C	1	1	1	1	1	1	1	1	F	32	32
	D	1	1	1	1	1	1	1	1	F	30	30
Control	E	1	1	1	1	1	1	1	1	F	115	115
	F	1	1	1	1	1	1	1	1	F	34	34
	G	1	1	1	1	1	1	1	1	F	30	30
	H	1	1	1	1	1	1	1	1	F	28	28
	I	1	1	1	1	1	1	1	1	F	32	32
	J	1	1	1	1	1	1	1	1	F	30	30
	A	1	1	1	1	1	1	1	1	F	26	
#1	B	1	1	1	1	1	1	1	1	F	32	
	C	1	1	1	1	1	1	1	1	F	28	
1.00%	D	1	1	1	1	1	1	1	1	F	34	
	E	1	1	1	1	1	1	1	1	F	24	
	F	1	1	1	1	1	1	1	1	F	28	
	G	1	1	1	1	1	1	1	1	F	30	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	32	
	J	1	1	1	1	1	1	1	1	F	28	
	A	1	1	1	1	1	1	1	1	F	26	
#2	B	1	1	1	1	1	1	1	1	F	34	
	C	1	1	1	1	1	1	1	1	F	30	
2.00%	D	1	1	1	1	1	1	1	1	F	30	
	E	1	1	1	1	1	1	1	1	F	28	
	F	1	1	1	1	1	1	1	1	F	34	
	G	1	1	1	1	1	1	1	1	F	32	
	H	1	1	1	1	1	1	1	1	F	34	
	I	1	1	1	1	1	1	1	1	F	30	
	J	1	1	1	1	1	1	1	1	F	34	
	A	1	1	1	1	1	1	0	0	F	15	
#3	B	1	1	1	1	1	1	1	1	F	28	
	C	1	1	1	1	1	1	1	1	F	26	
10.0%	D	1	1	1	1	1	1	1	1	F	24	
	E	1	1	1	1	1	1	1	1	F	24	
	F	1	1	1	1	1	1	1	1	F	32	
	G	1	1	1	1	1	1	1	1	F	30	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	26	
	A	1	1	1	1	1	1	1	1	F	19	
#4	B	1	1	1	1	1	1	1	1	F	32	
	C	1	1	1	1	1	1	1	1	F	17	
30.0%	D	1	1	1	1	1	1	1	1	F	28	
	E	1	1	1	1	1	1	1	1	F	28	
	F	1	1	1	1	1	1	1	1	F	30	
	G	1	1	1	1	1	1	1	1	F	24	
	H	1	1	1	1	1	1	1	1	F	34	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	26	
	A	1	1	1	1	1	1	1	1	F	18	
#5	B	1	1	1	1	1	1	1	1	F	24	
	C	1	1	1	1	1	1	1	1	F	16	
100%	D	1	1	1	1	1	1	1	1	F	8	
	E	1	1	1	1	1	1	1	1	F	18	
	F	1	1	1	1	1	1	1	1	F	12	
	G	1	1	1	1	1	1	1	1	F	30	
	H	1	1	1	1	1	1	1	1	F	24	
	I	1	1	1	1	1	1	1	1	F	32	
	J	1	1	1	1	1	1	1	1	F	26	

See Reproduction Sheet for Renewal Information

See ToxCalc printout for summary survival & reproduction data

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	
LPOW1332CCD	% Control survival (TAC 80% min): 100 % Surviving controls with 3 broods (TAC 60% min):

Ceriodaphnia Survival and Reproduction Test-6 Day Survival

Start Date:	Test ID: VPOW1331	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

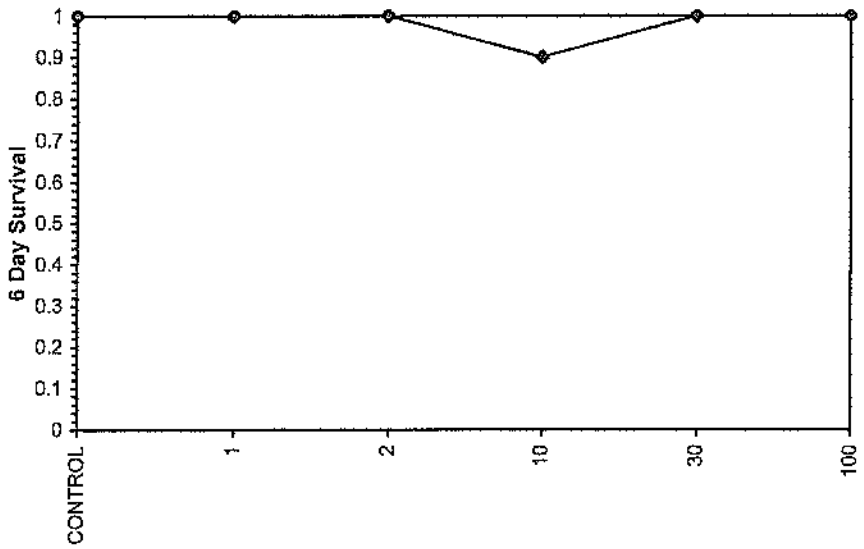
Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical
CONTROL	1.0000	1.0000	0	10	10	10		
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500
2	1.0000	1.0000	0	10	10	10	1.0000	0.0500
10	0.9000	0.9000	1	9	10	10	0.5000	0.0500
30	1.0000	1.0000	0	10	10	10	1.0000	0.0500
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1

Dose-Response Plot



ToxCalc v5.0.23

Reviewed by: PD

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1331	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:	DATA ENTERED BY PB		

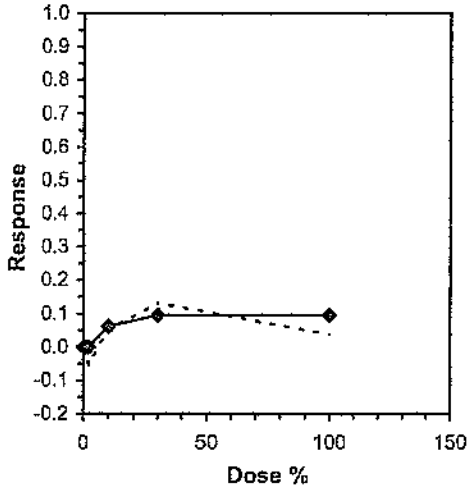
Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	30.000	34.000	32.000	30.000	15.000	34.000	30.000	28.000	32.000	30.000
1	26.000	32.000	28.000	34.000	24.000	26.000	30.000	30.000	32.000	28.000
2	26.000	34.000	30.000	30.000	26.000	34.000	32.000	34.000	30.000	34.000
10	16.000	32.000	26.000	34.000	24.000	32.000	32.000	30.000	28.000	26.000
30	13.000	32.000	17.000	28.000	26.000	30.000	24.000	34.000	20.000	32.000
100	30.000	34.000	16.000	28.000	18.000	32.000	30.000	34.000	32.000	30.000

			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
CONTROL	29.500	1.0000	29.500	15.000	34.000	18.446	10			29.833	1.0000
1	29.000	0.9831	29.000	24.000	34.000	10.904	10	92.00	75.00	29.833	1.0000
2	31.000	1.0508	31.000	26.000	34.000	10.201	10	112.00	75.00	29.833	1.0000
10	28.000	0.9492	28.000	16.000	34.000	19.048	10	94.50	75.00	28.000	0.9385
30	25.600	0.8678	25.600	13.000	34.000	27.449	10	87.50	75.00	27.000	0.9050
100	28.400	0.9627	28.400	16.000	34.000	22.220	10	102.50	75.00	27.000	0.9050

Auxiliary Tests				Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)				1.08426	1.035	-1.1631	1.14892
Bartlett's Test indicates equal variances (p = 0.11)				8.98423	15.0863		
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**			
Steel's Many-One Rank Test	100	>100		1			

Linear Interpolation (200 Resamples)

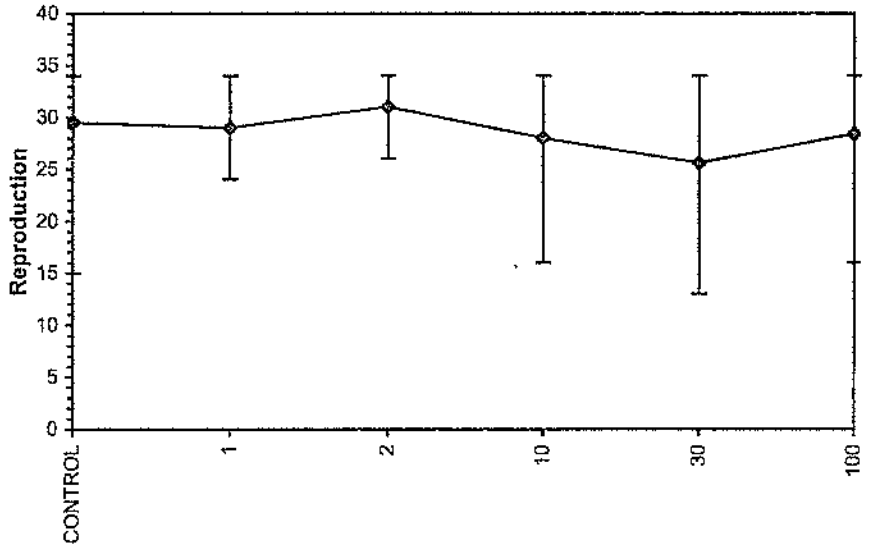
Point	%	SD	95% CL	Skew
IC05	8.5091			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1331	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments: DATA ENTERED BY PB			

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1331	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	30.000	34.000	32.000	30.000	15.000	34.000	30.000	28.000	32.000	30.000
1	26.000	32.000	28.000	34.000	24.000	26.000	30.000	30.000	32.000	28.000
2	26.000	34.000	30.000	30.000	26.000	34.000	32.000	34.000	30.000	34.000
10	16.000	32.000	26.000	34.000	24.000	32.000	32.000	30.000	28.000	26.000
30	13.000	32.000	17.000	28.000	26.000	30.000	24.000	34.000	20.000	32.000
100	30.000	34.000	16.000	28.000	18.000	32.000	30.000	34.000	32.000	30.000

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
CONTROL	29.500	1.0000	29.500	15.000	34.000	18.446	10			
1	29.000	0.9831	29.000	24.000	34.000	10.904	10	0.212	2.287	5.399
2	31.000	1.0508	31.000	26.000	34.000	10.201	10	-0.635	2.287	5.399
10	28.000	0.9492	28.000	16.000	34.000	19.048	10	0.635	2.287	5.399
30	25.600	0.8678	25.600	13.000	34.000	27.449	10	1.652	2.287	5.399
100	28.400	0.9627	28.400	16.000	34.000	22.220	10	0.466	2.287	5.399

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.08426	1.035	-1.1631	1.14892
Bartlett's Test indicates equal variances (p = 0.11)	8.98423	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	5.39924	0.18303	32.2567	27.8759	0.34219	5, 54

DUNNETT'S TEST FOR PMSD ONLY-PD

Effluent and Dilution Water Log (Freshwater Tests). FWEFFL061013

											SUMMARY WATER QUALITY DATA				
Initial sample characterization	Bottle(1):	A1	B1	C1							MEAN	S.D.	MIN.	MAX.	PARAMETER
	Arrival Temp. (oC, from CoC):	1	1	1							1	0.0	1	1	Arrival Temp.
	TRC (mg/l)(2):	<DL	<DL	<DL											
	TRC Corrected(2):														
	Hardness (mg/l):	68	60	60							63	4.6	60	68	Hardness (mg/l)
	Alkalinity (mg/l):	51	49	54							51	2.5	49	54	Alkalinity (mg/l)
	NH3-N (mg/l):	<1.0	<1.0	<1.0											
	Color/Appearance(3):	CY	CY	CY											
	Obvious odor?	NO	NO	NO											
	Date & Time:	7/10/13 11:26	7/11/13 10:45	7/13/13 12:00											
	Initials:	GB	PB	GB											
Sample prep measurements	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE	MEAN	S.D.	MIN.	MAX.	
	Bottle(s):	A1	B1	B1	C1	C1	C1			B1					
	Prep. Temp. (oC):	25	25	25	25	25	25			25	25	0.0	25	25	Temp. (oC)
	D.O. (mg/l) After Warming:	9.5	8.9	8.9	8.7	8.9	9.7			8.8					
	Aeration Time (min):	2	1.5	1.5	1.2	1.5	2.6			2					
	Adjusted D.O. (mg/l):	8.2	8.1	8.2	8.1	8.2	8.1			8.2	8.2	0.1	8.1	8.2	D.O. (mg/l)
	Final pH (S.U.):	7.49	7.60	7.64	7.60	7.63	7.65			7.63	7.60	0.06	7.48	7.65	pH (S.U.)
	Conductivity (uS/cm)(4):	144	156	NA	170	NA	NA			150	157	13.0	144	170	Cond. (uS/cm)
	Final TRC (mg/l)(5):	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.			N.D.					
	Sample Filtered (60 um)?	☑	☑	☑	☑	☑	☑								
	Date & Time:	7/10/13 13:23	7/11/13 12:40	7/12/13 12:36	7/13/13 14:02	7/14/13 13:59	7/15/13 13:51			7/11/13 15:12					
	Initials:	AG	RCD	GB	RCD	SJA	AG			PB					
Dilution water	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE	MEAN	S.D.	MIN.	MAX.	
	Vat Number:	2	3	3	1	1	2			3					
	Temperature (oC):	25	25	25	25	25	25			25	25	0.0	25	25	Temp. (oC)
	Conductivity (uS/cm):	293	293	293	291	291	291			293	292	1.1	291	293	Cond. (uS/cm)
	D.O. (mg/l):	8.2	8.2	8.2	8.2	8.2	8.2			8.2	8.2	0.0	8.2	8.2	D.O. (mg/l)
	pH (S.U.):	7.70	7.70	7.68	7.68	7.71	7.82			7.70	7.69	0.03	7.67	7.71	pH (S.U.)
	Hardness (mg/l):	84	100	100	98	98	98			100	96	6.4	84	100	Hardness (mg/l)
	Alkalinity (mg/l):	60	57	57	60	60	58			57	58	1.5	57	60	Alkalinity (mg/l)
	Date & Time:	7/10/13 8:20	7/11/13 8:50	7/12/13 8:50	7/13/13 9:05	7/14/13 9:30	7/15/13 8:55			7/11/13 8:50					
	Initials:	GB	AG	GB	RCD	AG	GB			AG					
	Changes & Notes (initials, date, specific change or notes)														
	Peer review Initial/Date:	AG, PB	7/16/13 15:39	DILUTION WATER TYPE:	Mod. Hard Synthetic Freshwater (EPA)										
PROJECT ID:	VPOW1331	ADDITIONAL EFFLUENT TREATMENT:													

ND=Not Determined/Measured, NA=Not Applicable. 1) Ninth character of lab sample ID on chain of custody AND bottle number in collection aidea. Separter with Project ID constitutes entire sample bottle ID. 2) TRC MDL 0.02 mg/l; DL 0.22 mg/L. Corrected Value if Mn/+Cl potential positive interference. Corrected using KI and MeNaO2.3) Cloudy, C-opaque, T-turbid, S-solids (SI-slight, M-moderate, H-heavy). Y-yellow, B-brown, Bl-black, G-green, P-pink, Gr-grey, O-orange. 4) Measured on first use of sample only. 5) Final TRC measured only if chlorine present in initial characterization.

VPDW1331-A 13-0510

~~Sunday~~ / Monday Tuesday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 002 State VA

Sampler Name WHB

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/8/13 1600 To (Date/Time) 7/9/13 1020

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/9/13 Time 1020 Effluent Temp (°C) 26.4

Composite Temp (°C) 12.0

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	pH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1020	NA	NA	7.7	NA	<QL
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WHB

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WHB	7/9/13 1500	
		7/10/13 1100	J.B. 10

VA0091331B

Tuesday / Wednesday

CBI 13-0512

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 002 State VA

Sampler Name WHS

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/9/13 1400 To (Date/Time) 7/10/13 1100

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/10/13 Time 1100 Effluent Temp (°C) 28.6

Composite Temp (°C) 10.3

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1100	NA	NA	7.2	NA	<0.4
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WHS

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WHS	7/10/13 1500	
		7/11/13 1045	P Glover @ 1°C

① month changed per Glenn Bishop. P.B.

VPDWJ331_C 13-0528 Thursday-Friday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 002 State VA

Sampler Name Wyg

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/11/13 1000 To (Date/Time) 7/12/13 1033 ✓

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/12/13 ✓ Time 1033 ✓ Effluent Temp (°C) 24.1 ✓

Composite Temp (°C) 12.8 ✓

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond: (umhos)	pH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1033 ✓	NA	NA	7.2 ✓	NA	<dL ✓
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct Wyg

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	Wyg	7/12/13 1500	
		7/13/13 1145	D.M. 10°C

Client: Dominion Virginia Power
Project ID: VPOW1332
Client Sample ID: Chesterfield Power Station outfall 003
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	**Prepared By:**
Mr. Glenn Bishop Dominion Virginia Power Environmental Compliance and Policy 4111 Castlewood Road Richmond, VA 23234	Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director

Acute Test Results*

Species-Test Method	48-h LC50	95% C.L.	$T.U._{Ac}$	NOAEC
C. dubia EPA 2002.0	>100	N/A	<1.00	N/A

Chronic Test Results*

Species-Test Method	Endpoint	NOEC	LOEC	ChrV	PMSD	$T.U._C$	IC25	48-h LC50	LC50 95% C.L.	$T.U._{Ac}$
C. dubia	Survival	100	>100	>100	N/A	1.00	N/A	>100	N/A	<1.00
EPA 1002.0	Reproduction	100	>100	>100	28	1.00	>100	N/A	N/A	N/A

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

Acute Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	591	548-638	Yes
(7/5/13-7/7/13)	CC	99	544	457-630	

Chronic Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method	Data	% Survival		Reproduction (# Young)					RTT in
(Ref. Test Date)	Source	Cont.	NOEC	Cont.	NOEC	PMSD	IC25	IC25 A.L.	Control?
C. dubia 1002.0	RTT	100	500	32.4	250	19	374	N/A	Yes
(7/5/13-7/11/13)	CC	97	500	25.5	250	23	317	226-407	

Note: RTT = Reference Toxicant Test, CC = Control Chart, Cont. = Control group.

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory. Unless noted below, these test results meet all requirements of NELAP.

APPROVED:

Peter F. De Lisle, Ph.D.
Technical Director

7/17/13
Date

Deviations from, additions to, or exclusions from the test method, non-standard conditions or data qualifiers and, as appropriate, a statement of compliance/non-compliance: **NONE**

VELAP# 460030
EPA# VA01116

Client: Dominion Virginia Power
Project ID: VPOW1332
Client Sample ID: Chesterfield Power Station outfall 003
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

Chronic Value (ChrV): The geometric mean of the NOEC and LOEC. Units are same as test concentration units.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

IC25: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 25% reduction in test organism growth, reproduction, etc. The lower the IC25, the more toxic the chemical or sample. Units are same as test concentration units.

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

LOEC: Lowest-observable-effect-concentration. The lowest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit a statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Units are same as test concentration units.

PMSD: Percent Minimum Significant Difference: The minimum difference which can exist between a test treatment and the controls in a particular test and be statistically significant; a measure of test sensitivity. The lower the PMSD the more sensitive the test.

N/A: Not applicable.

N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

NOEC: No-observable-effect-concentration. The highest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit no statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Some regulatory definitions also require that the NOEC be less than the LOEC. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. $T.U._{Ac} = 100/LC50$. $T.U._{Ch} = 100/NOEC$ or $100/IC25$. A dimensionless unit.

VELAP# 460030
EPA# VA01116

C. dubia daily biological measurements (EPA 2002.0) Template version ACD-STAT-5trt-061113

TEMP °C (Effl)		Time 0 hr Day 0	Time 24 hr Day 1	Time 48 hr Day 2	Final Mean #
Control	A	5	5	5	100.0
	B	5	5	5	
Lab	C	5	5	5	
Control	D	5	5	5	
#1	A	5	5	5	100.0
6.25	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 2	A	5	5	5	100.0
12.5	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 3	A	5	5	5	100.0
25.0	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 4	A	5	5	5	100.0
50.0	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 5	A	5	5	5	100.0
100	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
INITIALS:		PB	GB	RCD	% CONTROL SURVIVAL: 100.0
DATE & TIME:		7/11/13 15:53	7/12/13 9:38	07/13/13 16:15	TAC = 90%

Test Duration: 48h

TAC 48+/-0.5h

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia		
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater		
FEEDING PRIOR TO TEST:	YCT + Selenastrum capricornutum		
FEEDING DURING TEST:	None -YCT + Selenastrum 2+ h before test		
SOURCE:	CBI Stock cultures		
ACCLIMATION TEMP (o C):	25		
BROOD RELEASE START DATE & TIME:	7/10/13 16:20		
BROOD RELEASE END DATE & TIME:	7/11/13 9:50		
DATE/TIME WATER ADDED:	7/11/13 15:48		
DATE/TIME ANIMALS ADDED:	7/11/13 15:53		
ANIMAL AGE WINDOW:	17h 30m		
MAX AGE AT TEST START:	24h		TAC Max. 24 h
TEST SET UP BY:		PB	
SAMPLE COLLECTION DATE &TIME:	7/10/13 10:45	SAMPLE USED	B
SAMPLE AGE AT TEST START:	5h	TAC Max 36 h	
PEER REVIEW BY (INITIALS/DATE):		GB, PB	7/13/13 17:37

TEST ID: VPOW1332ACD

Ceriodaphnia daily water quality bench sheet (EPA METHOD 2002.0) Template version ACD-STAT-5trt-061113

	TRTMNT	Day 0 Initial	Day 1	Day 2 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.70	7.87	7.75	7.77	0.09	7.70	7.87
	1	7.70	7.87	7.78	7.78	0.09	7.70	7.87
	2	7.73	7.87	7.87	7.82	0.08	7.73	7.87
	3	7.73	7.87	7.90	7.83	0.09	7.73	7.90
	4	7.71	7.85	8.02	7.86	0.16	7.71	8.02
	5	7.71	7.81	8.02	7.85	0.16	7.71	8.02
Temp. (o C)	C	25	25	25	25	0.0	25	25
	1	25	25	25	25	0.0	25	25
	2	25	25	25	25	0.0	25	25
	3	25	25	25	25	0.0	25	25
	4	25	25	25	25	0.0	25	25
	5	25	25	25	25	0.0	25	25
Diss. Oxygen (mg/l)	C	8.2	8.3	8.1	8.2	0.1	8.1	8.3
	1	8.2	8.2	8.0	8.1	0.1	8.0	8.2
	2	8.2	8.2	8.0	8.1	0.1	8.0	8.2
	3	8.2	8.2	8.1	8.2	0.1	8.1	8.2
	4	8.2	8.2	8.3	8.2	0.1	8.2	8.3
	5	8.2	8.3	8.4	8.3	0.1	8.2	8.4
Cond (uS/cm)	C	293		295	294	1.4	293	295
	1	284			284		284	284
	2	281			281		281	281
	3	264			264		264	264
	4	226			226		226	226
	5	150		174	162	17.0	150	174
Replicate measured		Flask	Surrogate	A				
Initials		PB	GB	RCD				
TRC (mg/l) in highest conc. at end of test:				N/A				

Changes & Notes (Initials, date, specific change or notes)

Test chamber:	30 ml glass vial:	☑				
	Other:					
Test solution vol. (15 ml min):	15 ml:	☑				
	Other (ml):					
Illumination & photoperiod:	50-100 ft-c 16L:8D				Template Number:	7
Number of replicates/treatment:	4					
Initial number animals/replicate:	5					
Test Aerated?	N/A				Date & Time Air Start:	N/A

TEST ID	TRT ID:	1	2	3	4	5
VPOW1332ACD	CONC(%):	6.25	12.5	25.0	50.0	100

Ceriodaphnia test set up bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

Test chamber:	~30 ml glass vial:	☑	Illumination & photoperiod:	50-100 ft-c 16L:8D	
	Other:		Number of replicates/treatment:	10	
Test solution volume:	15 ml:	☑	Initial number animals/replicate:	1	
	Other (ml):		Template #:	2	

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	*Ceriodaphnia dubia*	
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater	
FEEDING (Culture &Test):	YCT + Selenastrum capricornutum mix	
SOURCE:	CBI Stock cultures	
ACCLIMATION TEMP (o C):	25	
BROOD RELEASE FROM:	7/9/13 16:35	
BROOD RELEASE TO:	7/9/13 22:00	
DATE/TIME WATER ADDED:	7/10/13 15:04	
DATE/TIME ANIMALS ADDED:	7/10/13 15:16	
ANIMAL AGE WINDOW (TAC 8 h):		
MAX AGE AT TEST START (TAC 24 h):		
TEST SET UP BY:	GB	
TEST ID:	VPOW1332CCD	
PEER REVIEW BY (Initial/Date):	PB	7/17/13 10:37
VPOW1332CCD		

Ceriodaphnia daily water quality bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

	TRTMNT	Day 0 Initial	Day 0 Final	Day 1 Initial	Day 1 Final	Day 2 Initial	Day 2 Final	Day 3 Initial	Day 3 Final	Day 4 Initial	Day 4 Final	Day 5 Initial	Day 5 Final	Day 6 Initial	Day 6 Final	Day 7 Initial	Day 7 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.62	7.90	7.77	7.78	7.58	8.04	7.58	7.82	7.61	7.92	7.69	8.13					7.79	0.18	7.58	8.13
	1	7.64	7.99	7.75	7.96	7.62	8.16	7.64	8.07	7.64	7.98	7.71	8.26					7.87	0.23	7.62	8.26
	2	7.66	8.02	7.75	8.01	7.64	8.22	7.66	8.06	7.67	8.01	7.73	8.28					7.89	0.23	7.64	8.28
	3	7.66	8.05	7.75	8.03	7.66	8.29	7.68	8.12	7.67	8.03	7.73	8.28					7.91	0.25	7.66	8.29
	4	7.68	8.05	7.73	8.05	7.67	8.29	7.68	8.12	7.66	8.03	7.75	8.24					7.91	0.24	7.66	8.29
	5	7.66	8.01	7.71	8.03	7.67	8.26	7.66	8.03	7.65	8.04	7.73	8.20					7.89	0.23	7.65	8.26
Temp. (o C)	C	25	25	25	25	25	25	25	25	25	25	25	25					25	0.0	25	25
	1	25	25	25	25	25	25	25	25	25	25	25	25					25	0.0	25	25
	2	25	25	25	25	25	25	25	25	25	25	25	25					25	0.0	25	25
	3	25	25	25	25	25	25	25	25	25	25	25	25					25	0.0	25	25
	4	25	25	25	25	25	25	25	25	25	25	25	25					25	0.0	25	25
	5	25	25	25	25	25	25	25	25	25	25	25	25					25	0.0	25	25
Diss. Oxygen (mg/l)	C	8.2	8.6	7.7	8.3	8.0	8.2	7.8	8.2	7.8	8.5	8.2	9.0					8.2	0.4	7.7	9.0
	1	8.2	8.9	7.7	8.3	7.9	8.6	7.8	8.5	7.8	8.5	8.2	9.1					8.3	0.4	7.7	9.1
	2	8.2	8.7	7.6	8.4	7.9	8.8	7.7	8.3	7.8	8.7	8.2	9.1					8.3	0.5	7.6	9.1
	3	8.2	8.8	7.6	8.8	7.9	8.8	7.7	8.6	7.8	8.7	8.2	9.2					8.4	0.5	7.6	9.2
	4	8.2	8.9	7.7	8.6	7.9	9.0	7.8	8.6	7.8	8.7	8.2	9.0					8.4	0.5	7.7	9.0
	5	8.2	9.0	7.7	8.8	7.9	9.0	7.8	8.3	7.9	8.7	8.2	8.9					8.4	0.5	7.7	9.0
Cond. (uS/cm)	C	289		288		290		291		292		295						291	2.5	288	295
	1	289		286		289		288		288		292						289	2.0	286	292
	2	281		281		279		282		282		283						281	1.4	279	283
	3	265		260		261		265		266		269						264	3.3	260	269
	4	231		229		227		237		235		237						233	4.3	227	237
	5	156		160		159		174		176		173						166	8.9	156	176
Replicate measured		S	E	S	A	S	H	S	J	S	B	S	G					NOTE: Final D.O. Values >8.3 mg/l (saturation) may occur due to photosynthetic activity of algal food.			
Initials		GB	RCD		RCD		RCD		KK		AG		AG								
Changes & Notes (initials, date, specific change or notes)																					
VPOW1332CCD																					

TRT ID:	1	2	3	4	5
CONC:	6.25%	12.5%	25.0%	50.0%	100%

Ceriodaphnia daily reproduction count bench sheet (EPA METHOD 1002.0) Template version CCD 5tr1 061013

TREATMENT	Rep	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	TOTAL YOY/REP
	A	0	0	0	4	6	0	16		26
	B	0	0	0	4	6	0	12		22
	C	0	0	0	4	0	10	14		28
Lab	D	0	0	0	4	0	8	16		28
Control	E	0	0	0	0	3	10	16		29
	F	0	0	0	6	0	12	16		34
	G	0	0	0	0	2	10	0		12
	H	0	0	0	4	0	10	16		32
	I	0	0	0	6	0	8	18		32
	J	0	0	0	6	0	12	16		34
	A	0	0	0	4	0	12	16		32
#1	B	0	0	0	2	0	8	14		24
	C	0	0	0	4	0	10	18		32
6.25%	D	0	0	0	2	0	8	16		26
	E	0	0	0	2	6	8	14		30
Vol. Effl:	F	0	0	0	4	0	8	14		26
	G	0	0	0	0	6	10	0		16
	H	0	0	0	4	0	10	16		30
	I	0	0	0	4	0	10	16		30
	J	0	0	0	4	0	10	12		26
	A	0	0	0	4	0	8	16		28
#2	B	0	0	0	4	6	0	12		22
	C	0	0	0	4	0	10	14		28
12.5%	D	0	0	0	4	0	12	16		32
	E	0	0	4	6	2	12	16		44
Vol. Effl:	F	0	0	0	4	0	10	14		28
	G	0	0	0	0	0	2	6		8
	H	0	0	0	4	0	10	16		30
	I	0	0	0	4	0	10	14		28
	J	0	0	0	4	0	12	14		30
	A	0	0	0	4	0	10	10		24
#3	B	0	0	0	0	0	0	6		6
	C	0	0	0	4	0	12	18		34
25.0%	D	0	0	0	4	0	10	16		30
	E	0	0	0	0	0	10	10		20
Vol. Effl:	F	0	0	0	6	0	12	14		32
	G	0	0	0	0	0	5	0		5
	H	0	0	0	4	0	12	16		32
	I	0	0	0	4	0	8	16		28
	J	0	0	0	4	0	10	18		32
	A	0	0	0	6	8	0	18		32
#4	B	0	0	0	4	6	0	16		26
	C	0	0	0	4	0	4	14		22
50.0%	D	0	0	0	4	0	10	18		32
	E	0	0	0	0	4	0	10		14
Vol. Effl:	F	0	0	0	2	0	12	12		26
	G	0	0	0	0	3	5	0		8
	H	0	0	0	4	0	8	12		24
	I	0	0	0	0	4	6	10		20
	J	0	0	0	4	0	10	14		28
	A	0	0	0	6	0	8	14		28
#5	B	0	0	0	4	4	0	10		18
	C	0	0	0	6	0	6	12		24
100%	D	0	0	0	4	0	12	12		28
	E	0	0	0	0	0	10	12		22
Vol. Effl:	F	0	0	0	6	0	12	14		32
	G	0	0	0	0	0	10	0		10
	H	0	0	0	6	0	10	18		34
	I	0	0	0	4	0	10	20		34
	J	0	0	0	2	0	8	14		24
INITIALS:		SB	RCD	RCD	RCD	KK	AG	AG		
DATE & TIME:		7/10/13 16:16	7/11/13 14:02	7/12/13 14:00	7/13/13 15:12	7/14/13 14:54	7/15/13 13:31	7/16/13 16:04		
SAMPLE USED:		A	B	B	C	C	C			
CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE										

VPOW133CCD Avg. young/surviving control (TAC 15 min): Surv. controls with 3 broods: 9

SAMPLE COLLECTION

SAMPLE	COLLECTION DATE & TIME
A	7/9/13 9:50
B	7/10/13 10:45
C	7/12/13 10:24
D	
E	

SAMPLE AGING

	7/10/13 15:16
	7/10/13 15:16
	7/11/13 14:02
	7/12/13 14:00
	7/13/13 15:12
	7/15/13 13:31

Ceriodaphnia daily survival count bench sheet (EPA METHOD 1002.0) Template version CCD 5tr1 061013

TREATMENT		Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	TALLY FINAL	TOTAL PROG	TOTAL DAY 7
Lab Control	A	1	1	1	1	1	1	1	1	F	26	26
	B	1	1	1	1	1	1	1	1	F	22	22
	C	1	1	1	1	1	1	1	1	F	28	28
	D	1	1	1	1	1	1	1	1	F	29	29
	E	1	1	1	1	1	1	1	1	F	29	29
	F	1	1	1	1	1	1	1	1	F	34	34
	G	1	1	1	1	1	1	1	1	F	12	12
	H	1	1	1	1	1	1	1	1	F	32	32
	I	1	1	1	1	1	1	1	1	F	32	32
	J	1	1	1	1	1	1	1	1	F	34	34
#1 6.25%	A	1	1	1	1	1	1	1	1	F	32	
	B	1	1	1	1	1	1	1	1	F	24	
	C	1	1	1	1	1	1	1	1	F	30	
	D	1	1	1	1	1	1	1	1	F	26	
	E	1	1	1	1	1	1	1	1	F	28	
	F	1	1	1	1	1	1	1	1	F	26	
	G	1	1	1	1	1	1	1	1	F	28	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	30	
	J	1	1	1	1	1	1	1	1	F	28	
#2 12.5%	A	1	1	1	1	1	1	1	1	F	30	
	B	1	1	1	1	1	1	1	1	F	24	
	C	1	1	1	1	1	1	1	1	F	28	
	D	1	1	1	1	1	1	1	1	F	32	
	E	1	1	1	1	1	1	1	1	F	34	
	F	1	1	1	1	1	1	1	1	F	28	
	G	1	1	1	1	1	1	1	1	F	30	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	30 min	
#3 25.0%	A	1	1	1	1	1	1	1	1	F	34	
	B	1	1	1	1	1	1	1	1	F	0	
	C	1	1	1	1	1	1	1	1	F	0	
	D	1	1	1	1	1	1	1	1	F	30	
	E	1	1	1	1	1	1	1	1	F	30	
	F	1	1	1	1	1	1	1	1	F	32	
	G	1	1	1	1	1	1	1	1	F	0	
	H	1	1	1	1	1	1	1	1	F	32	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	30	
#4 50.0%	A	1	1	1	1	1	1	1	1	F	30	
	B	1	1	1	1	1	1	1	1	F	28	
	C	1	1	1	1	1	1	1	1	F	0	
	D	1	1	1	1	1	1	1	1	F	0	
	E	1	1	1	1	1	1	1	1	F	14	
	F	1	1	1	1	1	1	1	1	F	28	
	G	1	1	1	1	1	1	1	1	F	0	
	H	1	1	1	1	1	1	1	1	F	0	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	28	
#5 100%	A	1	1	1	1	1	1	1	1	F	28	
	B	1	1	1	1	1	1	1	1	F	0	
	C	1	1	1	1	1	1	1	1	F	28	
	D	1	1	1	1	1	1	1	1	F	0	
	E	1	1	1	1	1	1	1	1	F	28	
	F	1	1	1	1	1	1	1	1	F	32	
	G	1	1	1	1	1	1	1	1	F	0	
	H	1	1	1	1	1	1	1	1	F	0	
	I	1	1	1	1	1	1	1	1	F	0	
	J	1	1	1	1	1	1	1	1	F	0	

See Reproduction Sheet for Renewal Information

See ToxCalc printout for summary survival & reproduction data

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

VPOW1332CCD

% Control survival (TAC 80% min): 100.0%

% Surviving controls with 3 broods (TAC 60% min): 0%

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1332	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	26.000	22.000	28.000	28.000	29.000	34.000	12.000	32.000	32.000	34.000
6.25	32.000	24.000	30.000	26.000	28.000	26.000	18.000	30.000	30.000	26.000
12.5	30.000	24.000	28.000	32.000	34.000	28.000	10.000	30.000	28.000	30.000
25	24.000	6.000	34.000	30.000	20.000	32.000	5.000	32.000	28.000	32.000
50	30.000	26.000	22.000	32.000	14.000	26.000	8.000	24.000	14.000	28.000
100	28.000	18.000	26.000	28.000	22.000	32.000	10.000	34.000	34.000	24.000

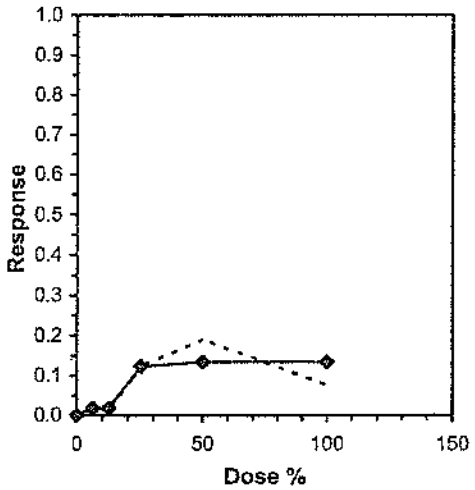
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
CONTROL	27.700	1.0000	27.700	12.000	34.000	24.070	10			27.700	1.0000
6.25	27.000	0.9747	27.000	18.000	32.000	14.917	10	94.50	75.00	27.200	0.9819
12.5	27.400	0.9892	27.400	10.000	34.000	24.343	10	103.00	75.00	27.200	0.9819
25	24.300	0.8773	24.300	5.000	34.000	44.324	10	98.00	75.00	24.300	0.8773
50	22.400	0.8087	22.400	8.000	32.000	35.164	10	82.50	75.00	24.000	0.8664
100	25.600	0.9242	25.600	10.000	34.000	29.417	10	95.00	75.00	24.000	0.8664

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.26663	1.035	-1.1779	0.88788
Bartlett's Test indicates equal variances (p = 0.16)	7.99158	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

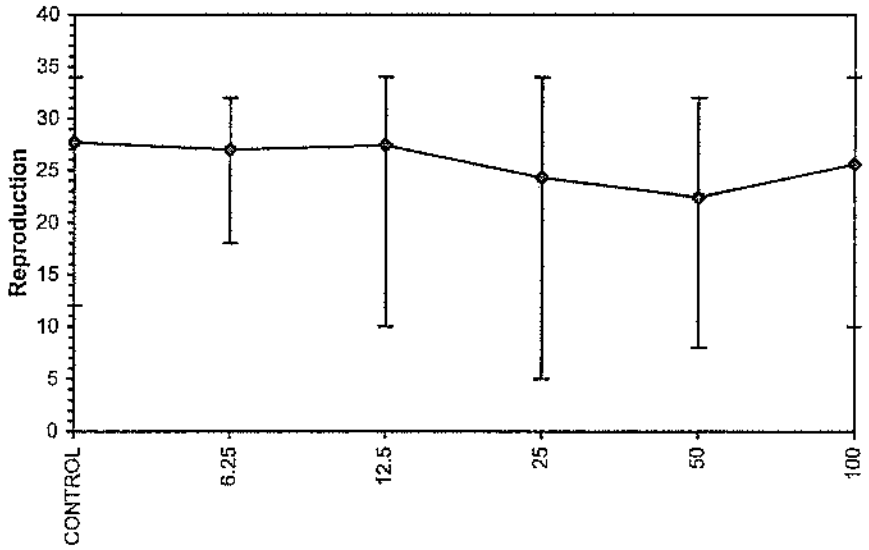
Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	16.315			
IC10	22.284			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction			
Start Date:	Test ID: VPOW1332	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments: DATA ENTERED BY PB			

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1332	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	26.000	22.000	28.000	28.000	29.000	34.000	12.000	32.000	32.000	34.000
6.25	32.000	24.000	30.000	26.000	28.000	26.000	18.000	30.000	30.000	26.000
12.5	30.000	24.000	28.000	32.000	34.000	28.000	10.000	30.000	28.000	30.000
25	24.000	6.000	34.000	30.000	20.000	32.000	5.000	32.000	28.000	32.000
50	30.000	26.000	22.000	32.000	14.000	26.000	8.000	24.000	14.000	28.000
100	28.000	18.000	26.000	28.000	22.000	32.000	10.000	34.000	34.000	24.000

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
CONTROL	27.700	1.0000	27.700	12.000	34.000	24.070	10			
6.25	27.000	0.9747	27.000	18.000	32.000	14.917	10	0.208	2.287	7.697
12.5	27.400	0.9892	27.400	10.000	34.000	24.343	10	0.089	2.287	7.697
25	24.300	0.8773	24.300	5.000	34.000	44.324	10	1.010	2.287	7.697
50	22.400	0.8087	22.400	8.000	32.000	35.164	10	1.574	2.287	7.697
100	25.600	0.9242	25.600	10.000	34.000	29.417	10	0.624	2.287	7.697

Auxiliary Tests					Statistic		Critical		Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)					1.26663		1.035		-1.1779	0.88788
Bartlett's Test indicates equal variances (p = 0.16)					7.99158		15.0863			
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Dunnett's Test	100	>100		1	7.69731	0.27788	42.8667	56.6556	0.585	5, 54

Dunnett's test for PMSD only pd

Effluent and Dilution Water Log (Freshwater Tests). FWEFFL061013

											SUMMARY WATER QUALITY DATA				
Initial sample characterization	Bottle(1):	A1	B1	C1							MEAN	S.D.	MIN.	MAX.	PARAMETER
	Arrival Temp. (oC, from CoC):	1	1	1							1	0.0	1	1	Arrival Temp.
	TRC (mg/l)(2):	<DL	<DL	<DL											
	TRC Corrected(2):	na	na	na	na	na	na	na	na						
	Hardness (mg/l):	76	60	74							70	8.71	60	76	Hardness (mg/l)
	Alkalinity (mg/l):	57	51	55							54	3.1	51	57	Alkalinity (mg/l)
	NH3-N (mg/l):	<1.0	<1.0	<1.0											
	Color/Appearance(3):	CY	CY	CY											
	Obvious odor?	NO	NO	NO											
	Date & Time:	7/10/13 11:15	7/11/13 10:45	7/13/13 11:59											
	Initials:	GB	PB	GB											
Sample prep measurements	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7		ACUTE	MEAN	S.D.	MIN.	MAX.	
	Bottle(s):	A1	B1	B1	C1	C1	C1				B1					
	Prep. Temp. (oC):	25	25	25	25	25	25				25	25	0.0	25	25	Temp. (oC)
	D.O. (mg/l) After Warming:	10.6	8.8	9.4	10.0	9.3	9.0				8.4					
	Aeration Time (min):	2.5	1.5	2	2.5	2	2				1					
	Adjusted D.O. (mg/l):	8.2	8.1	8.2	8.1	8.1	8.2				8.2	8.2	0.1	8.1	8.2	D.O. (mg/l)
	Final pH (S.U.):	7.59	7.67	7.52	7.80	7.56	7.60				7.57	7.63	0.10	7.52	7.8	pH (S.U.)
	Conductivity (uS/cm)(4):	147	149	NA	191	NA	NA				150	162	24.8	147	191	Cond. (uS/cm)
	Final TRC (mg/l)(5):	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.			N.D.					
	Sample Filtered (60 um)?	✓	✓	✓	✓	✓	✓	✓	na		na					
	Date & Time:	7/10/13 14:44	7/11/13 13:37	7/12/13 13:39	7/13/13 14:50	7/14/13 14:14	7/15/13 13:07				7/11/13 15:29					
	Initials:	GB	RCD	RCD	RCD	KK	AG				PB					
Dilution water	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7		ACUTE	MEAN	S.D.	MIN.	MAX.	
	Vat Number:	2	3	3	1	1	2				3					
	Temperature (oC):	25	25	25	25	25	25				25	25	0.0	25	25	Temp. (oC)
	Conductivity (uS/cm):	293	293	293	291	291	291				293	293	1.1	291	293	Cond. (uS/cm)
	D.O. (mg/l):	8.2	8.2	8.2	8.2	8.2	8.2				8.2	8.2	0.0	8.2	8.2	D.O. (mg/l)
	pH (S.U.):	7.70	7.70	7.68	7.68	7.71	7.62				7.70	7.68	0.03	7.64	7.7	pH (S.U.)
	Hardness (mg/l):	84	100	100	98	98	98				100	96	6.8	84	100	Hardness (mg/l)
	Alkalinity (mg/l):	60	57	57	60	60	58				57	58	1.5	57	60	Alkalinity (mg/l)
	Date & Time:	7/10/13 8:20	7/11/13 8:50	7/12/13 8:50	7/13/13 9:05	7/14/13 9:30	7/15/13 8:55				7/11/13 8:50					
	Initials:	GB	AG	RCD	RCD	AG	GB				AG					
	Changes & Notes (initials, date, specific change or notes)															
	Peer review Initial/Date:	PB, GB	7/17/13 10:32	DILUTION WATER TYPE:	Mod. Hard Synthetic Freshwater (EPA)											
PROJECT ID:	VPOW1332	ADDITIONAL EFFLUENT TREATMENT:														

NC=Not Determined/Measured, NA=Not Applicable. 1) Ninth character of lab sample ID on chain of custody A=1, bottle number in collection series. Together with Project ID constitutes entire sample bottle ID. 2) TRC MDL 0.02 mg/l; DL 0.22 mg/l. Corrected value if Mn, Cl, or potential positive interference. Corrected using KI and Na_2SO_3 3) Color: C=clear, O=opaque, T=turbid, S=solids (SI=slight, M=moderate, H=heavy), Y=yellow, B=brown, BK=black, G=green, P=pink, Gr=grey, O=orange. 4) Measured on final use of sample only. 5) Final TRC measured only if chlorine present. If initial characterization

VPDW0333-A 13-0512

~~Sunday~~ / Monday / Tuesday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 003 State VA

Sampler Name WMJ

NOEC >=100%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/8/13 1600 To (Date/Time) 7/9/13 1000

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/9/13 Time ~~0950~~ 1000 Effluent Temp (°C) 37.8

Composite Temp (°C) 14.7

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1000	NA	NA	7.8	NA	<dL
Composite	1000	NA	NA	NA	NA	NA

I certify that the above information is correct WMJ

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	7/9/13	WMJ 1500	
		7/10/13 SD 7/10/13 1100	S.B. 1°C

VPDES 1332-B

Tuesday / Wednesday

CBI 13-0518

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 003 State VA

Sampler Name WNG

NOEC >=100%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/10/13, 1600 To (Date/Time) 7/11/13 1045

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/11/13 Time 1045 Effluent Temp (°C) 4.0.2

Composite Temp (°C) 15.7

Field Measurements (as applicable):

Parameter	~~Time~~	D.O. (mg/l)	Cond. (umhos)	~~PH~~	Salinity (0/00)	~~Chlorine (mg/l)~~
~~Grab or~~ Comp. Subsample	1045	NA	NA	7.8	NA	
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WNG

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	~~Relinquished By~~	Date / Time	Received By
1 gal BAW	WNG	7/11/13 1500	
		7/11/13 1045	P Blasco @ 1°C

0 month changed per Glenn Bishop. EB.

VPDW1332-L 13-0529

Thursday / Friday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 003 State VA

Sampler Name WHS

NOEC >=100%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/11/13 1400 To (Date/Time) 7/12/13 1024

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/12/13 Time 1024 Effluent Temp (°C) 30.5

Composite Temp (°C) 12.5

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1024	NA	NA	7.8	NA	<dl
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WHS

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WHS	7/12/13 1500	JS
		7/13/13 1145	D.B. IAC

Mrs. Adamson
June 9, 2014

Second Copy of Results
Outfalls 001, 002 & 003

Client: Dominion Virginia Power
Project ID: VPOW1330
Client Sample ID: Chesterfield Power Station outfall 001
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	**Prepared By:**
Mr. Glenn Bishop Dominion Virginia Power Environmental Compliance and Policy 4111 Castlewood Road Richmond, VA 23234	Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director

Acute Test Results*

Species-Test Method	48-h LC50	95% C.L.	$T.U._{Ac}$	NOAEC
C. dubia EPA 2002.0	>100	N/A	<1.00	N/A

Chronic Test Results*

Species-Test Method	Endpoint	NOEC	LOEC	ChrV	PMSD	$T.U._C$	IC25	48-h LC50	LC50 95% C.L.	$T.U._{Ac}$
C. dubia	Survival	100	>100	>100	N/A	1.00	N/A	>100	N/A	<1.00
EPA 1002.0	Reproduction	100	>100	>100	24	1.00	>100	N/A	N/A	N/A

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

Acute Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	591	548-638	Yes
(7/5/13-7/7/13)	CC	99	544	457-630	

Chronic Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Survival		Reproduction (# Young)					RTT in Control?
		Cont.	NOEC	Cont.	NOEC	PMSD	IC25	IC25 A.L.	
C. dubia 1002.0	RTT	100	500	32.4	250	19	374	N/A	Yes
(7/5/13-7/11/13)	CC	97	500	25.5	250	23	317	226-407	

Note: RTT = Reference Toxicant Test, CC = Control Chart, Cont. = Control group.

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory. Unless noted below, these test results meet all requirements of NELAP.

APPROVED:

Peter F. De Lisle, Ph.D.
Technical Director

7/17/13
Date

Deviations from, additions to, or exclusions from the test method, non-standard conditions or data qualifiers and, as appropriate, a statement of compliance/non-compliance: **NONE**

VELAP# 460030
EPA# VA01116

Client: Dominion Virginia Power
Project ID: VPOW1330
Client Sample ID: Chesterfield Power Station outfall 001
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

Chronic Value (ChrV): The geometric mean of the NOEC and LOEC. Units are same as test concentration units.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

IC25: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 25% reduction in test organism growth, reproduction, etc. The lower the IC25, the more toxic the chemical or sample. Units are same as test concentration units.

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

LOEC: Lowest-observable-effect-concentration. The lowest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit a statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Units are same as test concentration units.

PMSD: Percent Minimum Significant Difference: The minimum difference which can exist between a test treatment and the controls in a particular test and be statistically significant; a measure of test sensitivity. The lower the PMSD the more sensitive the test.

N/A: Not applicable.

N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

NOEC: No-observable-effect-concentration. The highest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit no statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Some regulatory definitions also require that the NOEC be less than the LOEC. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. $T.U._{Ac}$ = 100/LC50. $T.U._{Chr}$ = 100/NOEC or 100/IC25. A dimensionless unit.

VELAP# 460030
EPA# VA01116

C. dubia daily biological measurements (EPA 2002.0) Template version ACD-STAT-5trt-061113

TRTMNT (% Effl)	Rep	#Live Day 0	#Live Day 1	#Live Day 2	Final Mean % Live
C	A	5	5	5	100.0
	B	5	5	5	
Lab	C	5	5	5	
Control	D	5	5	5	
#1	A	5	5	5	95.0
6.25	B	5	5	4	
% Effl	C	5	5	5	
	D	5	5	5	
# 2	A	5	5	5	100.0
12.5	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 3	A	5	5	5	100.0
25.0	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 4	A	5	5	5	100.0
50.0	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 5	A	5	5	5	100.0
100	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
INITIALS:		PB	GB	GB	% CONTROL SURVIVAL:
DATE & TIME:		7/11/13 15:21	7/12/13 9:32	07/13/13 15:32	

Test Duration: 48h 10m

TAC 48+/-0.5h

100.0

TAC = 90%

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater
FEEDING PRIOR TO TEST:	YCT + Selenastrum capricornutum
FEEDING DURING TEST:	None -YCT + Selenastrum 2+ h before test
SOURCE:	CBI Stock cultures
ACCLIMATION TEMP (o C):	25
BROOD RELEASE START DATE & TIME:	7/10/13 16:20
BROOD RELEASE END DATE & TIME:	7/11/13 9:50
DATE/TIME WATER ADDED:	7/11/13 15:15
DATE/TIME ANIMALS ADDED:	7/11/13 15:21
ANIMAL AGE WINDOW:	17h 30m
MAX AGE AT TEST START:	23h 1m TAC Max. 24 h
TEST SET UP BY:	PB
SAMPLE COLLECTION DATE &TIME:	7/10/13 11:03 SAMPLE USED: B
SAMPLE AGE AT TEST START:	28h 18m TAC Max 36 h
PEER REVIEW BY (INITIALS/DATE):	GB. PB 7/13/13 15:37

TEST ID: VPOW1330ACD

Ceriodaphnia daily water quality bench sheet (EPA METHOD 2002.0) Template version ACD-STAT-5trt-061113

	TRTMNT	Day 0 Initial	Day 1	Day 2 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.70	8.07	7.86	7.88	0.19	7.70	8.07
	1	7.73	8.04	7.88	7.88	0.16	7.73	8.04
	2	7.75	8.01	7.91	7.89	0.13	7.75	8.01
	3	7.73	7.97	7.93	7.88	0.13	7.73	7.97
	4	7.71	7.93	8.04	7.89	0.17	7.71	8.04
	5	7.73	7.89	8.05	7.89	0.16	7.73	8.05
Temp. (o C)	C	25	25	25	25	0.0	25	25
	1	25	25	25	25	0.0	25	25
	2	25	25	25	25	0.0	25	25
	3	25	25	25	25	0.0	25	25
	4	25	25	25	25	0.0	25	25
	5	25	25	25	25	0.0	25	25
Diss. Oxygen (mg/l)	C	8.2	8.2	7.8	8.1	0.2	7.8	8.2
	1	8.2	8.2	7.8	8.1	0.2	7.8	8.2
	2	8.2	8.2	7.9	8.1	0.2	7.9	8.2
	3	8.2	8.1	7.9	8.1	0.2	7.9	8.2
	4	8.2	8.1	8.0	8.1	0.1	8.0	8.2
	5	8.2	8.2	8.1	8.2	0.1	8.1	8.2
Cond. (uS/cm)	C	293		296	295	2.1	293	296
	1	287			287		287	287
	2	283			283		283	283
	3	271			271		271	271
	4	238			238		238	238
	5	149		152	151	2.1	149	152
Replicate measured		Flask	Surrogate	C				
Initials		PB	GB	GB				
TRC (mg/l) in highest conc. at end of test:				N/A				

Changes & Notes (Initials, date, specific change or notes)

Test chamber:	30 ml glass vial:	☑					
	Other:						
Test solution vol. (15 ml min):	15 ml:	☑					
	Other (ml):						
Illumination & photoperiod:	50-100 ft-c 16L:8D				Template Number:	9	
Number of replicates/treatment:	4						
Initial number animals/replicate:	5						
Test Aerated?	N/A	Date & Time Air Start:	N/A				

TRT ID:	1	2	3	4	5	
CONC(%):	6.25	12.5	25.0	50.0	100	

VPOW1330ACD

Ceriodaphnia test set up bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

Test chamber:	~30 ml glass vial:	☑	Illumination & photoperiod:	50-100 ft-c 16L:8D	
	Other:		Number of replicates/treatment:	10	
Test solution volume:	15 ml:	☑	Initial number animals/replicate:	1	
	Other (ml):		Template #:	14	

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia	
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater	
FEEDING (Culture &Test):	YCT + Selenastrum capricornutum mix	
SOURCE:	CBI Stock cultures	
ACCLIMATION TEMP (o C):	25	
BROOD RELEASE FROM:	7/9/13 12:05	
BROOD RELEASE TO:	7/9/13 14:15	
DATE/TIME WATER ADDED:	7/10/13 11:52	
DATE/TIME ANIMALS ADDED:	7/10/13 12:04	
ANIMAL AGE WINDOW (TAC 8 h):	2h 10m	
MAX AGE AT TEST START (TAC 24 h):	23h 59m	
TEST SET UP BY:	AG	
TEST ID:	VPOW1330CCD	
PEER REVIEW BY (Initial/Date):	PB	7/17/13 10:21
VPOW1330CCD		

Ceriodaphnia daily water quality bench sheet (EPA METHOD 1002.0) Template version CCD 5rt 061013

	TRTMNT	Day 0 Initial	Day 1 Final	Day 1 Initial	Day 2 Final	Day 2 Initial	Day 3 Final	Day 3 Initial	Day 4 Final	Day 4 Initial	Day 5 Final	Day 5 Initial	Day 6 Final	Day 6 Initial	Day 7 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.70	7.86	7.64	7.89	7.74	7.94	7.98	7.76	7.53	7.53	7.71	7.73			7.75	0.15	7.53	7.98
	1	7.70	8.03	7.64	7.87	7.74	7.98	7.95	7.88	7.58	7.62	7.73	7.76			7.79	0.15	7.58	8.03
	2	7.72	8.03	7.66	7.91	7.79	8.03	7.94	7.88	7.63	7.60	7.73	7.79			7.81	0.15	7.60	8.03
	3	7.72	8.03	7.68	7.92	7.79	8.13	7.90	7.90	7.65	7.65	7.73	7.81			7.83	0.15	7.65	8.13
	4	7.72	8.03	7.68	7.91	7.78	8.13	7.88	7.92	7.65	7.65	7.74	7.82			7.83	0.15	7.65	8.13
	5	7.68	8.03	7.68	7.87	7.73	8.13	7.80	7.92	7.65	7.65	7.70	7.76			7.80	0.16	7.65	8.13
Temp. (o C)	C	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	1	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	2	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	3	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	4	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	5	25	25	25	25	25	25	24	25	25	25	25	25			25	0.3	24	25
Diss. Oxygen (mg/l)	C	8.2	8.4	8.2	8.2	8.0	8.3	8.2	8.5	7.9	7.7	8.2	8.1			8.2	0.2	7.7	8.5
	1	8.2	8.5	8.2	8.2	8.0	8.4	8.2	8.6	7.8	7.8	8.2	8.0			8.2	0.2	7.6	8.6
	2	8.2	8.4	8.2	8.2	8.0	8.5	8.2	8.7	7.8	7.9	8.2	8.1			8.2	0.2	7.8	8.7
	3	8.2	8.5	8.2	8.3	7.9	8.5	8.2	8.7	7.8	7.9	8.2	8.1			8.2	0.3	7.8	8.7
	4	8.2	8.6	8.2	8.2	7.9	8.6	8.2	8.9	7.8	8.0	8.2	8.1			8.2	0.3	7.8	8.9
	5	8.2	8.7	8.2	8.3	8.1	8.7	8.3	8.9	7.9	8.0	8.2	8.1			8.3	0.3	7.9	8.9
Cond. (uS/cm)	C	294		294		292		297		292		291				293	2.2	291	297
	1	294		294		293		292		294		291				293	1.3	291	294
	2	293		293		292		290		292		295				293	1.6	290	295
	3	283		282		283		286		283		287				284	2.0	282	287
	4	254		254		257		264		261		265				259	4.9	254	265
	5	153		159		162		170		176		173				166	8.9	153	176
Replicate measured		S	B	S	J	S	E	S	A	S	C	S	G			NOTE: Final D.O. Values >8.3 mg/l (saturation) may occur due to photosynthetic activity of algal food.			
Initials		AG	AG		KK		GB		RCD		GB		BJA						

Changes & Notes (Initials, date, specific change or notes)

TRT ID:	1	2	3	4	5
CONC:	1.00%	2.00%	10.0%	30.0%	100%

VPOW1330CCD

Ceriodaphnia daily reproduction count bench sheet (EPA METHOD 1002.0) Template version CCD 5rt 061013

TRTMNT	Rep	Repro Day 6	Repro Day 7	Repro Day 8	Repro Day 9	Repro Day 10	Repro Day 11	Repro Day 12	Repro Day 13	TOTAL REPRO
	A	0	0	0	3	4	0	16		23
C	B	0	0	0	3	10	0	20		33
	C	0	0	0	3	12	0	20		35
Lab	D	0	0	0	5	10	0	20		35
Control	E	0	0	0	5	10	0	20		35
	F	0	0	0	3	10	0	16		29
	G	0	0	0	4	10	0	18		32
	H	0	0	0	4	8	0	18		30
	I	0	0	0	8	14	0	16		38
	J	0	0	0	5	12	0	14		31
	A	0	0	0	5	10	0	12		27
#1	B	0	0	0	4	12	0	18		34
	C	0	0	0	3	10	0	20		33
1.00%	D	0	0	0	4	8	0	22		34
	E	0	0	0	4	12	0	20		36
Vol. Eff:	F	0	0	0	0	0	0	0		0
2 ml	G	0	0	0	4	12	0	16		32
	H	0	0	0	6	10	0	20		36
	I	0	0	0	3	10	0	16		29
	J	0	0	0	5	12	0	20		37
	A	0	0	0	5	10	0	16		31
#2	B	0	0	0	3	10	0	20		33
	C	0	0	0	3	12	0	16		31
2.00%	D	0	0	0	4	6	0	22		34
	E	0	0	0	5	10	0	12		27
Vol. Eff:	F	0	0	0	5	12	0	20		37
4 ml	G	0	0	0	6	12	0	18		36
	H	0	0	0	6	12	0	20		38
	I	0	0	0	5	12	0	22		39
	J	0	0	0	4	8	0	20		32
	A	0	0	0	4	8	0	20		32
#3	B	0	0	0	5	8	0	22		35
	C	0	0	0	3	8	0	20		31
10.0%	D	0	0	0	5	12	0	22		39
	E	0	0	0	3	12	0	18		33
Vol. Eff:	F	0	0	0	4	8	0	14		26
10 ml	G	0	0	0	5	8	0	20		33
	H	0	0	0	3	12	0	14		29
	I	0	0	0	5	10	0	16		31
	J	0	0	0	4	12	0	20		36
	A	0	0	0	0	8	0	16		24
#4	B	0	0	0	2	10	0	18		30
	C	0	0	0	2	10	0	16		28
30.0%	D	0	0	0	5	12	0	20		37
	E	0	0	0	5	8	0	20		33
Vol. Eff:	F	0	0	0	3	0	0	0		3
30 ml	G	0	0	0	5	12	0	20		37
	H	0	0	0	2	12	0	16		30
	I	0	0	0	3	12	0	14		29
	J	0	0	0	4	10	0	20		34
	A	0	0	0	5	10	0	12		27
#5	B	0	0	0	5	10	0	12		27
	C	0	0	0	4	8	0	16		28
100%	D	0	0	0	1	10	0	18		29
	E	0	0	0	4	12	0	14		30
Vol. Eff:	F	0	0	0	4	8	0	15		25
100 ml	G	0	0	0	6	12	0	20		38
	H	0	0	0	3	2	0	0		5
	I	0	0	0	4	12	0	12		28
	J	0	0	0	5	10	0	18		33
INITIALS:		AG	AG	KK	GB	RCD	GB	BJA		
DATE & TIME:		7/10/13 12:04	7/11/13 13:46	7/12/13 11:39	7/13/13 13:53	7/14/13 13:19	7/15/13 10:23	7/16/13 11:11		
SAMPLE USED:		A	B	B	C	C	C			
CHANGES & NOTES (INITIALS, DATE, SPECIFC CHANGE MADE										

VPOW/1330CCD | Avg. young/surviving control (TAC 15 min): 21.6 | Surv. controls with 3 broods: 10

SAMPLE COLLECTION

SAMPLE	COLLECTION DATE & TIME
A	7/9/13 10:27
B	7/10/13 11:03
C	7/12/13 10:36
D	
E	

SAMPLE AGING

SAMPLE:	A
1st USE DATE/TIME:	7/10/13 12:04
LAST USE DATE/TIME:	7/10/13 12:04
TIME COLLECT TO 1st USE:	25h 37m
	(TAC 36h max)
TIME 1st TO LAST USE:	0h 0m
	(TAC MAX 72 h)
SAMPLE:	B
1st USE DATE/TIME:	7/11/13 13:46
LAST USE DATE/TIME:	7/12/13 11:39
TIME COLLECT TO 1st USE:	26h 43m
	(TAC 36 h max)
TIME 1st TO LAST USE:	21h 53m
	(TAC MAX 72 h)
SAMPLE:	C
1st USE DATE/TIME:	7/13/13 13:53
LAST USE DATE/TIME:	7/15/13 10:23
TIME COLLECT TO 1st USE:	27h 26m
	(TAC 36 h max)
TIME 1st TO LAST USE:	44h 31m
	(TAC MAX 72 h)
SAMPLE:	D
1st USE DATE/TIME:	
LAST USE DATE/TIME:	
TIME COLLECT TO 1st USE:	C
	(TAC 36 h max)
TIME 1st TO LAST USE:	C
	(TAC MAX 72 h)
SAMPLE:	E
1st USE DATE/TIME:	
LAST USE DATE/TIME:	
TIME COLLECT TO 1st USE:	E
	(TAC 36 h max)
TIME 1st TO LAST USE:	E
	(TAC MAX 72 h)

Ceriodaphnia daily survival count bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

TRTMNT	Rep	#Live Day 0	#Live Day 1	#Live Day 2	#Live Day 3	#Live Day 4	#Live Day 5	#Live Day 6	#Live FINAL	MALE OR FEMALE	TOTAL REPRO	REPRO SURVIVER
	A	1	1	1	1	1	1	1	1	F	23	23
C	B	1	1	1	1	1	1	1	1	F	33	33
	C	1	1	1	1	1	1	1	1	F	35	35
Lab	D	1	1	1	1	1	1	1	1	F	35	35
Control	E	1	1	1	1	1	1	1	1	F	35	35
	F	1	1	1	1	1	1	1	1	F	29	29
	G	1	1	1	1	1	1	1	1	F	32	32
	H	1	1	1	1	1	1	1	1	F	30	30
	I	1	1	1	1	1	1	1	1	F	36	36
	J	1	1	1	1	1	1	1	1	F	31	31
	A	1	1	1	1	1	1	1	1	F	27	
#1	B	1	1	1	1	1	1	1	1	F	34	
	C	1	1	1	1	1	1	1	1	F	33	
1.00%	D	1	1	1	1	1	1	1	1	F	34	
	E	1	1	1	1	1	1	1	1	F	35	
	F	1	1	1	0	0	0	0	0	F	0	
	G	1	1	1	1	1	1	1	1	F	32	
	H	1	1	1	1	1	1	1	1	F	28	
	I	1	1	1	1	1	1	1	1	F	29	
	J	1	1	1	1	1	1	1	1	F	27	
	A	1	1	1	1	1	1	1	1	F	31	
#2	B	1	1	1	1	1	1	1	1	F	33	
	C	1	1	1	1	1	1	1	1	F	31	
2.00%	D	1	1	1	1	1	1	1	1	F	34	
	E	1	1	1	1	1	1	1	1	F	27	
	F	1	1	1	1	1	1	1	1	F	31	
	G	1	1	1	1	1	1	1	1	F	35	
	H	1	1	1	1	1	1	1	1	F	37	
	I	1	1	1	1	1	1	1	1	F	30	
	J	1	1	1	1	1	1	1	1	F	32	
	A	1	1	1	1	1	1	1	1	F	33	
#3	B	1	1	1	1	1	1	1	1	F	35	
	C	1	1	1	1	1	1	1	1	F	31	
10.0%	D	1	1	1	1	1	1	1	1	F	30	
	E	1	1	1	1	1	1	1	1	F	33	
	F	1	1	1	1	1	1	1	1	F	28	
	G	1	1	1	1	1	1	1	1	F	33	
	H	1	1	1	1	1	1	1	1	F	29	
	I	1	1	1	1	1	1	1	1	F	31	
	J	1	1	1	1	1	1	1	1	F	36	
	A	1	1	1	1	1	1	1	1	F	30	
#4	B	1	1	1	1	1	1	1	1	F	20	
	C	1	1	1	1	1	1	1	1	F	28	
30.0%	D	1	1	1	1	1	1	1	1	F	27	
	E	1	1	1	1	1	1	1	1	F	30	
	F	1	1	1	1	0	0	0	0	F	3	
	G	1	1	1	1	1	1	1	1	F	31	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	34	
	A	1	1	1	1	1	1	1	1	F	27	
#5	B	1	1	1	1	1	1	1	1	F	27	
	C	1	1	1	1	1	1	1	1	F	26	
100%	D	1	1	1	1	1	1	1	1	F	28	
	E	1	1	1	1	1	1	1	1	F	30	
	F	1	1	1	1	1	1	1	1	F	28	
	G	1	1	1	1	1	1	1	1	F	26	
	H	1	1	1	1	1	1	1	1	F	5	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	33	

See Reproduction Sheet for Renewal information

See TexCalc printout for summary survival & reproduction data

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

VPDW1330CCD

% Control survival (TAC 80% min): 100

% Surviving controls with 3 broods (TAC 60% min): 100

Ceriodaphnia Survival and Reproduction Test-6 Day Survival

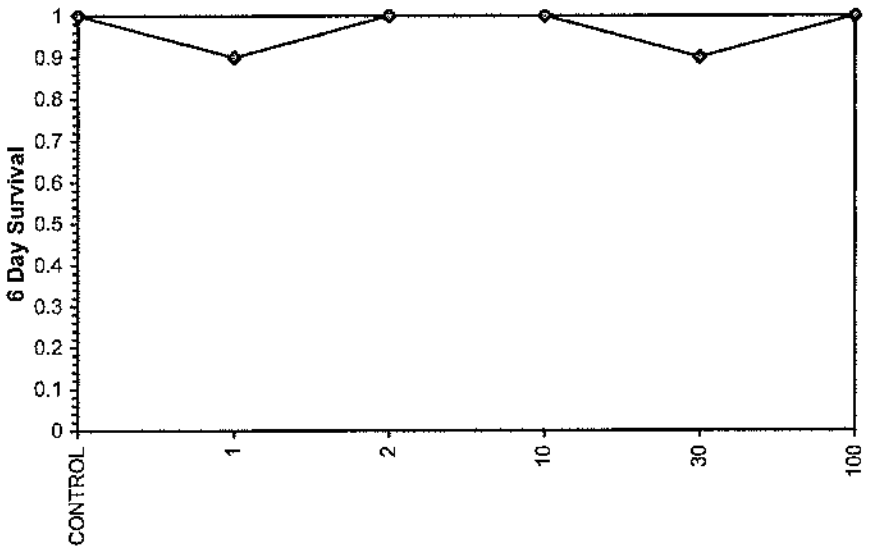
Start Date:	Test ID: VPOW1330	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:	DATA ENTERED BY PB		

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical
CONTROL	1.0000	1.0000	0	10	10	10		
1	0.9000	0.9000	1	9	10	10	0.5000	0.0500
2	1.0000	1.0000	0	10	10	10	1.0000	0.0500
10	1.0000	1.0000	0	10	10	10	1.0000	0.0500
30	0.9000	0.9000	1	9	10	10	0.5000	0.0500
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1

Dose-Response Plot



Reviewed by: PD

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1330	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments: DATA ENTERED BY PB			

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	23.000	33.000	35.000	35.000	35.000	29.000	32.000	30.000	36.000	31.000
1	27.000	34.000	33.000	34.000	36.000	0.000	32.000	36.000	29.000	37.000
2	31.000	33.000	31.000	34.000	27.000	37.000	36.000	37.000	39.000	32.000
10	32.000	35.000	31.000	39.000	33.000	26.000	33.000	29.000	31.000	36.000
30	30.000	30.000	28.000	37.000	33.000	3.000	37.000	30.000	29.000	34.000
100	27.000	27.000	28.000	29.000	30.000	28.000	38.000	5.000	28.000	33.000

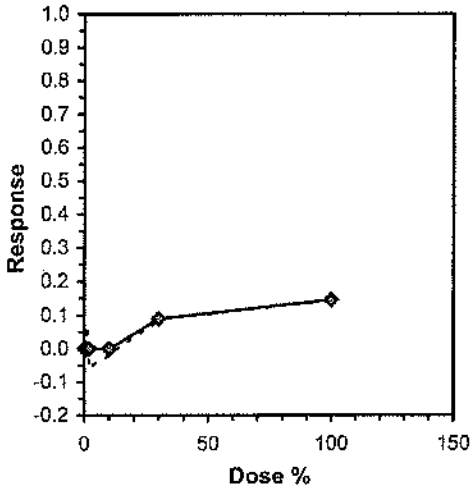
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
CONTROL	31.900	1.0000	31.900	23.000	36.000	12.315	10			31.975	1.0000
1	29.800	0.9342	29.800	0.000	37.000	36.685	10	108.50	75.00	31.975	1.0000
2	33.700	1.0564	33.700	27.000	39.000	10.749	10	118.50	75.00	31.975	1.0000
10	32.500	1.0188	32.500	26.000	39.000	11.259	10	107.00	75.00	31.975	1.0000
30	29.100	0.9122	29.100	3.000	37.000	33.374	10	96.50	75.00	29.100	0.9101
100	27.300	0.8558	27.300	5.000	38.000	31.275	10	79.50	75.00	27.300	0.8538

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.76056	1.035	-2.5877	8.361
Bartlett's Test indicates unequal variances (p = 6.43E-04)	21.5287	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

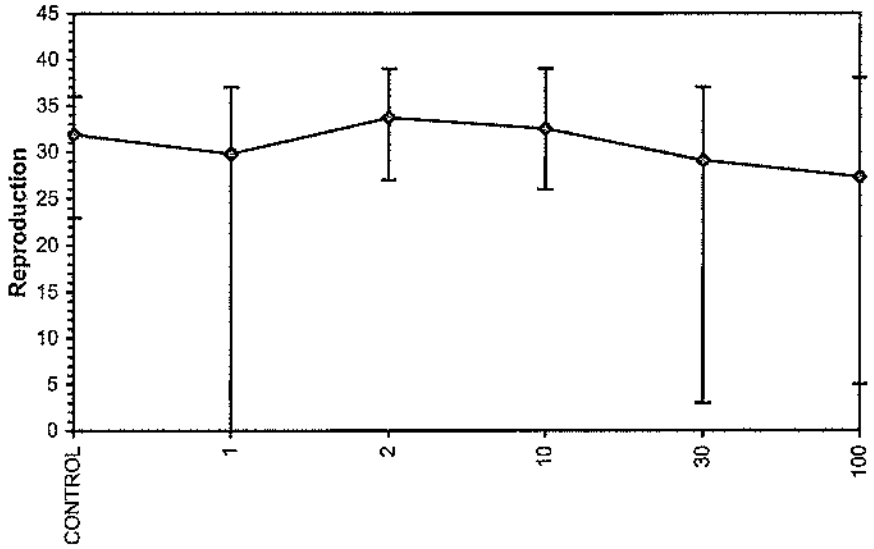
Point	%	SD	95% CL	Skew
IC05	21.122			
IC10	42.542			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1330	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:	DATA ENTERED BY PB		

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1330	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	23.000	33.000	35.000	35.000	35.000	29.000	32.000	30.000	36.000	31.000
1	27.000	34.000	33.000	34.000	36.000	0.000	32.000	36.000	29.000	37.000
2	31.000	33.000	31.000	34.000	27.000	37.000	36.000	37.000	39.000	32.000
10	32.000	35.000	31.000	39.000	33.000	26.000	33.000	29.000	31.000	36.000
30	30.000	30.000	28.000	37.000	33.000	3.000	37.000	30.000	29.000	34.000
100	27.000	27.000	28.000	29.000	30.000	28.000	38.000	5.000	28.000	33.000

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
CONTROL	31.900	1.0000	31.900	23.000	36.000	12.315	10			
1	29.800	0.9342	29.800	0.000	37.000	36.685	10	0.634	2.287	7.569
2	33.700	1.0564	33.700	27.000	39.000	10.749	10	-0.544	2.287	7.569
10	32.500	1.0188	32.500	26.000	39.000	11.259	10	-0.181	2.287	7.569
30	29.100	0.9122	29.100	3.000	37.000	33.374	10	0.846	2.287	7.569
100	27.300	0.8558	27.300	5.000	38.000	31.275	10	1.390	2.287	7.569

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.76056	1.035	-2.5877	8.361
Bartlett's Test indicates unequal variances (p = 6.43E-04)	21.5287	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	7.56881	0.23727	57.2167	54.7796	0.40129	5, 54

DUNNETTS TEST FOR PMSD ONLY PD

Effluent and Dilution Water Log (Freshwater Tests). FWEFFL061013

											SUMMARY WATER QUALITY DATA				
Initial sample characterization	Bottle(1):	A1	B1	C1							MEAN	S.D.	MIN.	MAX.	PARAMETER
	Arrival Temp. (oC, from CoC):	1	1	1							1	0.0	1	1	Arrival Temp.
	TRC (mg/l)(2):	<DL	<DL	<DL											
	TRC Corrected(2):	✍	✍	✍	✍	✍	✍	✍	✍						
	Hardness (mg/l):	70	60	66							65	5.0	60	70	Hardness (mg/l)
	Alkalinity (mg/l):	53	51	47							50	3.1	47	53	Alkalinity (mg/l)
	NH3-N (mg/l):	<1.0	<1.0	<1.0											
	Color/Appearance(3):	CY	CY	CY											
	Obvious odor?	NO	NO	NO											
	Date & Time:	7/10/13 11:14	7/11/13 10:45	7/13/13 11:55											
	Initials:	GB	PB	GB											
Sample prep measure-ments	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE	MEAN	S.D.	MIN.	MAX.	
	Bottle(s):	A1	B1	B1	C1	C1	C1			B1					
	Prep. Temp. (oC):	25	25	25	24	25	25			25	25	0.4	24	25	Temp. (oC)
	D.O. (mg/l) After Warming:	10.8	8.8	8.8	10.4	10.4	10.7			8.8					
	Aeration Time (min):	2.5	1.5	1.5	2.5	2.5	2.5			2					
	Adjusted D.O. (mg/l):	8.2	8.2	8.2	8.2	8.1	8.2			8.2	8.2	0.0	8.1	8.2	D.O. (mg/l)
	Final pH (S.U.):	7.66	7.68	7.75	7.49	7.79	7.60			7.60	7.66	0.11	7.49	7.79	pH (S.U.)
	Conductivity (uS/cm)(4):	145	151	NA	164	NA	NA			149	155	13.4	145	164	Cond. (uS/cm)
	Final TRC (mg/l)(5):	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D.					
	Sample Filtered (60 um)?	✍	✍	✍	✍	✍	✍	✍	✍	✍					
	Date & Time:	7/10/13 11:39	7/11/13 13:24	7/12/13 10:56	7/13/13 13:34	7/14/13 12:55	7/15/13 10:04			7/11/13 15:03					
	Initials:	AG	AG	KK	GB	RCD	GB			PB					
Dilution water	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE	MEAN	S.D.	MIN.	MAX.	
	Vat Number:	2	3	3	1	1	1			3					
	Temperature (oC):	25	25	25	25	25	25			25	25	0.0	25	25	Temp. (oC)
	Conductivity (uS/cm):	293	293	293	291	291	293			293	292	1.0	291	293	Cond. (uS/cm)
	D.O. (mg/l):	8.2	8.2	8.2	8.2	8.2	8.2			8.2	8.2	0.0	8.2	8.2	D.O. (mg/l)
	pH (S.U.):	7.70	7.70	7.68	7.68	7.68	7.65			7.70	7.68	0.02	7.65	7.7	pH (S.U.)
	Hardness (mg/l):	84	100	100	93	98	98			100	96	6.1	84	100	Hardness (mg/l)
	Alkalinity (mg/l):	60	57	57	60	60	60			57	59	1.5	57	60	Alkalinity (mg/l)
	Date & Time:	7/10/13 8:20	7/11/13 8:50	7/12/13 8:50	7/13/13 9:05	7/14/13 9:30	7/15/13 8:55			7/11/13 8:50					
	Initials:	GB	AG	GB	RCD	AG	GB			AG					
	Changes & Notes (initials, date, specific change or notes)														
	Peer review Initial/Date:	PB, GB	7/17/13 10:05	DILUTION WATER TYPE:	Mod. Hard Synthetic Freshwater (EPA)										
PROJECT ID:	VPOW1330	ADDITIONAL EFFLUENT TREATMENT:													

ND=Not Determined/Measured, NA=Not Applicable, 1) Rinit character of last sample ID on chain of custody AND bottle number in collection series, together with Project ID constitutes entire sample bottle ID, 2) TRC MDL 0.02 mg/l, DL 0.02 mg/l, Corrected Value if Mn, Cr potential positive interference. Corrected toxicity ID and (ReAcO2:3) Cl-clear, O-opaque, T-turbid, S-solids (G-slight, M-moderate, H-heavy), Y-yellow, B-brown, Bl-black, Gr-green, P-pink, Gr-gray, Or-orange. 4) Measured on first use of sample only. 5) Final TRC measured only if chlorine present in initial characterization.

VPDW1330-A 13-0509

~~Sunday~~ Monday / Tuesday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 001 State VA

Sampler Name WMS

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/8/13 1100 To (Date/Time) 7/9/13 1037

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/9/13 Time 1037 Effluent Temp (°C) 25.9

Composite Temp (°C) 10.7

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1037	NA	NA	7.7	NA	<dL
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WMS

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WMS	7/9/13 1500	
		7/10/13 1100	D.B. 1°C

VP0W1330B

Tuesday / Wednesday

CBI 13-0516

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 001 State VA

Sampler Name WHM

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA ~~Effluent~~ Temp(°C) NA

Composite Sample: From (Date/Time) 7/10/13 1600 To (Date/Time) 7/11/13 1103

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/11/13 Time 1103 Effluent Temp (°C) 3.3

Composite Temp (°C) 14.3

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1103	NA	NA	7.7	NA	<dL
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WHM

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WHM	7/11/13 1500	
		7/11/13 1045	P Blanco @ 1°C

@ month changed per Glenn Bishop PB

VPDW1330-C 13-0527

Thursday / Friday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 001 State VA

Sampler Name WHB

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/11/13 1000 To (Date/Time) 7/12/13 1038 ✓

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/12/13 Time ✓ 1038 Effluent Temp (°C) 30.7 ✓

Composite Temp (°C) 13.9 ✓

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1038	NA	NA	7.7	NA	<QL
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WHB

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	7/12/13 WHB	7/12/13 1500	
		7/13/13 1145	D.A. 10L

Client: Dominion Virginia Power
Project ID: VPOW1331
Client Sample ID: Chesterfield Power Station outfall 002
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	**Prepared By:**
Mr. Glenn Bishop Dominion Virginia Power Environmental Compliance and Policy 4111 Castlewood Road Richmond, VA 23234	Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director

Acute Test Results*

Species-Test Method	48-h LC50	95% C.L.	$T.U._{Ac}$	NOAEC
C. dubia EPA 2002.0	>100	N/A	<1.00	N/A

Chronic Test Results*

Species-Test Method	Endpoint	NOEC	LOEC	ChrV	PMSD	$T.U._C$	IC25	48-h LC50	LC50 95% C.L.	$T.U._{Ac}$
C. dubia	Survival	100	>100	>100	N/A	1.00	N/A	>100	N/A	<1.00
EPA 1002.0	Reproduction	100	>100	>100	18	1.00	>100	N/A	N/A	N/A

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

Acute Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	591	548-638	Yes
(7/5/13-7/7/13)	CC	99	544	457-630	

Chronic Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Survival		Reproduction (# Young)					RTT in Control?
		Cont.	NOEC	Cont.	NOEC	PMSD	IC25	IC25 A.L.	
C. dubia 1002.0	RTT	100	500	32.4	250	19	374	N/A	Yes
(7/5/13-7/11/13)	CC	97	500	25.5	250	23	317	226-407	

Note: RTT = Reference Toxicant Test, CC = Control Chart, Cont. = Control group.

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory. Unless noted below, these test results meet all requirements of NELAP.

APPROVED:

Peter F. De Lisle, Ph.D.
Technical Director

7/17/13
Date

Deviations from, additions to, or exclusions from the test method, non-standard conditions or data qualifiers and, as appropriate, a statement of compliance/non-compliance: **NONE**

VELAP# 460030
EPA# VA01116

Client: Dominion Virginia Power
Project ID: VPOW1331
Client Sample ID: Chesterfield Power Station outfall 002
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

Chronic Value (ChrV): The geometric mean of the NOEC and LOEC. Units are same as test concentration units.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

IC25: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 25% reduction in test organism growth, reproduction, etc. The lower the IC25, the more toxic the chemical or sample. Units are same as test concentration units.

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

LOEC: Lowest-observable-effect-concentration. The lowest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit a statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Units are same as test concentration units.

PMSD: Percent Minimum Significant Difference: The minimum difference which can exist between a test treatment and the controls in a particular test and be statistically significant; a measure of test sensitivity. The lower the PMSD the more sensitive the test.

N/A: Not applicable.

N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

NOEC: No-observable-effect-concentration. The highest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit no statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Some regulatory definitions also require that the NOEC be less than the LOEC. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. $T.U._{Ac} = 100/LC50$. $T.U._{Chr} = 100/NOEC$ or $100/IC25$. A dimensionless unit.

VELAP# 460030
EPA# VA01116

C. dubia daily biological measurements (EPA 2002.0) Template version ACD-STAT-5trt-061113

TRTMNT (% Effl)	Rep	#Live Day 0	#Live Day 1	#Live Day 2	Final Mean % Live
C	A	5	5	5	95.0
	B	5	5	4	
Lab	C	5	5	5	
Control	D	5	5	5	
#1	A	5	5	5	100.0
6.25	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 2	A	5	5	5	100.0
12.5	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 3	A	5	5	5	100.0
25.0	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 4	A	5	5	5	95.0
50.0	B	5	5	5	
% Effl	C	5	5	4	
	D	5	5	5	
# 5	A	5	5	5	100.0
100	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
INITIALS:		PB	GB	GB	
DATE & TIME:		7/11/13 15:37	7/12/13 9:35	07/13/13 15:39	

Test Duration:	48h 2m
	TAC 48+/-0.5h
% CONTROL SURVIVAL:	95.0
	TAC = 90%

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia		
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater		
FEEDING PRIOR TO TEST:	YCT + Selenastrum capricornutum		
FEEDING DURING TEST:	None -YCT + Selenastrum 2+ h before test		
SOURCE:	CBI Stock cultures		
ACCLIMATION TEMP (o C):	25		
BROOD RELEASE START DATE & TIME:	7/10/13 16:20		
BROOD RELEASE END DATE & TIME:	7/11/13 9:50		
DATE/TIME WATER ADDED:	7/11/13 15:20		
DATE/TIME ANIMALS ADDED:	7/11/13 15:37		
ANIMAL AGE WINDOW:	17h 30m		
MAX AGE AT TEST START:	23h 17m		TAC Max. 24 h
TEST SET UP BY:		PB	
SAMPLE COLLECTION DATE &TIME:	7/10/13 11:00	SAMPLE USED	B
SAMPLE AGE AT TEST START:	28h 37m	TAC Max 36 h	
PEER REVIEW BY (INITIALS/DATE):		GB, PB	7/13/13 15:39

TEST ID: VPOW1331ACD

Ceriodaphnia daily water quality bench sheet (EPA METHOD 2002.0) Template version ACD-STAT-5trt-061113

TRTMNT		Day 0 Initial	Day 1	Day 2 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.70	8.10	7.90	7.90	0.20	7.70	8.10
	1	7.71	8.07	7.94	7.91	0.18	7.71	8.07
	2	7.75	8.05	7.96	7.92	0.15	7.75	8.05
	3	7.76	8.01	7.95	7.91	0.13	7.76	8.01
	4	7.78	7.99	7.98	7.92	0.12	7.78	7.99
	5	7.80	7.94	8.02	7.92	0.11	7.80	8.02
Temp. (o C)	C	25	25	25	25	0.0	25	25
	1	25	25	25	25	0.0	25	25
	2	25	25	25	25	0.0	25	25
	3	25	25	25	25	0.0	25	25
	4	25	25	25	25	0.0	25	25
	5	25	25	25	25	0.0	25	25
Diss. Oxygen (mg/l)	C	8.2	8.1	7.8	8.0	0.2	7.8	8.2
	1	8.2	8.1	7.8	8.0	0.2	7.8	8.2
	2	8.2	8.1	7.9	8.1	0.2	7.9	8.2
	3	8.2	8.0	7.9	8.0	0.2	7.9	8.2
	4	8.2	8.0	8.0	8.1	0.1	8.0	8.2
	5	8.2	7.9	8.2	8.1	0.2	7.9	8.2
Cond. (uS/cm)	C	293		293	293	0.0	293	293
	1	283			283		283	283
	2	281			281		281	281
	3	275			275		275	275
	4	243			243		243	243
	5	150		159	155	6.4	150	159
Replicate measured		Flask	Surrogate	B				
Initials		PB	GB	GB				
		TRC (mg/l) in highest conc. at end of test:		N/A				

Changes & Notes (Initials, date, specific change or notes)

Test chamber:	30 ml glass vial:	☑					
	Other:						
Test solution vol. (15 ml min):	15 ml:	☑					
	Other (ml):						
Illumination & photoperiod:	50-100 ft-c 16L:8D				Template Number:	14	
Number of replicates/treatment:	4						
Initial number animals/replicate:	5						
Test Aerated?	N/A	Date & Time Air Start:	N/A				

TEST ID	TRT ID:	1	2	3	4	5
VPOW1331ACD	CONC(%):	6.25	12.5	25.0	50.0	100

Ceriodaphnia test set up bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

Test chamber:	~30 ml glass vial:	☑	Illumination & photoperiod:	50-100 ft-c 16L:8D	
	Other:		Number of replicates/treatment:	10	
Test solution volume:	15 ml:	☑	Initial number animals/replicate:	1	
	Other (ml):		Template #:	5	

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia	
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater	
FEEDING (Culture &Test):	YCT + Selenastrum capricornutum mix	
SOURCE:	CBI Stock cultures	
ACCLIMATION TEMP (o C):	25	
BROOD RELEASE FROM:	7/9/13 14:15	
BROOD RELEASE TO:	7/9/13 16:35	
DATE/TIME WATER ADDED:	7/10/13 13:26	
DATE/TIME ANIMALS ADDED:	7/10/13 13:40	
ANIMAL AGE WINDOW (TAC 8 h):	2h 40m	
MAX AGE AT TEST START (TAC 24 h):	23h 25m	
TEST SET UP BY:	AG	
TEST ID:	VPOW1331CCD	
PEER REVIEW BY (Initial/Date):	PB	7/17/13 10:25
VPOW1331CCD		

Ceriodaphnia daily water quality bench sheet (EPA METHOD 1002.0) Template version CCD Strt 061013

	TRTMNT	Day 0 Initial	Day 1 Final	Day 1 Initial	Day 2 Final	Day 2 Initial	Day 3 Final	Day 3 Initial	Day 4 Final	Day 4 Initial	Day 5 Final	Day 5 Initial	Day 6 Final	Day 6 Initial	Day 7 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.67	7.81	7.72	7.78	7.90	8.04	7.88	7.95	7.70	7.93	7.66	8.03			7.84	0.14	7.66	8.04
	1	7.67	7.88	7.74	7.87	7.90	8.15	7.86	8.01	7.70	7.95	7.70	8.07			7.88	0.15	7.67	8.15
	2	7.67	7.90	7.74	7.92	7.87	8.17	7.84	8.09	7.70	8.02	7.72	8.10			7.90	0.17	7.67	8.17
	3	7.67	7.92	7.74	7.94	7.85	8.19	7.82	8.13	7.70	8.04	7.74	8.12			7.91	0.18	7.67	8.19
	4	7.66	7.94	7.74	7.95	7.85	8.21	7.82	8.13	7.70	8.06	7.76	8.12			7.91	0.19	7.66	8.21
	5	7.65	7.97	7.67	7.93	7.75	8.16	7.77	8.09	7.66	8.02	7.76	8.01			7.87	0.18	7.65	8.16
Temp. (o C)	C	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	1	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	2	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	3	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	4	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
	5	25	26	25	25	25	25	25	25	25	25	25	25			25	0.3	25	26
Diss. Oxygen (mg/l)	C	8.2	8.1	7.9	8.5	8.2	8.4	7.9	8.4	8.2	8.5	8.1	8.7			8.3	0.2	7.9	8.7
	1	8.2	8.2	7.8	8.5	8.2	8.4	7.8	8.5	8.2	8.4	8.1	8.7			8.3	0.3	7.8	8.7
	2	8.2	8.2	7.7	8.5	8.2	8.6	7.7	8.5	8.2	8.4	8.1	8.9			8.3	0.4	7.7	8.9
	3	8.2	8.3	7.6	8.5	8.2	8.7	7.7	8.5	8.2	8.6	8.1	9.1			8.3	0.4	7.6	9.1
	4	8.2	8.3	7.7	8.6	8.2	8.9	7.8	8.6	8.2	8.6	8.1	8.9			8.3	0.4	7.7	8.9
	5	8.1	8.6	7.7	8.6	8.2	8.8	7.8	8.6	8.2	8.7	8.1	8.6			8.3	0.4	7.7	8.8
Cond. (uS/cm)	C	294		290		297		290		293		296				293	2.9	290	297
	1	294		294		294		293		293		296				294	1.1	293	296
	2	293		293		293		294		293		296				294	1.2	293	296
	3	282		286		283		285		285		288				285	2.1	282	288
	4	254		257		261		261		260		264				260	3.5	254	264
	5	152		172		173		182		178		179				173	10.8	152	182
Replicate measured		S	B	S	E	S	I	S	G	S	J	S	F			NOTE: Final D.O. Values >8.3 mg/l (saturation) may occur due to photosynthetic activity of algal food.			
Initials		AG	RCD		GB		RCD		BJA		AG		AG						
Changes & Notes (Initials, date, specific change or notes)																			

	TRT ID:	1	2	3	4	5
VPDW133(CCD	CONC:	1.00%	2.00%	10.0%	30.0%	100%

Ceriodaphnia daily reproduction count bench sheet (EPA METHOD 1002.0) Template version CCD 5rt 061013

TRTMNT	Rep	Repro Day 0	Repro Day 1	Repro Day 2	Repro Day 3	Repro Day 4	Repro Day 5	Repro Day 6	Repro Day 7	TOTAL REPRO
	A	0	0	0	6	8	0	16		30
C	B	0	0	0	4	12	0	18		34
	C	0	0	0	6	10	0	16		32
Lab	D	0	0	0	6	10	0	14		30
Control	E	0	0	0	0	5	0	10		15
	F	0	0	0	4	0	12	18		34
	G	0	0	0	4	0	10	16		30
	H	0	0	0	6	6	0	16		28
	I	0	0	0	6	12	0	14		32
	J	0	0	0	4	10	0	16		30
	A	0	0	0	4	8	0	14		26
#1	B	0	0	0	6	10	0	16		32
	C	0	0	0	2	10	0	16		29
1.00%	D	0	0	0	6	10	0	18		34
	E	0	0	0	0	8	0	16		24
Vol. Eff:	F	0	0	0	4	0	6	16		26
2 ml	G	0	0	0	2	0	10	18		30
	H	0	0	0	4	8	0	16		30
	I	0	0	0	6	12	0	14		32
	J	0	0	0	4	10	0	14		28
	A	0	0	0	4	8	0	14		26
#2	B	0	0	0	4	10	0	20		34
	C	0	0	0	4	10	0	16		30
2.00%	D	0	0	0	4	10	0	16		30
	E	0	0	0	0	8	0	18		26
Vol. Eff:	F	0	0	0	4	10	0	20		34
4 ml	G	0	0	0	4	12	0	16		32
	H	0	0	0	6	8	0	20		34
	I	0	0	0	4	10	0	16		30
	J	0	0	0	6	12	0	16		34
	A	0	0	0	4	0	12	0		16
#3	B	0	0	0	6	10	0	16		32
	C	0	0	0	4	8	0	14		26
10.0%	D	0	0	0	6	12	0	16		34
	E	0	0	0	0	8	0	16		24
Vol. Eff:	F	0	0	0	4	0	10	18		32
10 ml	G	0	0	0	4	12	0	16		32
	H	0	0	0	4	10	0	16		30
	I	0	0	0	6	8	0	14		28
	J	0	0	0	4	8	0	14		26
	A	0	0	0	0	5	8	0		13
#4	B	0	0	0	2	10	0	20		32
	C	0	0	0	4	6	0	7		17
30.0%	D	0	0	0	4	8	0	16		28
	E	0	0	0	4	6	0	16		26
Vol. Eff:	F	0	0	0	6	10	0	14		30
30 ml	G	0	0	0	4	6	0	14		24
	H	0	0	0	4	0	12	18		34
	I	0	0	0	2	0	8	10		20
	J	0	0	0	4	12	0	16		32
	A	0	0	0	6	0	8	16		30
#5	B	0	0	0	4	0	14	16		34
	C	0	0	0	2	0	6	8		16
100%	D	0	0	0	4	10	0	14		28
	E	0	0	0	0	4	0	14		18
Vol. Eff:	F	0	0	0	6	0	8	18		32
200 ml	G	0	0	0	4	0	12	14		30
	H	0	0	0	6	10	0	18		34
	I	0	0	0	6	10	0	16		32
	J	0	0	0	6	10	0	14		30
INITIALS:		AG	RCD	GB	RCD	BJA	AG	AG		
DATE & TIME:		7/10/13 13:40	7/11/13 13:14	7/12/13 12:55	7/13/13 14:22	7/14/13 14:00	7/15/13 14:15	7/16/13 15:34		
SAMPLE USED:		A	B	B	C	C	C			
CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE										

VFDW1331CCD Avg. young/surviving control (TAC 15 min): 20.5 Surv. controls with 3 broods: 9

SAMPLE COLLECTION

SAMPLE	COLLECTION DATE & TIME
A	7/9/13 10:20
B	7/10/13 11:00
C	7/12/13 10:33
D	
E	

SAMPLE AGING

SAMPLE:	A
1st USE DATE/TIME:	7/10/13 13:40
LAST USE DATE/TIME:	7/10/13 13:40
TIME COLLECT TO 1st USE:	27h 40m
	(TAC 36 h max)
TIME 1st TO LAST USE:	0h 00m
	(TAC MAX 24 h)
SAMPLE:	B
1st USE DATE/TIME:	7/11/13 13:14
LAST USE DATE/TIME:	7/12/13 12:55
TIME COLLECT TO 1st USE:	50h 14m
	(TAC 36 h max)
TIME 1st TO LAST USE:	23h 41m
	(TAC MAX 24 h)
SAMPLE:	C
1st USE DATE/TIME:	7/13/13 14:22
LAST USE DATE/TIME:	7/15/13 14:15
TIME COLLECT TO 1st USE:	52h 49m
	(TAC 36 h max)
TIME 1st TO LAST USE:	47h 53m
	(TAC MAX 24 h)
SAMPLE:	D
1st USE DATE/TIME:	
LAST USE DATE/TIME:	
TIME COLLECT TO 1st USE:	h
	(TAC 36 h max)
TIME 1st TO LAST USE:	h
	(TAC MAX 24 h)
SAMPLE:	E
1st USE DATE/TIME:	
LAST USE DATE/TIME:	
TIME COLLECT TO 1st USE:	h
	(TAC 36 h max)
TIME 1st TO LAST USE:	h
	(TAC MAX 24 h)

Ceriodaphnia daily survival count bench sheet (EPA METHOD 1002.0) Template version CCD 5rt 051013

TRTMNT	Rep	#Live Day 0	#Live Day 1	#Live Day 2	#Live Day 3	#Live Day 4	#Live Day 5	#Live Day 6	#Live FINAL	MALE OR FEMALE	TOTAL #BRDD	#BRDD SURV FOR
	A	1	1	1	1	1	1	1	1	F	30	30
C	B	1	1	1	1	1	1	1	1	F	34	34
	C	1	1	1	1	1	1	1	1	F	32	32
Lab	D	1	1	1	1	1	1	1	1	F	30	30
Control	E	1	1	1	1	1	1	1	1	F	16	16
	F	1	1	1	1	1	1	1	1	F	34	34
	G	1	1	1	1	1	1	1	1	F	30	30
	H	1	1	1	1	1	1	1	1	F	28	28
	I	1	1	1	1	1	1	1	1	F	32	32
	J	1	1	1	1	1	1	1	1	F	30	30
	A	1	1	1	1	1	1	1	1	F	26	
#1	B	1	1	1	1	1	1	1	1	F	32	
	C	1	1	1	1	1	1	1	1	F	28	
1.00%	D	1	1	1	1	1	1	1	1	F	34	
	E	1	1	1	1	1	1	1	1	F	24	
	F	1	1	1	1	1	1	1	1	F	26	
	G	1	1	1	1	1	1	1	1	F	30	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	32	
	J	1	1	1	1	1	1	1	1	F	28	
	A	1	1	1	1	1	1	1	1	F	26	
#2	B	1	1	1	1	1	1	1	1	F	34	
	C	1	1	1	1	1	1	1	1	F	30	
2.00%	D	1	1	1	1	1	1	1	1	F	30	
	E	1	1	1	1	1	1	1	1	F	28	
	F	1	1	1	1	1	1	1	1	F	34	
	G	1	1	1	1	1	1	1	1	F	32	
	H	1	1	1	1	1	1	1	1	F	34	
	I	1	1	1	1	1	1	1	1	F	30	
	J	1	1	1	1	1	1	1	1	F	34	
	A	1	1	1	1	1	1	0	0	F	16	
#3	B	1	1	1	1	1	1	1	1	F	32	
	C	1	1	1	1	1	1	1	1	F	28	
10.0%	D	1	1	1	1	1	1	1	1	F	34	
	E	1	1	1	1	1	1	1	1	F	24	
	F	1	1	1	1	1	1	1	1	F	32	
	G	1	1	1	1	1	1	1	1	F	32	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	26	
	A	1	1	1	1	1	1	1	1	F	10	
#4	B	1	1	1	1	1	1	1	1	F	32	
	C	1	1	1	1	1	1	1	1	F	12	
30.0%	D	1	1	1	1	1	1	1	1	F	28	
	E	1	1	1	1	1	1	1	1	F	26	
	F	1	1	1	1	1	1	1	1	F	30	
	G	1	1	1	1	1	1	1	1	F	24	
	H	1	1	1	1	1	1	1	1	F	34	
	I	1	1	1	1	1	1	1	1	F	30	
	J	1	1	1	1	1	1	1	1	F	32	
	A	1	1	1	1	1	1	1	1	F	30	
#5	B	1	1	1	1	1	1	1	1	F	34	
	C	1	1	1	1	1	1	1	1	F	18	
100%	D	1	1	1	1	1	1	1	1	F	28	
	E	1	1	1	1	1	1	1	1	F	18	
	F	1	1	1	1	1	1	1	1	F	32	
	G	1	1	1	1	1	1	1	1	F	30	
	H	1	1	1	1	1	1	1	1	F	34	
	I	1	1	1	1	1	1	1	1	F	32	
	J	1	1	1	1	1	1	1	1	F	30	

See Reproduction Sheet for Renewal Information

See ToxCalc printout for summary survival & reproduction data

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

VPOW1331CCD

% Control survival (TAC 80% min): 100

% Surviving controls with 3 broods (TAC 60% min): 90

Ceriodaphnia Survival and Reproduction Test-6 Day Survival

Start Date:	Test ID: VPOW1331	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

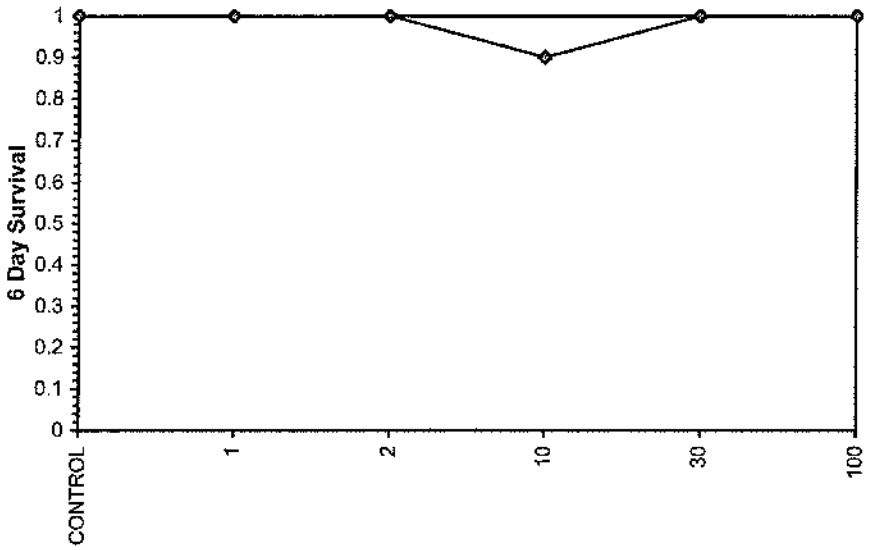
Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical
CONTROL	1.0000	1.0000	0	10	10	10		
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500
2	1.0000	1.0000	0	10	10	10	1.0000	0.0500
10	0.9000	0.9000	1	9	10	10	0.5000	0.0500
30	1.0000	1.0000	0	10	10	10	1.0000	0.0500
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1331	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:	DATA ENTERED BY PB		

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	30.000	34.000	32.000	30.000	15.000	34.000	30.000	28.000	32.000	30.000
1	26.000	32.000	28.000	34.000	24.000	26.000	30.000	30.000	32.000	28.000
2	26.000	34.000	30.000	30.000	26.000	34.000	32.000	34.000	30.000	34.000
10	16.000	32.000	26.000	34.000	24.000	32.000	32.000	30.000	28.000	26.000
30	13.000	32.000	17.000	28.000	26.000	30.000	24.000	34.000	20.000	32.000
100	30.000	34.000	16.000	28.000	18.000	32.000	30.000	34.000	32.000	30.000

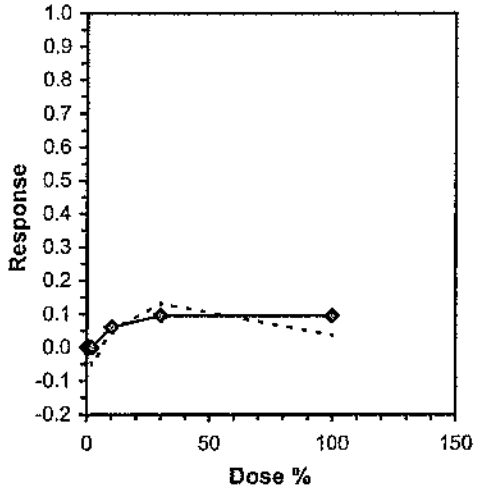
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
CONTROL	29.500	1.0000	29.500	15.000	34.000	18.446	10			29.833	1.0000
1	29.000	0.9831	29.000	24.000	34.000	10.904	10	92.00	75.00	29.833	1.0000
2	31.000	1.0508	31.000	26.000	34.000	10.201	10	112.00	75.00	29.833	1.0000
10	28.000	0.9492	28.000	16.000	34.000	19.048	10	94.50	75.00	28.000	0.9385
30	25.600	0.8678	25.600	13.000	34.000	27.449	10	87.50	75.00	27.000	0.9050
100	28.400	0.9627	28.400	16.000	34.000	22.220	10	102.50	75.00	27.000	0.9050

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.08426	1.035	-1.1631	1.14892
Bartlett's Test indicates equal variances (p = 0.11)	8.98423	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

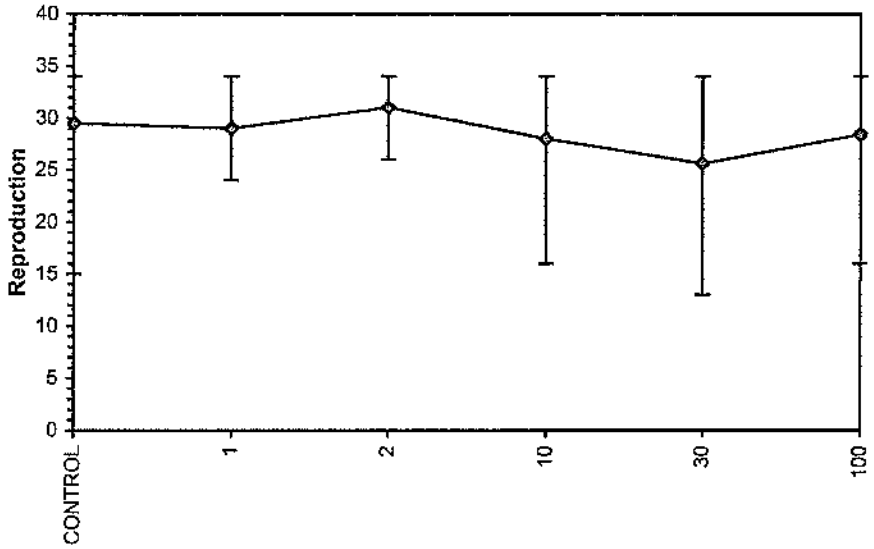
Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	8.5091			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction			
Start Date:	Test ID: VPOW1331	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments: DATA ENTERED BY PB			

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1331	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments: DATA ENTERED BY PB			

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	30.000	34.000	32.000	30.000	15.000	34.000	30.000	28.000	32.000	30.000
1	26.000	32.000	28.000	34.000	24.000	26.000	30.000	30.000	32.000	28.000
2	26.000	34.000	30.000	30.000	26.000	34.000	32.000	34.000	30.000	34.000
10	16.000	32.000	26.000	34.000	24.000	32.000	32.000	30.000	28.000	26.000
30	13.000	32.000	17.000	28.000	26.000	30.000	24.000	34.000	20.000	32.000
100	30.000	34.000	16.000	28.000	18.000	32.000	30.000	34.000	32.000	30.000

			Transform: Untransformed						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
CONTROL	29.500	1.0000	29.500	15.000	34.000	18.446	10			
1	29.000	0.9831	29.000	24.000	34.000	10.904	10	0.212	2.287	5.399
2	31.000	1.0508	31.000	26.000	34.000	10.201	10	-0.635	2.287	5.399
10	28.000	0.9492	28.000	16.000	34.000	19.048	10	0.635	2.287	5.399
30	25.600	0.8678	25.600	13.000	34.000	27.449	10	1.652	2.287	5.399
100	28.400	0.9627	28.400	16.000	34.000	22.220	10	0.466	2.287	5.399

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.08426	1.035	-1.1631	1.14892
Bartlett's Test indicates equal variances (p = 0.11)	8.98423	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	5.39924	0.18303	32.2567	27.8759	0.34219	5, 54

DUNNETT'S TEST FOR PMSD ONLY-PD

Effluent and Dilution Water Log (Freshwater Tests). FWEFFL061013

											SUMMARY WATER QUALITY DATA				
Initial sample characterization	Bottle(1):	A1	B1	C1							MEAN	S.D.	MIN.	MAX.	PARAMETER
	Arrival Temp. (oC, from CoC):	1	1	1							1	0.0	1	1	Arrival Temp.
	TRC (mg/l)(2):	<DL	<DL	<DL											
	TRC Corrected(2):														
	Hardness (mg/l):	68	60	60							63	4.6	60	68	Hardness (mg/l)
	Alkalinity (mg/l):	51	49	54							51	2.5	49	54	Alkalinity (mg/l)
	NH3-N (mg/l):	<1.0	<1.0	<1.0											
	Color/Appearance(3):	CY	CY	CY											
	Obvious odor?	NO	NO	NO											
	Date & Time:	7/10/13 11:26	7/11/13 10:45	7/13/13 12:00											
	Initials:	GB	PB	GB											
Sample prep measurements	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE	MEAN	S.D.	MIN.	MAX.	
	Bottle(s):	A1	B1	B1	C1	C1	C1			B1					
	Prep. Temp. (oC):	25	25	25	25	25	25			25	25	0.0	25	25	Temp. (oC)
	D.O. (mg/l) After Warming:	9.5	8.9	8.9	8.7	8.9	9.7			8.8					
	Aeration Time (min):	2	1.5	1.5	1.2	1.5	2.5			2					
	Adjusted D.O. (mg/l):	8.2	8.1	8.2	8.1	8.2	8.1			8.2	8.2	0.1	8.1	8.2	D.O. (mg/l)
	Final pH (S.U.):	7.49	7.60	7.64	7.60	7.63	7.65			7.63	7.60	0.06	7.49	7.65	pH (S.U.)
	Conductivity (uS/cm)(4):	144	156	NA	170	NA	NA			150	157	13.0	144	170	Cond. (uS/cm)
	Final TRC (mg/l)(5):	N.D.	N.D.	N.D.	N.D.	N.D.	N.D			N.D.					
	Sample Filtered (60 um)?	✓	✓	✓	✓	✓	✓								
	Date & Time:	7/10/13 13:23	7/11/13 12:40	7/12/13 12:36	7/13/13 14:02	7/14/13 13:59	7/15/13 13:51			7/11/13 15:12					
	Initials:	AG	RCD	GB	RCD	BJA	AG			PB					
Dilution water	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE	MEAN	S.D.	MIN.	MAX.	
	Vat Number:	2	3	3	1	1	2			3					
	Temperature (oC):	25	25	25	25	25	25			25	25	0.0	25	25	Temp. (oC)
	Conductivity (uS/cm):	293	293	293	291	291	291			293	292	1.1	291	293	Cond. (uS/cm)
	D.O. (mg/l):	8.2	8.2	8.2	8.2	8.2	8.2			8.2	8.2	0.0	8.2	8.2	D.O. (mg/l)
	pH (S.U.):	7.70	7.70	7.68	7.68	7.71	7.62			7.70	7.68	0.03	7.62	7.71	pH (S.U.)
	Hardness (mg/l):	84	100	100	98	98	98			100	96	6.1	84	100	Hardness (mg/l)
	Alkalinity (mg/l):	60	57	57	60	60	58			57	58	1.5	57	60	Alkalinity (mg/l)
	Date & Time:	7/10/13 8:20	7/11/13 8:50	7/12/13 8:50	7/13/13 9:05	7/14/13 9:30	7/15/13 8:55			7/11/13 8:50					
	Initials:	GB	AG	GB	RCD	AG	GB			AG					

Changes & Notes (initials, date, specific change or notes)

Peer review Initial/Date: AG, PB | 7/16/13 15:39 | DILUTION WATER TYPE: Mod. Hard Synthetic Freshwater (EPA)

PROJECT ID: VPOW1331 | ADDITIONAL EFFLUENT TREATMENT:

NC=Not Determined/Assessed, NA=Not Applicable. 1) Ninth character of lab sample ID on chain of custody AND bottle number in collection series. Together with Project ID constitute entire sample bottle ID. 2) TRC MDL 0.02 mg/L CL 0.22 mg/L. Corrected value K Iodi, Cr (potential positive interference). Corrected using ID and MnO4(O2.3) C=clear, T=tannic, O=active (SF=slight, M=moderate, H=heavy). Y=yellow, B=brown, BK=black, G=green, P=pink, Gr=grey, O=orange. 4) Measured on first use of sample only. 5) Final TRC measured only if chlorine present in initial characterization.

VPDW1331-A 13-05-10

~~Sunday~~ / Monday Tuesday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 002 State VA

Sampler Name WHB

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/8/13 1600 To (Date/Time) 7/9/13 1020

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/9/13 Time 1020 Effluent Temp (°C) 26.4

Composite Temp (°C) 12.0

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	pH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1020	NA	NA	7.7	NA	<QL
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WHB

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WHB	7/9/13 1500	
		7/10/13 1100	D.B.

VA0W1331B

Tuesday / Wednesday CBI 13-0517

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 002 State VA

Sampler Name [signature]

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/9/13 1400 To (Date/Time) ① 7/10/13 1100

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/10/13 Time 1100 Effluent Temp (°C) 28.6

Composite Temp (°C) 10.3

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1100	NA	NA	7.2	NA	<QL
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct [signature]

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	[signature]	7/10/13 1500	
		7/11/13 1045	P Blasco @ 1°C

① month changed per Glenn Bishop. P.B.

VPDES 13-0528 Thursday-Friday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 002 State VA

Sampler Name Wyg

NOEC >=2%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/11/13 1000 To (Date/Time) 7/12/13 1033 ✓

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/12/13 ✓ Time 1033 ✓ Effluent Temp (°C) 24.1 ✓

Composite Temp (°C) 12.8 ✓

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	pH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1033 ✓	NA	NA	7.2 ✓	NA	<dL ✓
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct Wyg

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	Wyg	7/12/13 1500	
		7/13/13 1145	D.M. 10°C

Client: Dominion Virginia Power
Project ID: VPOW1332
Client Sample ID: Chesterfield Power Station outfall 003
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	**Prepared By:**
Mr. Glenn Bishop Dominion Virginia Power Environmental Compliance and Policy 4111 Castlewood Road Richmond, VA 23234	Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director

Acute Test Results*

Species-Test Method	48-h LC50	95% C.L.	$T.U._{As}$	NOAEC
C. dubia EPA 2002.0	>100	N/A	<1.00	N/A

Chronic Test Results*

Species-Test Method	Endpoint	NOEC	LOEC	ChrV	PMSD	$T.U._C$	IC25	48-h LC50	LC50 95% C.L.	$T.U._{Ac}$
C. dubia	Survival	100	>100	>100	N/A	1.00	N/A	>100	N/A	<1.00
EPA 1002.0	Reproduction	100	>100	>100	28	1.00	>100	N/A	N/A	N/A

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

Acute Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	591	548-638	Yes
(7/5/13-7/7/13)	CC	99	544	457-630	

Chronic Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures

Species-Method (Ref. Test Date)	Data Source	% Survival		Reproduction (# Young)					RTT in Control?
		Cont.	NOEC	Cont.	NOEC	PMSD	IC25	IC25 A.L.	
C. dubia 1002.0	RTT	100	500	32.4	250	19	374	N/A	Yes
(7/5/13-7/11/13)	CC	97	500	25.5	250	23	317	226-407	

Note: RTT = Reference Toxicant Test, CC = Control Chart, Cont. = Control group.

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory. Unless noted below, these test results meet all requirements of NELAP.

APPROVED:

Peter F. De Lisle, Ph.D.
Technical Director

7/17/13
Date

Deviations from, additions to, or exclusions from the test method, non-standard conditions or data qualifiers and, as appropriate, a statement of compliance/non-compliance: **NONE**

VELAP# 460030
EPA# VA01116

Client: Dominion Virginia Power
Project ID: VPOW1332
Client Sample ID: Chesterfield Power Station outfall 003
Permit No: VA0004146
Sample Period: 7/9/13 to 7/12/13

Coastal Bioanalysts, Inc.

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

Chronic Value (ChrV): The geometric mean of the NOEC and LOEC. Units are same as test concentration units.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

IC25: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 25% reduction in test organism growth, reproduction, etc. The lower the IC25, the more toxic the chemical or sample. Units are same as test concentration units.

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

LOEC: Lowest-observable-effect-concentration. The lowest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit a statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Units are same as test concentration units.

PMSD: Percent Minimum Significant Difference: The minimum difference which can exist between a test treatment and the controls in a particular test and be statistically significant; a measure of test sensitivity. The lower the PMSD the more sensitive the test.

N/A: Not applicable.

N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

NOEC: No-observable-effect-concentration. The highest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit no statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Some regulatory definitions also require that the NOEC be less than the LOEC. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. $T.U._{Ac} = 100/LC50$, $T.U._{Chr} = 100/NOEC$ or $100/IC25$. A dimensionless unit.

VELAP# 460030
EPA# VA01116

C. dubia daily biological measurements (EPA 2002.0) Template version ACD-STAT-5trt-061113

TRTMNT (% Effl)	Rep	#Live Day 0	#Live Day 1	#Live Day 2	Final Mean % Live
C	A	5	5	5	100.0
	B	5	5	5	
Lab	C	5	5	5	
Control	D	5	5	5	
#1	A	5	5	5	100.0
6.25	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 2	A	5	5	5	100.0
12.5	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 3	A	5	5	5	100.0
25.0	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 4	A	5	5	5	100.0
50.0	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	
# 5	A	5	5	5	100.0
100	B	5	5	5	
% Effl	C	5	5	5	
	D	5	5	5	

Test Duration:	48h 22m		
	TAC 48+/-0.5h		
INITIALS:	PB	GB	RCD
DATE & TIME:	7/11/13 15:53	7/12/13 9:38	07/13/13 16:15
% CONTROL SURVIVAL:	100.0		
	TAC = 90%		

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia		
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater		
FEEDING PRIOR TO TEST:	YCT + Selenastrum capricornutum		
FEEDING DURING TEST:	None -YCT + Selenastrum 2+ h before test		
SOURCE:	CBI Stock cultures		
ACCLIMATION TEMP (o C):	25		
BROOD RELEASE START DATE & TIME:	7/10/13 16:20		
BROOD RELEASE END DATE & TIME:	7/11/13 9:50		
DATE/TIME WATER ADDED:	7/11/13 15:48		
DATE/TIME ANIMALS ADDED:	7/11/13 15:53		
ANIMAL AGE WINDOW:	17h 30m		
MAX AGE AT TEST START:	25h 38m		TAC Max. 24 h
TEST SET UP BY:		PB	
SAMPLE COLLECTION DATE &TIME:	7/10/13 10:45	SAMPLE USED	B
SAMPLE AGE AT TEST START:	29h 0m	TAC Max 36 h	
PEER REVIEW BY (INITIALS/DATE):		GB, PB	7/13/13 17:37

TEST ID: VPOW1332ACD

Ceriodaphnia daily water quality bench sheet (EPA METHOD 2002.0) Template version ACD-STAT-5trt-061113

TRTMNT		Day 0 Initial	Day 1	Day 2 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.70	7.87	7.75	7.77	0.09	7.70	7.87
	1	7.70	7.87	7.78	7.78	0.09	7.70	7.87
	2	7.73	7.87	7.87	7.82	0.08	7.73	7.87
	3	7.73	7.87	7.90	7.83	0.09	7.73	7.90
	4	7.71	7.85	8.02	7.86	0.16	7.71	8.02
	5	7.71	7.81	8.02	7.85	0.16	7.71	8.02
Temp. (o C)	C	25	25	25	25	0.0	25	25
	1	25	25	25	25	0.0	25	25
	2	25	25	25	25	0.0	25	25
	3	25	25	25	25	0.0	25	25
	4	25	25	25	25	0.0	25	25
	5	25	25	25	25	0.0	25	25
Diss. Oxygen (mg/l)	C	8.2	8.3	8.1	8.2	0.1	8.1	8.3
	1	8.2	8.2	8.0	8.1	0.1	8.0	8.2
	2	8.2	8.2	8.0	8.1	0.1	8.0	8.2
	3	8.2	8.2	8.1	8.2	0.1	8.1	8.2
	4	8.2	8.2	8.3	8.2	0.1	8.2	8.3
	5	8.2	8.3	8.4	8.3	0.1	8.2	8.4
Cond. (uS/cm)	C	293		295	294	1.4	293	295
	1	284			284		284	284
	2	281			281		281	281
	3	264			264		264	264
	4	226			226		226	226
	5	150		174	162	17.0	150	174
Replicate measured		Flask	Surrogate	A				
Initials		PB	GB	RCD				
		TRC (mg/l) in highest conc. at end of test:		N/A				

Changes & Notes (Initials, date, specific change or notes)

Test chamber:	30 ml glass vial:	☑					
	Other:						
Test solution vol. (15 ml min):	15 ml:	☑					
	Other (ml):						
Illumination & photoperiod:	50-100 ft-c 16L:8D				Template Number:	7	
Number of replicates/treatment:	4						
Initial number animals/replicate:	5						
Test Aerated?	N/A	Date & Time Air Start:	N/A				

TEST ID	TRT ID:	1	2	3	4	5
VPOW1332ACD	CONC(%):	6.25	12.5	25.0	50.0	100

Ceriodaphnia test set up bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

Test chamber:	~30 ml glass vial:	☑	Illumination & photoperiod:	50-100 ft-c 16L:8D	
	Other:		Number of replicates/treatment:	10	
Test solution volume:	15 ml:	☑	Initial number animals/replicate:	1	
	Other (ml):		Template #:	2	

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

SPECIES:	Ceriodaphnia dubia	
ACCLIMATION WATER:	Mod. Hard Synthetic Freshwater	
FEEDING (Culture &Test):	YCT + Selenastrum capricornutum mix	
SOURCE:	CBI Stock cultures	
ACCLIMATION TEMP (o C):	25	
BROOD RELEASE FROM:	7/9/13 16:35	
BROOD RELEASE TO:	7/9/13 22:00	
DATE/TIME WATER ADDED:	7/10/13 15:04	
DATE/TIME ANIMALS ADDED:	7/10/13 15:16	
ANIMAL AGE WINDOW (TAC 8 h):	5h 25m	
MAX AGE AT TEST START (TAC 24 h):	22h 41m	
TEST SET UP BY:	GB	
TEST ID:	VPOW1332CCD	
PEER REVIEW BY (Initial/Date):	PB	7/17/13 10:37
VPOW1332CCD		

Ceriodaphnia daily water quality bench sheet (EPA METHOD 1002.0) Template version CCD Strt 061013

	TRTMNT	Day 0 Initial	Day 1 Final	Day 1 Initial	Day 2 Final	Day 2 Initial	Day 3 Final	Day 3 Initial	Day 4 Final	Day 4 Initial	Day 5 Final	Day 5 Initial	Day 6 Final	Day 6 Initial	Day 7 Final	SUMMARY WATER QUALITY DATA MEAN	S.D.	MIN.	MAX.
pH (S.U.)	C	7.62	7.90	7.77	7.78	7.58	8.04	7.58	7.82	7.61	7.92	7.69	8.13			7.79	0.18	7.58	8.13
	1	7.64	7.99	7.75	7.96	7.62	8.18	7.64	8.07	7.64	7.98	7.71	8.26			7.87	0.23	7.62	8.26
	2	7.66	8.02	7.75	8.01	7.64	8.22	7.66	8.06	7.67	8.01	7.73	8.28			7.89	0.23	7.64	8.28
	3	7.66	8.05	7.75	8.03	7.66	8.29	7.68	8.12	7.67	8.03	7.73	8.28			7.91	0.25	7.66	8.29
	4	7.68	8.05	7.73	8.05	7.67	8.29	7.68	8.12	7.66	8.03	7.75	8.24			7.91	0.24	7.66	8.29
	5	7.66	8.01	7.71	8.03	7.67	8.26	7.68	8.03	7.65	8.04	7.73	8.20			7.89	0.23	7.65	8.26
Temp. (o C)	C	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	1	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	2	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	3	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	4	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
	5	25	25	25	25	25	25	25	25	25	25	25	25			25	0.0	25	25
Dies. Oxygen (mg/l)	C	8.2	8.6	7.7	8.3	8.0	8.2	7.8	8.2	7.8	8.5	8.2	9.0			8.2	0.4	7.7	9.0
	1	8.2	8.9	7.7	8.3	7.9	8.6	7.8	8.5	7.8	8.5	8.2	9.1			8.3	0.4	7.7	9.1
	2	8.2	8.7	7.6	8.4	7.9	8.8	7.7	8.3	7.8	8.7	8.2	9.1			8.3	0.5	7.6	9.1
	3	8.2	8.8	7.6	8.8	7.9	8.8	7.7	8.6	7.8	8.7	8.2	9.2			8.4	0.5	7.6	9.2
	4	8.2	8.9	7.7	8.6	7.9	9.0	7.8	8.6	7.8	8.7	8.2	9.0			8.4	0.5	7.7	9.0
	5	8.2	9.0	7.7	8.8	7.9	9.0	7.8	8.3	7.9	8.7	8.2	8.9			8.4	0.5	7.7	9.0
Cond. (uS/cm)	C	289		288		290		291		292		295				291	2.5	288	295
	1	289		286		289		288		288		292				289	2.0	286	292
	2	281		281		279		282		282		283				281	1.4	279	283
	3	265		260		261		265		266		269				264	3.3	260	269
	4	231		229		227		237		235		237				233	4.3	227	237
	5	156		160		159		174		176		173				166	8.9	159	176
Replicate measured		S	E	S	A	S	H	S	J	S	B	S	G			NOTE: Final D.O. Values >8.3 mg/l (saturation) may occur due to photosynthetic activity of algal food.			
Initials		GB	RCD		RCD		RCD		KK		AG		AG						
Changes & Notes (initials, date, specific change or notes)																			

	TRT ID:	1	2	3	4	5
VPOW1332CCD	CONC:	6.25%	12.5%	25.0%	50.0%	100%

Ceriodaphnia daily reproduction count bench sheet (EPA METHOD 1002.0) Template version CCD 5rrt 061013

TRTMNT	Rep	Repro Day 3	Repro Day 4	Repro Day 5	Repro Day 6	Repro Day 7	Repro Day 8	Repro Day 9	TOTAL REPRO
	A	0	0	0	4	6	0	16	26
C	B	0	0	0	4	6	0	12	22
	C	0	0	0	4	0	10	14	28
Lab	D	0	0	0	4	0	8	16	28
Control	E	0	0	0	0	3	10	16	29
	F	0	0	0	8	0	12	16	34
	G	0	0	0	0	2	10	0	12
	H	0	0	0	4	0	10	18	32
	I	0	0	0	6	0	8	16	32
	J	0	0	0	6	0	12	16	34
	A	0	0	0	4	0	12	16	32
#1	B	0	0	0	2	0	8	14	24
	C	0	0	0	4	0	10	16	30
6.25%	D	0	0	0	2	0	8	16	28
	E	0	0	0	2	6	6	14	28
Vol. Effl:	F	0	0	0	4	0	6	14	24
12.5 ml	G	0	0	0	0	6	10	0	16
	H	0	0	0	4	0	10	16	30
	I	0	0	0	4	0	10	16	30
	J	0	0	0	4	0	10	12	26
	A	0	0	0	4	0	8	18	30
#2	B	0	0	0	4	8	0	12	24
	C	0	0	0	4	0	10	14	28
12.5%	D	0	0	0	4	0	12	16	32
	E	0	0	4	0	2	12	16	34
Vol. Effl:	F	0	0	0	4	0	10	14	28
25 ml	G	0	0	0	0	0	2	8	10
	H	0	0	0	4	0	10	16	30
	I	0	0	0	4	0	10	14	28
	J	0	0	0	4	0	12	14	30
	A	0	0	0	4	0	10	10	24
#3	B	0	0	0	0	0	0	6	6
	C	0	0	0	4	0	12	18	34
25.0%	D	0	0	0	4	0	10	16	30
	E	0	0	0	0	0	10	10	20
Vol. Effl:	F	0	0	0	0	0	12	14	32
50 ml	G	0	0	0	0	0	5	0	5
	H	0	0	0	4	0	12	16	32
	I	0	0	0	4	0	8	16	28
	J	0	0	0	4	0	10	18	32
	A	0	0	0	6	6	0	18	30
#4	B	0	0	0	4	6	0	16	26
	C	0	0	0	4	0	4	14	22
50.0%	D	0	0	0	4	0	10	18	32
	E	0	0	0	0	4	0	10	14
Vol. Effl:	F	0	0	0	2	0	12	12	26
100 ml	G	0	0	0	0	3	5	0	8
	H	0	0	0	4	0	8	12	24
	I	0	0	0	0	4	0	10	14
	J	0	0	0	4	0	10	14	28
	A	0	0	0	0	0	8	14	26
#5	B	0	0	0	4	4	0	10	18
	C	0	0	0	6	0	8	12	26
100%	D	0	0	0	4	0	12	12	28
	E	0	0	0	0	0	10	12	22
Vol. Effl:	F	0	0	0	6	0	12	14	32
200 ml	G	0	0	0	0	0	10	0	10
	H	0	0	0	6	0	10	18	34
	I	0	0	0	4	0	10	20	34
	J	0	0	0	2	0	8	14	24
INITIALS:		GS	RCD	RCD	RCD	KK	AG	AG	
DATE & TIME:		7/10/13 15:16	7/11/13 14:02	7/12/13 14:00	7/13/13 15:12	7/14/13 14:54	7/15/13 13:31	7/16/13 16:04	
SAMPLE USED:		A	B	B	C	C	C		
CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE									

YPOW1332CCD Avg. young/surviving control (TAC 15 min): [illegible] Sure controls with 3 broods: 9

SAMPLE COLLECTION

SAMPLE	COLLECTION DATE & TIME
A	7/9/13 9:50
B	7/10/13 10:45
C	7/12/13 10:24
D	
E	

SAMPLE AGING

SAMPLE:	A
1st USE DATE/TIME:	7/10/13 15:15
LAST USE DATE/TIME:	7/10/13 15:15
TIME COLLECT TO 1st USE:	5h 25m
	(TAC 24 h max)
TIME 1st TO LAST USE:	0h 0m
	(TAC MAX 72 h)

SAMPLE:	B
1st USE DATE/TIME:	7/11/13 14:02
LAST USE DATE/TIME:	7/12/13 14:00
TIME COLLECT TO 1st USE:	3h 12m
	(TAC 24 h max)
TIME 1st TO LAST USE:	23h 58m
	(TAC MAX 72 h)

SAMPLE:	C
1st USE DATE/TIME:	7/13/13 15:12
LAST USE DATE/TIME:	7/15/13 13:31
TIME COLLECT TO 1st USE:	28h 48m
	(TAC 36 h max)
TIME 1st TO LAST USE:	46h 50m
	(TAC MAX 72 h)

SAMPLE:	D
1st USE DATE/TIME:	
LAST USE DATE/TIME:	
TIME COLLECT TO 1st USE:	0
	(TAC 36 h max)
TIME 1st TO LAST USE:	0
	(TAC MAX 72 h)

SAMPLE:	E
1st USE DATE/TIME:	
LAST USE DATE/TIME:	
TIME COLLECT TO 1st USE:	0
	(TAC 36 h max)
TIME 1st TO LAST USE:	0
	(TAC MAX 72 h)

Ceriodaphnia daily survival count bench sheet (EPA METHOD 1002.0) Template version CCD 5trt 061013

TREATMENT	Rep	#Live Day 0	#Live Day 1	#Live Day 2	#Live Day 3	#Live Day 4	#Live Day 5	#Live Day 6	#Live FINAL	MALE OR FEMALE	TOTAL REPRO	REPRO SURV Fnl
	A	1	1	1	1	1	1	1	1	F	28	28
C	B	1	1	1	1	1	1	1	1	F	22	22
	C	1	1	1	1	1	1	1	1	F	29	29
Lab	D	1	1	1	1	1	1	1	1	F	28	28
Control	E	1	1	1	1	1	1	1	1	F	29	29
	F	1	1	1	1	1	1	1	1	F	34	34
	G	1	1	1	1	1	1	1	1	F	12	12
	H	1	1	1	1	1	1	1	1	F	32	32
	I	1	1	1	1	1	1	1	1	F	32	32
	J	1	1	1	1	1	1	1	1	F	34	34
	A	1	1	1	1	1	1	1	1	F	32	
#1	B	1	1	1	1	1	1	1	1	F	24	
	C	1	1	1	1	1	1	1	1	F	30	
6.25%	D	1	1	1	1	1	1	1	1	F	28	
	E	1	1	1	1	1	1	1	1	F	28	
	F	1	1	1	1	1	1	1	1	F	26	
	G	1	1	1	1	1	1	1	1	F	18	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	30	
	J	1	1	1	1	1	1	1	1	F	28	
	A	1	1	1	1	1	1	1	1	F	30	
#2	B	1	1	1	1	1	1	1	1	F	24	
	C	1	1	1	1	1	1	1	1	F	28	
12.5%	D	1	1	1	1	1	1	1	1	F	32	
	E	1	1	1	1	1	1	1	1	F	34	
	F	1	1	1	1	1	1	1	1	F	28	
	G	1	1	1	1	1	1	1	1	F	10	
	H	1	1	1	1	1	1	1	1	F	30	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	30	
	A	1	1	1	1	1	1	1	1	F	24	
#3	B	1	1	1	1	1	1	1	1	F	8	
	C	1	1	1	1	1	1	1	1	F	14	
25.0%	D	1	1	1	1	1	1	1	1	F	30	
	E	1	1	1	1	1	1	1	1	F	20	
	F	1	1	1	1	1	1	1	1	F	32	
	G	1	1	1	1	1	1	1	1	F	8	
	H	1	1	1	1	1	1	1	1	F	32	
	I	1	1	1	1	1	1	1	1	F	28	
	J	1	1	1	1	1	1	1	1	F	32	
	A	1	1	1	1	1	1	1	1	F	30	
#4	B	1	1	1	1	1	1	1	1	F	26	
	C	1	1	1	1	1	1	1	1	F	22	
50.0%	D	1	1	1	1	1	1	1	1	F	32	
	E	1	1	1	1	1	1	1	1	F	14	
	F	1	1	1	1	1	1	1	1	F	26	
	G	1	1	1	1	1	1	1	1	F	8	
	H	1	1	1	1	1	1	1	1	F	24	
	I	1	1	1	1	1	1	1	1	F	14	
	J	1	1	1	1	1	1	1	1	F	28	
	A	1	1	1	1	1	1	1	1	F	26	
#5	B	1	1	1	1	1	1	1	1	F	18	
	C	1	1	1	1	1	1	1	1	F	26	
100%	D	1	1	1	1	1	1	1	1	F	28	
	E	1	1	1	1	1	1	1	1	F	22	
	F	1	1	1	1	1	1	1	1	F	32	
	G	1	1	1	1	1	1	1	1	F	10	
	H	1	1	1	1	1	1	1	1	F	34	
	I	1	1	1	1	1	1	1	1	F	34	
	J	1	1	1	1	1	1	1	1	F	34	

See Reproduction Sheet for Renewal Information

See ToxCalc printout for summary survival & reproduction data

CHANGES & NOTES (INITIALS, DATE, SPECIFIC CHANGE MADE	

YPOW1332CCD

% Control survival (TAC 80% min): 100

% Surviving controls with 3 broods (TAC 60% min): 90

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1332	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia

Comments: DATA ENTERED BY PB

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	26.000	22.000	28.000	28.000	29.000	34.000	12.000	32.000	32.000	34.000
6.25	32.000	24.000	30.000	26.000	28.000	26.000	18.000	30.000	30.000	26.000
12.5	30.000	24.000	28.000	32.000	34.000	28.000	10.000	30.000	28.000	30.000
25	24.000	6.000	34.000	30.000	20.000	32.000	5.000	32.000	28.000	32.000
50	30.000	26.000	22.000	32.000	14.000	26.000	8.000	24.000	14.000	28.000
100	28.000	18.000	26.000	28.000	22.000	32.000	10.000	34.000	34.000	24.000

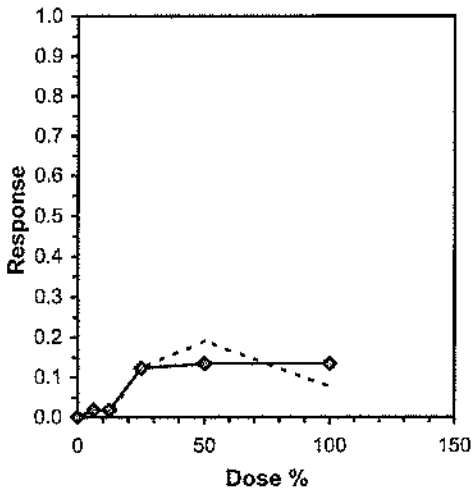
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
CONTROL	27.700	1.0000	27.700	12.000	34.000	24.070	10			27.700	1.0000
6.25	27.000	0.9747	27.000	18.000	32.000	14.917	10	94.50	75.00	27.200	0.9819
12.5	27.400	0.9892	27.400	10.000	34.000	24.343	10	103.00	75.00	27.200	0.9819
25	24.300	0.8773	24.300	5.000	34.000	44.324	10	98.00	75.00	24.300	0.8773
50	22.400	0.8087	22.400	8.000	32.000	35.164	10	82.50	75.00	24.000	0.8664
100	25.600	0.9242	25.600	10.000	34.000	29.417	10	95.00	75.00	24.000	0.8664

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.26663	1.035	-1.1779	0.88788
Bartlett's Test indicates equal variances (p = 0.16)	7.99158	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

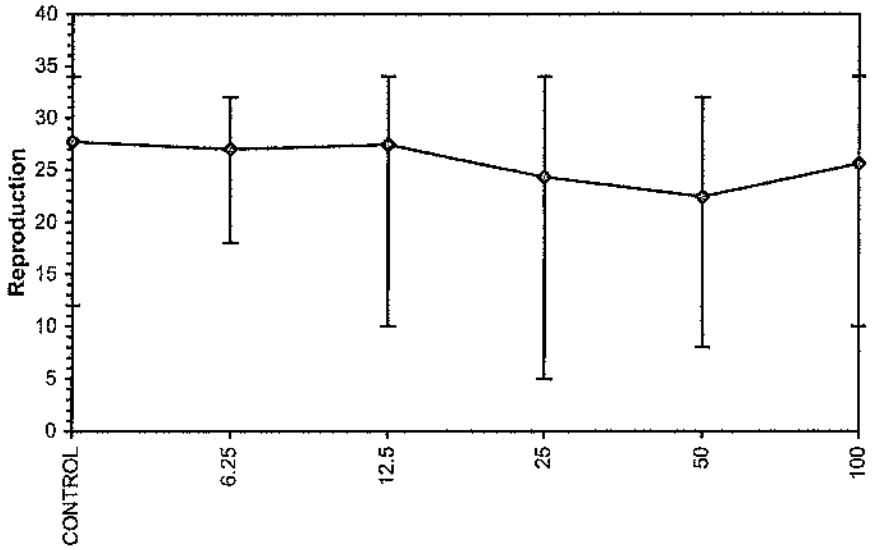
Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	16.315			
IC10	22.284			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction			
Start Date:	Test ID: VPOW1332	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments: DATA ENTERED BY PB			

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	Test ID: VPOW1332	Sample ID:	
End Date:	Lab ID:	Sample Type:	
Sample Date:	Protocol: EPAF 94-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments: DATA ENTERED BY PB			

Conc-%	1	2	3	4	5	6	7	8	9	10
CONTROL	26.000	22.000	28.000	28.000	29.000	34.000	12.000	32.000	32.000	34.000
6.25	32.000	24.000	30.000	26.000	28.000	26.000	18.000	30.000	30.000	26.000
12.5	30.000	24.000	28.000	32.000	34.000	28.000	10.000	30.000	28.000	30.000
25	24.000	6.000	34.000	30.000	20.000	32.000	5.000	32.000	28.000	32.000
50	30.000	26.000	22.000	32.000	14.000	26.000	8.000	24.000	14.000	28.000
100	28.000	18.000	26.000	28.000	22.000	32.000	10.000	34.000	34.000	24.000

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
CONTROL	27.700	1.0000	27.700	12.000	34.000	24.070	10			
6.25	27.000	0.9747	27.000	18.000	32.000	14.917	10	0.208	2.287	7.697
12.5	27.400	0.9892	27.400	10.000	34.000	24.343	10	0.089	2.287	7.697
25	24.300	0.8773	24.300	5.000	34.000	44.324	10	1.010	2.287	7.697
50	22.400	0.8087	22.400	8.000	32.000	35.164	10	1.574	2.287	7.697
100	25.600	0.9242	25.600	10.000	34.000	29.417	10	0.624	2.287	7.697

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.26663	1.035	-1.1779	0.88788
Bartlett's Test indicates equal variances (p = 0.16)	7.99158	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	7.69731	0.27788	42.8667	56.6556	0.585	5, 54

Dunnett's test for PMSD only pd

Effluent and Dilution Water Log (Freshwater Tests). FWEFFL051013

											SUMMARY WATER QUALITY DATA				
Initial sample charac-terization	Bottle(1):	A1	B1	C1							MEAN	S.D.	MIN.	MAX.	PARAMETER
	Arrival Temp. (oC, from CoC):	1	1	1							1	0.0	1	1	Arrival Temp.
	TRC (mg/l)(2):	<DL	<DL	<DL											
	TRC Corrected(2):														
	Hardness (mg/l):	76	60	74							70	8.7	60	76	Hardness (mg/l)
	Alkalinity (mg/l):	57	51	55							54	3.1	51	57	Alkalinity (mg/l)
	NH3-N (mg/l):	<1.0	<1.0	<1.0											
	Color/Appearance(3):	CY	CY	CY											
	Obvious odor?	NO	NO	NO											
	Date & Time:	7/10/13 11:15	7/11/13 10:45	7/13/13 11:59											
	Initials:	GB	PB	GB											
Sample prep measure-ments	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE	MEAN	S.D.	MIN.	MAX.	
	Bottle(s):	A1	B1	B1	C1	C1	C1			B1					
	Prep. Temp. (oC):	25	25	25	25	25	25			25	25	0.0	25	25	Temp. (oC)
	D.O. (mg/l) After Warming:	10.6	8.8	9.4	10.0	9.3	9.0			8.4					
	Aeration Time (min):	2.5	1.5	2	2.5	2	2			1					
	Adjusted D.O. (mg/l):	8.2	8.1	8.2	8.1	8.1	8.2			8.2	8.2	0.1	8.1	8.2	D.O. (mg/l)
	Final pH (S.U.):	7.59	7.57	7.52	7.80	7.58	7.60			7.57	7.63	0.10	7.52	7.8	pH (S.U.)
	Conductivity (uS/cm)(4):	147	149	NA	191	NA	NA			150	162	24.8	147	191	Cond. (uS/cm)
	Final TRC (mg/l)(5):	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D.					
	Sample Filtered (60 um)?	✓	✓	✓	✓	✓	✓	✓							
	Date & Time:	7/10/13 14:44	7/11/13 13:37	7/12/13 13:39	7/13/13 14:50	7/14/13 14:14	7/15/13 13:07			7/11/13 15:29					
	Initials:	GB	RCD	RCD	RCD	KK	AG			PB					
Dilution water	Test Day:	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	ACUTE	MEAN	S.D.	MIN.	MAX.	
	Vat Number:	2	3	3	1	1	2			3					
	Temperature (oC):	25	25	25	25	25	25			25	25	0.0	25	25	Temp. (oC)
	Conductivity (uS/cm):	293	293	293	291	291	291			293	292	1.1	291	293	Cond. (uS/cm)
	D.O. (mg/l):	8.2	8.2	8.2	8.2	8.2	8.2			8.2	8.2	0.0	8.2	8.2	D.O. (mg/l)
	pH (S.U.):	7.70	7.70	7.68	7.68	7.71	7.62			7.70	7.68	0.03	7.62	7.71	pH (S.U.)
	Hardness (mg/l):	84	100	100	98	98	98			100	96	6.1	84	100	Hardness (mg/l)
	Alkalinity (mg/l):	60	57	57	60	60	58			57	58	1.5	57	60	Alkalinity (mg/l)
	Date & Time:	7/10/13 8:20	7/11/13 8:50	7/12/13 8:50	7/13/13 9:05	7/14/13 9:30	7/15/13 8:55			7/11/13 8:50					
	Initials:	GB	AG	RCD	RCD	AG	GB			AG					
	Changes & Notes (initials, date, specific change or notes)														
	Peer review Initial/Date:	PB, GB	7/17/13 10:32	DILUTION WATER TYPE:	Mod. Hard Synthetic Freshwater (EPA)										
PROJECT ID:	VPOW1332	ADDITIONAL EFFLUENT TREATMENT:													

NO=Not Determined/Measured, NA=Not Applicable. 1) Ninth character of lab sample ID (in chain of custody AND bottle number in collection series. Together with Project ID constitutes unified sample bottle ID). 2) TRC NDL 0.02 mg/L DL 0.03 mg/L. Corrected value if Mn, Cr potential positive interference. Corrected using KI and NaAsO2. 3) C=clear, O=opaque, T=turbid, S=solids (Sl=slight, M=moderate, H=heavy), Y=yellow, B=brown, Bk=black, G=green, P=pink, Gr=grey, O=orange. 4) Measured on first use of sample only. 5) Final TRC measured only if chlorine present in initial characterization.

VPDW0333-A 13-0512

~~Sunday /~~ Monday / Tuesday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 003 State VA

Sampler Name WMB

NOEC >=100%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/9/13 1600 To (Date/Time) 7/9/13 1006

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/9/13 Time ~~0950~~ 1006 Effluent Temp (°C) 37.8

Composite Temp (°C) 14.7

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1006	NA	NA	7.8	NA	<dL
Composite	1000	NA	NA	NA	NA	NA

I certify that the above information is correct WMB

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	7/9/13	WMB 1500	
		7/10/13 SD 7/10/13 1100	S.B. 1°C

VPDW1332-B

Tuesday / Wednesday

CBI 13-0518

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 003 State VA

Sampler Name WNG

NOEC >=100%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/10/13, 1600 To (Date/Time) 7/11/13 1045

Sampling Frequency 4 sample periods, one every 6 ~~hours~~

Composite Subsample: Date 7/11/13 Time 1045 Effluent Temp (°C) 40.2

Composite Temp (°C) 15.7

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1045	NA	NA	7.8	NA	
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WNG

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WNG	7/11/13 1500	
		7/11/13 1045	P Blanco @ 1°

0 month changed per Glenn Bishop. BB.

VPDW1332-L 13-0529

Thursday / Friday

TMP BIOASSAY CHAIN OF CUSTODY FORM

Sample Collection/Chain of Custody Form

Sampling Location Chesterfield PS

VPDES Permit # VA0004146 Outfall # 003 State VA

Sampler Name WM

NOEC >=100%

Sampling Equip/Methods Cubitainers filled from clean plastic bucket

Sample container: Cubitainer X Glass jar _____ Other _____

Grab Sample: Date NA Time NA Effluent Temp(°C) NA

Composite Sample: From (Date/Time) 7/11/13 1400 To (Date/Time) 7/12/13 1024

Sampling Frequency 4 sample periods, one every 6 hours

Composite Subsample: Date 7/12/13 Time 1024 Effluent Temp (°C) 30.5

Composite Temp (°C) 12.5

Field Measurements (as applicable):

Parameter	Time	D.O. (mg/l)	Cond. (umhos)	PH	Salinity (0/00)	Chlorine (mg/l)
~~Grab or~~ Comp. Subsample	1024	NA	NA	7.8	NA	<dl
Composite		NA	NA	NA	NA	NA

I certify that the above information is correct WM

Sampler Signature

* TO BE COMPLETED BY ALL HANDLING SAMPLE (SAMPLER, ANALYSTS, ETC)

Volume	Relinquished By	Date / Time	Received By
1 gal BAW	WM	7/12/13 1500	
		7/13/13 1145	D.B. IAC

AUTHORIZATION TO BILL APPLICANT FOR
A PUBLIC NOTICE

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice once a week for two consecutive weeks, seven days apart, in The Richmond Times-Dispatch, charged to:

Agent/Department to be billed:	Cathy C. Taylor
	Director, Electric Environmental Services
	Virginia Electric & Power Company
Applicant's Address:	5000 Dominion Boulevard
	Glen Allen, VA 23060
Agent's Telephone No:	(804) 273-2929

Authorizing Agent: Cathy C. Taylor
Print Name

Signature

VPDES Permit Number VA0004146
Attention: Emilee Adamson

Dominion Resources Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
Web Address: www.dom.com

Dominion®

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 6, 2009

RECEIVED
JUL 08 2009
PRO

Ms. Emilee Carpenter
Water Permit Writer
Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060

RE: **Chesterfield Power Station:**
Revised Application for Reissuance of VPDES Permit No. VA0004146

Dear Ms. Carpenter:

Enclosed are the original and two copies of a revised application for reissuance of the VPDES permit for Dominion's Chesterfield Power Station (Permit No. VA0004146). The application, originally submitted to DEQ by cover letter dated May 28, 2009, has been revised to incorporate the clarifications and/or revisions requested in your June 18, 2009 letter. The attached table describes the specific changes to the application that have been made in order to address each of the items presented in your letter. Note that with respect to item 8, the sampling of the intake screen backwash discharges for chlorine was completed on Wednesday, June 24, 2009, and the results of this testing will be provided to you in a separate submittal.

Also enclosed is a signed authorization to bill Dominion for the cost to public notice the draft permit.

Please feel free to contact Ken Roller of my staff at (804) 273-3494 should you have any questions concerning this information.

Sincerely,

Cathy C. Taylor

Cathy C. Taylor
Director, Environmental Support

Enclosures

Clarifications/Revisions made to VPDES Permit Reissuance Application for the Chesterfield Power Station in response to DEQ comments in June 18, 2009 letter from Emilee Carpenter.	
DEQ Comment	**Clarification/Revision**
1	The aerial figure was modified to better show the approximate location of Outfall 001.
2a	The car wash was added to Item II.B.
2b	In item II.B the "water from pond closure sedimentation pond" is the same as the "New Ash Pond" shown in the flow diagram. So, Item II.B. was reworded as "New Ash Pond Settling Basin". The dotted line showing flows between the new and old ash ponds has been revised to show a single dotted line from the New Ash Pond Settling Basin to the Old Ash Pond. During certain periods of the year (primarily summer) the respiration of algae growing in the New Ash Pond can result in pond pH values that are outside of the acceptable range for discharge through Outfall 005. Should such conditions occur during periods when the New Ash Pond Settling Basin (NAPSB) is full and excessive rains are expected the station may transfer water from the NAPSB to the Lower Ash Pond, where it is ultimately discharged through Outfall 004. There is currently no direct transfer of water from the Lower Ash Pond to the NAPSB and the flow diagram has been modified accordingly.
2c	The following description of the recovery wells has been added to the narrative in the attachment to the application. During 1996 recovery wells were installed along the northern crest of the Upper (New) Ash Pond dike. The recovery wells were installed to counter excess pressures and seepage forces resulting from increased water levels in the new ash pond that occurred during periods when ash was being dredged from the lower ash pond to the upper ash pond. The wells are equipped with submersible pumps and collected water is pumped to the pond associated with Outfall 005. With dredging and sluicing wet ash no longer occurring and water levels well below former trigger levels, these wells are no longer necessary to maintain stability of the north dike.
2d	The water supplied to the intake screen backwash and non-chemical cleaning systems is obtained from the same system that provides water that is used for sluicing ash. The flow diagram has been revised to show that the water used in these two systems is withdrawn before the water is used to sluice ash.
3	Form 2C, Item II.B.2.a was revised as suggested.
5	Form 2C, Item V. The attachment to the application was revised to include the dates for collection of all effluent samples used to generate the application data. The attachment was also modified to recognize that the sample for alpha and beta radioactivity measurements for Outfall 005 was collected from the New Ash Pond Settling Pond during a period when the pond was not discharging, as approved by DEQ.
6	The FGD wastewater treatment facility was completed and began treating wastewater from the Unit 6 FGD on December 14, 2008. Treated wastewater was discharged through Outfall 004 shortly thereafter.

Clarifications/Revisions made to VPDES Permit Reissuance Application for the Chesterfield Power Station *in response to DEQ comments in June 18, 2009 letter from Emilee Carpenter.*	
DEQ Comment	**Clarification/Revision**
7a – 7d	The typographical errors identified have been corrected in the Water Quality Criteria Monitoring Forms (or for Outfall 001 and TBT in the application attachment).
8	Sampling of the screen backwash discharges for chlorine was accomplished on Wednesday, June 24, 2009. The results of these analyses will be provided to DEQ by a separate transmittal.
9	The public notice authorization is being provided with this transmittal.

AUTHORIZATION TO BILL APPLICANT FOR
A PUBLIC NOTICE

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice once a week for two consecutive weeks, seven days apart, in The Richmond Times-Dispatch, charged to:

Agent or Department to be billed: Cathy C. Taylor
Director Environmental Support

Agent's telephone number: (804) 273-2929

Agent's address: 5000 Dominion Boulevard
Glen Allen, VA 23060

Authorizing Agent: C C Taylor
Signature

VPDES Permit Number VA0004146
Attention: Ray Jenkins

CHESTERFIELD POWER STATION

APPLICATION FOR REISSUANCE OF VPDES PERMIT No. VA0004146

TABLE OF CONTENTS:

1. EPA Form 1 General
   - USGS topographic map with property boundary
   - Outfall location map
2. EPA Form 2C NPDES
   - Water flow line drawing
   - Physical and chemical data (Parts A, B, & C)
3. DEQ VPDES Permit Application Addendum
4. Attachment with supplemental information
   - Supplemental Information Forms 1 and 2C
   - Request to remove screen backwash outfalls (006 – 011)
   - Request for continuance of CWA 316(a) variance
   - Background information CWA 316(b)
   - Analytical data for Water Quality Criteria parameters

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

For Approved. OMB No. 2040-0086. Approval expires 5-31-92

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S		T/A	C
F	110000342530		D
1	2 13	14	15

LABEL ITEMS

- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING LIST
- VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area*(s)* below. If the label is complete and correct, you need not complete Items I, III, V, and VI*(except VI-B which must be completed regardless)*. Complete all items if no label has been proved. Refer to the instructions for detailed item descriptions and for the legal authorization under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental from listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.?** (FORM 2A)	☐ 16	☒ 17	☐ 18	B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.?** (FORM 2B)	☐ 19	☒ 20	☐ 21
C. Is this facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	☒ 22	☐ 23	☒ 24	D. Is this proposal facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.?** (FORM 2D)	☐ 25	☒ 26	☐ 27
E. Does or will this facility treat, store, or dispose of **hazardous wastes?** (FORM 3)	☐ 28	☒ 29	☐ 30	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	☐ 31	☒ 32	☐ 33
G. Do you or will you inject at this facility any produced water other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	☐ 34	☒ 35	☐ 36	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfer by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	☐ 37	☒ 38	☐ 39
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area?** (FORM 5)	☐ 40	☒ 41	☐ 42	J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment are?** (FORM 5)	☐ 43	☒ 44	☐ 45

III. NAME OF FACILITY

C 1 | SKIP (15, 16-29, 30) | Dominion Chesterfield Power Station (69)

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
C 2 (15, 16) Faggert, Pamela F., Vice President and Chief Environmental Officer (45)	804 (46 48) 273 (49 51) 3467 (52 55)

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

C 3 (15, 16) 5000 Dominion Boulevard (45)

B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4 (15, 16) Glen Allen (40)	VA (41 42)	23060 (47 51)

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

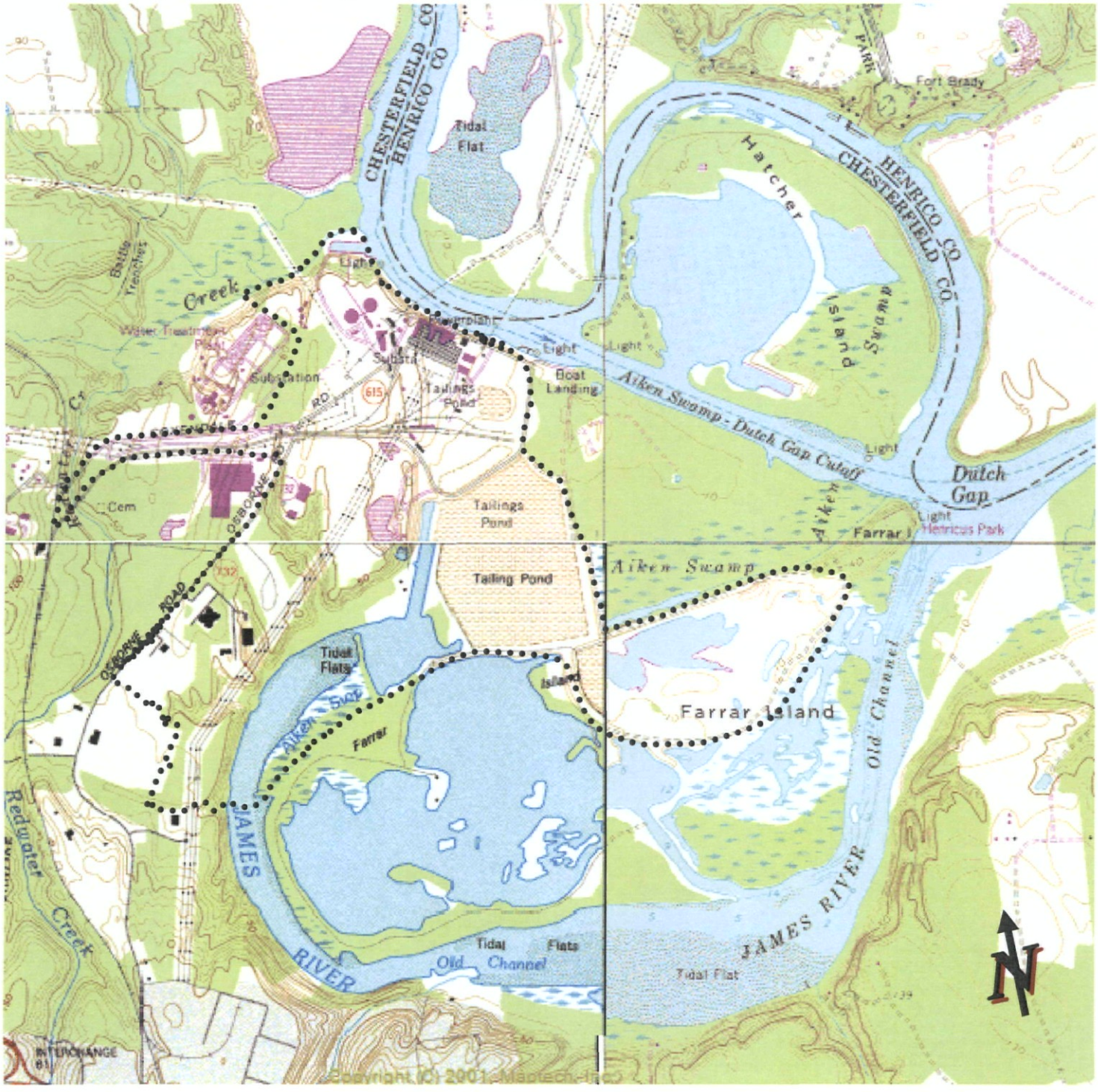
C 5 (15, 16) 500 Coxendale Road (45)

B. COUNTY NAME

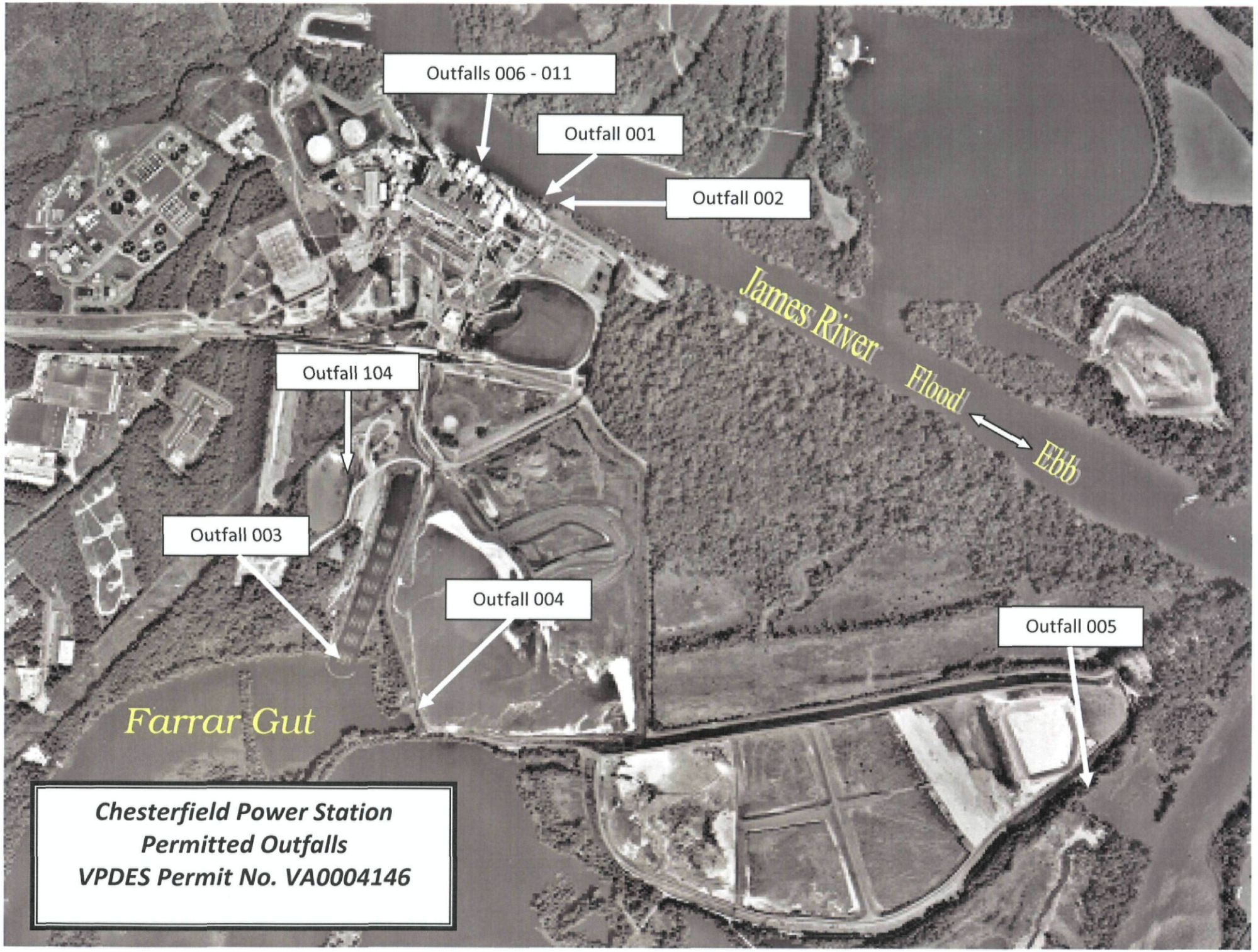
Chesterfield (46, 70)

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE
C 6 (15, 16) Chester (40)	VA (41 42)	23836 (47 51)	(52 54)

Chesterfield Power Station
Topographic Map Showing Approximate Property Boundary



USGS Drewrys Bluff (VA) Quadrangle
1" = 0.4 miles
Approximate Property Boundary
.....


Outfalls 006 - 011
Outfall 001
Outfall 002
James River
Flood
Ebb
Outfall 104
Outfall 003
Outfall 004
Outfall 005
Farrar Gut
Chesterfield Power Station
Permitted Outfalls
VPDES Permit No. VA0004146

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST		B. SECOND	
4911	*(specify)* Electric Services		*(specify)*
C. THIRD		**D. FOURTH**	
	(specify)		*(specify)*

VIII. OPERATOR INFORMATION

A. NAME	B. Is the name listed in Item VIII-A also the owner?
Virginia Electric and Power Company	☒ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other," specify.)*
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC *(other than federal or state)*, O = OTHER *(specify)*: P — *(specify)*

D. PHONE *(area code & no.)*: A — 804 — 796 — 6000

E. STREET OR PO BOX: 500 Coxendale Road

F. CITY OR TOWN	G. STATE	H. ZIP CODE
Chester	VA	23836

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	N	See addendum	
D. PSD *(Air Emissions from Proposed Sources)*	P	See addendum	
B. UIC *(Underground Injection of Fluids*	U		
E. OTHER *(specify)*		See addendum	*(Specify)*
C. RCRA *(Hazardous Wastes)*	R	See addendum	
E. OTHER *(specify)*		See addendum	*(Specify)*

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Chesterfield Power Station generates electricity by steam produced by the combustion of coal and other fossil fuels.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
C.D. Holley, Vice President, Fossil & Hydro System Operations	C D Holley	7/2/2009

COMMENTS FOR OFFICIAL USE ONLY

C

Please type or print in the unshaded areas only	EPA ID Number (Copy from Item 1 of Form 1) 110000342530	Form Approved OMB No. 2040-0086 Approval expires 7-31-88

Form 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICUTLRAL OPERATIONS
Consolidated Permits Program

I. Outfall Location

For this outfall, list the latitude and longitude, and name of the receiving water(s)

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	
001	37	22	58	77	22	51	James River, Main Channel
002	37	22	58	77	22	48	James River, Main Channel
003	37	22	19	77	23	4	James River, Farrar Gut
004	37	22	18	77	22	54	James River, Farrar Gut

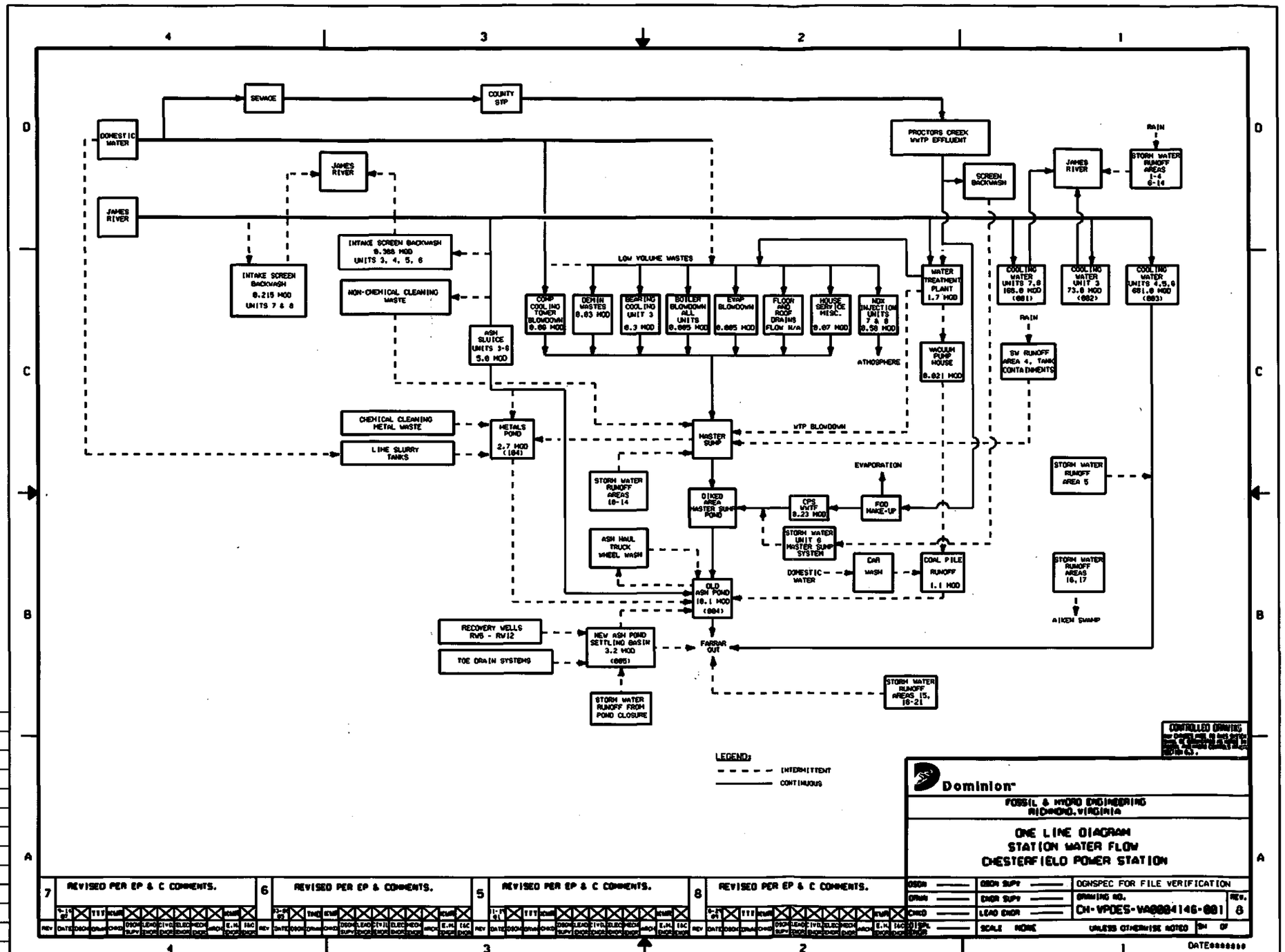
II. Flows, Sources of Pollution, and Treatment Technologies

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., *for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of (1) all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) the average flow contributed by each operation; and (3) the treatment received by the wastewater. Continue on additional sheets if necessary.

1. Outfall Number	2. Operations Contributing Flow		3. Treatment		
	a. OPERATION (list)	b. AVERAGE FLOW	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001	Condenser Cooling Water, Units 7 & 8	168 MGD	Dechlorination, discharge to surface waters	2-E	4-A
002	Condenser Cooling Water, Unit 3	73 MGD	Dechlorination, discharge to surface water	2-E	4-A
003	Condenser Cooling Water, Units 4, 5, & 6	681 MGD	Dechlorination, discharge to surface water	2-E	4-A
004	**Lower (Old) Ash Pond OPERATIONS CONTRIBUTING FLOW**	10.1 MGD	Sedimentation, skimming	1-U	X-X
	-Proctors Creek treated effluent screen backwash	0.065 MGD	None	NA	NA
	-Demineralizer blowdow	0.03 MGD	Neutralization	2-K	
	-Compressor CT blowdown	0.06 MGD	None		
	-Boiler blowdown	0.005 MGD	None		
	-Evaporator blowdown	0.005 MGD	None		
	-Water treatment plant	1.70 MGD	None		
	-Vacuum pump house	0.021 MGD	Sedimentation	1-U	
	-Car wash	Not measured	None		
	-Coal pile runoff	1.10 MGD	Sedimentation	1-U	
	-Ash Sluice	5.0 MGD	None		

 CONTINUED ON REVERSE


SEWAGE
COUNTY STP
DOMESTIC WATER
JAMES RIVER
JAMES RIVER
INTAKE SCREEN BACKWASH 0.215 MGD UNITS 7 & 8
INTAKE SCREEN BACKWASH 0.388 MGD UNITS 3, 4, 5, 6
NON-CHEMICAL CLEANING WASTE
ASH SLUICE UNITS 1-8 5.0 MGD
CHEMICAL CLEANING METAL WASTE
LIME SLURRY TANKS
METALS POND 2.7 MGD (104)
LOW VOLUME WASTES
COMP COOLING TOWER BLOWDOWN 0.00 MGD
DEMIN WASTES 0.03 MGD
BEARING COOLING UNIT 3 0.3 MGD
BOILER BLOWDOWN ALL UNITS 0.095 MGD
EVAP BLOWDOWN 0.005 MGD
FLOOR AND ROOF DRAINS FLOW N/A
HOUSE SERVICE MISC. 0.07 MGD
NOX INJECTION UNITS 7 & 8 0.58 MGD
ATMOSPHERE
MASTER SUMP
WTP BLOWDOWN
EVAPORATION
DIKED AREA MASTER SUMP POND
CPS WWTP 0.23 MGD
FGD MAKE-UP
STORM WATER RUNOFF AREAS 10-14
STORM WATER UNIT 6 MASTER SUMP SYSTEM
ASH HAUL TRUCK WHEEL WASH
DOMESTIC WATER
CAR WASH
COAL PILE RUNOFF 1.1 MGD
OLD ASH POND 10.1 MGD (004)
RECOVERY WELLS RW5 - RW12
TOE DRAIN SYSTEMS
NEW ASH POND SETTLING BASIN 3.2 MGD (005)
FARRAR OUT
STORM WATER RUNOFF FROM POND CLOSURE
STORM WATER RUNOFF AREAS 15, 18-21
PROCTORS CREEK WWTP EFFLUENT
SCREEN BACKWASH
WATER TREATMENT PLANT 1.7 MGD
VACUUM PUMP HOUSE 0.021 MGD
JAMES RIVER
RAIN
STORM WATER RUNOFF AREAS 1-4 6-14
COOLING WATER UNITS 7,8 166.0 MGD (001)
COOLING WATER UNIT 3 73.0 MGD (002)
COOLING WATER UNITS 4,5,6 681.0 MGD (003)
RAIN
SW RUNOFF AREA 4, TANK CONTAINMENTS
STORM WATER RUNOFF AREA 5
STORM WATER RUNOFF AREAS 16, 17
AIKEN SWAMP
LEGEND:
INTERMITTENT
CONTINUOUS
CONTROLLED DRAWING
Dominion
FOSSIL & HYDRO ENGINEERING
RICHMOND, VIRGINIA
ONE LINE DIAGRAM
STATION WATER FLOW
CHESTERFIELD POWER STATION
DSGN
DRWN
CHKD
SCALE NONE
UNLESS OTHERWISE NOTED
DGNSPEC FOR FILE VERIFICATION
DRAWING NO. CH-VPDES-VA0004146-001
REV. 8
DATE
7 REVISED PER EP & C COMMENTS.
6 REVISED PER EP & C COMMENTS.
5 REVISED PER EP & C COMMENTS.
8 REVISED PER EP & C COMMENTS.

Please type or print in the unshaded areas only	EPA ID Number (Copy from Item 1 of Form 1) 110000342530	Form Approved OMB No. 2040-0086 Approval expires 7-31-88

Form **2C** NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICUTLRAL OPERATIONS
Consolidated Permits Program

I. Outfall Location

For this outfall, list the latitude and longitude, and name of the receiving water(s)

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	
005	37	22	20	77	21	50	James River, Farrar Gut
104	37	22	35	77	23	04	Internal discharge to Outfall 004

II. Flows, Sources of Pollution, and Treatment Technologies

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., *for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of (1) all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) the average flow contributed by each operation; and (3) the treatment received by the wastewater. Continue on additional sheets if necessary.

1. Outfall Number	2. Operations Contributing Flow		3. Treatment		
	a. OPERATION (list)	b. AVERAGE FLOW	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
004 (Continued)	-FGD Chloride purge stream WWTP	0.23 MGD	Chemical precip., coagulation, flocculation, sedimentation, neutralization, pressure filtration, landfill	2-C 1-G 1-K	2-D 1-U 5-R 5-Q
	-Storm water runoff	See attachment	See addendum	See addendum	
	-Non-chemical cleaning wastes	See attachment	None		
	-Outfall 104 – Metals Pond	1.30 MGD	See description below	See description below	
	-Bearing cooling water	0.30 MGD	None		
	-House service misc. water	0.07 MGD	None		
	-Water from New Ash Pond Settling Basin	See attachment			
005	**New (Upper) Ash Pond Settling Basin** -Storm water runoff from pond closure, recovery wells/toe drains.	3.2 MGD	Sedimentation, skimming, discharge to surface water	1-U 4-A	X-X
104	Metals Pond	2.7 MGD	Neutralization, mixing, chemical precipitation	2-K 2-C	1-O

Please type or print in the unshaded areas only	EPA ID Number (Copy from Item 1 of Form 1): 110000342530	Form Approved OMB No. 2040-0086 Approval expires 7-31-88

Form 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICUTLRAL OPERATIONS
Consolidated Permits Program

I. Outfall Location

For this outfall, list the latitude and longitude, and name of the receiving water(s)

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	
006	37	23	00	77	22	53	James River, Main Channel
007	37	23	00	77	22	54	James River, Main Channel
008 & 009	37	23	00	77	22	55	James River, Main Channel
010	37	23	00	77	22	55	James River, Main Channel
011	37	23	02	77	23	00	James River, Main Channel

II. Flows, Sources of Pollution, and Treatment Technologies

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., *for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of (1) all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) the average flow contributed by each operation; and (3) the treatment received by the wastewater. Continue on additional sheets if necessary.

1. Outfall Number	2. Operations Contributing Flow		3. Treatment		
	a. OPERATION (list)	b. AVERAGE FLOW	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
006	Intake screen backwash discharge (Unit 7)	1.23 MGD	None		
007	Intake screen backwash discharge (Unit 8)	1.29 MGD	None		
008	Intake screen backwash discharge (Units 3 & 4)	1.51 MGD	None		
009	Intake screen backwash discharge (Unit 4)	0.64 MGD	None		
010	Intake screen backwash discharge (Unit 5)	0.76 MGD	None		
011	Intake screen backwash discharge (Unit 6)	1.17 MGD	None		

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☒ YES (complete the following table) ☐ NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(s) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	a. FLOW RATE (in mgd)		b. TOTAL VOLUME (specify with units		c. DURATION (in days)
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	
104	Metals Pond	7	3	2.7 MGD	5.0 MGD	See attachment		10
006 – 011	Intake screen backwash	7	12	0.60 MGD	7.24 MGD	0.60 MG	7.24 MG	0.083
005	New (Upper) Ash Pond	< 4 DAYS	2	2.6 MGD	6.0 MGD	See attachment		< 4

Please see attachment to application for additional information concerning the intermittent nature of the above outfalls.

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ YES (complete Item III-B) ☐ NO (go to Section IV)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?

☐ YES (complete Item III-C) ☒ NO (go to Section IV)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS (list outfall numbers)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	

IV. IMPROVEMENTS

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading, or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☒ YES (complete the following table) ☐ NO (go to Item IV-B)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. No	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED
Clean Air Act (Consent Decree)	004	Old Ash Pond	See attachment for additional information		

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAM IS ATTACHED

EPA ID Number (Copy from Item 1 of Form 1)

110000342530

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding - Complete one set of tables or each outfall - Annotate the outfall number in the space provided. **NOTE:** Tables V-A, V-B, and V-C are included on separate sheets number V-1 through V-9.

D: Use the space below to list any of the pollutants listed in Tables 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Strontium	Fossil fuels, ash		
Uranium	Fossil fuels, ash		
Vanadium	Fossil fuels, ash		
Zirconium	Fossil fuels, ash		

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☒ YES (list all such pollutants below) ☐ NO (go to Item VI-B)

Virginia Power sells coal combustion by-products (ash and gypsum) from the Chesterfield Power Station for beneficial reuse as a raw material. Coal combustion by-products may contain minute quantities of the metals listed in Item V-C.

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ YES (identify the test(s) and describe their purpose below) ☐ NO (go to Section VIII)

Whole Effluent Toxicity (WET) testing of station discharges has been performed in accordance with Part I.A.4 (Outfall 004 only) and Special Conditoin I.B.17 "Toxics Management Program" (Outfalls 001, 002, 003, 004, and 005) of the current VPDES permit for the Chesterfield Power Station. See addendum to Form 2C for additional information.

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ YES (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below) ☐ NO (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
Primary Laboratories, Inc.	7423 Lee Davis Road Mechanicsville, VA 23111	(804) 559-9004	BOD, Cyanide, TBT, Hydrogen Sulfide, E. coli, Organophosphorous Pesticides (EPA 622), Pesticides (EPA 608)
Pace Analytical	1638 Roseytown Road-Suites 2,3,4 Greensburg, PA 15601	(724) 850-5600	Mercury (EPA 1631E) RADIOACTIVITY: Tritium, Gross alpha, Gross beta, Strontium-90, Radium 226 & 228.
Remainder of analyses reported in Item V were performed by Dominion's in-house laboratory (Dominion Laboratory Services), and/or Chesterfield Power Station's Laboratory and, in the case of field measurements by Dominion Biologists or Chemists.			

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (type or print)	B. PHONE NO. (area code & no.)
C.D. Holley, Vice President – Fossil & Hydro System Operations	(804) 273-3592
C. SIGNATURE C D Holley	D. DATE SIGNED 7/2/2009

EPA I.D. NUMBER= VA0004146

V. Intake and effluent characteristics (continued from page 3 of Form 2c) Outfall 001

Part A- You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

	2. Effluent						3. Units	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
	Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Biochemical Oxygen Demand	<2	<3538.28	.	.	.	.	1	PPM	LB/DAY
Chemical Oxygen Demand	10.13	17921.3882	.	.	.	.	1	PPM	LB/DAY
Total Organic Carbon	5.1	9022.614	.	.	.	.	1	PPM	LB/DAY
Total Suspended Solids	13.6	24060.304	.	.	.	.	1	PPM	LB/DAY
Ammonia,total	0.1	176.914	.	.	.	.	1	PPM	LB/DAY
Flow	212	.	211	.	168.3674	.	1031	MGD	.
Temperature (Winter)	11.4	.	9.1667	.	9.1667	.	3	DEGREES C	.
Temperature (Summer)	34	.	32.9	.	32.9	.	3	DEGREES C	.
pH	7.7 (min)	7.7 (max)	N/A	N/A	N/A	N/A	1	STD. UNITS	.

PART B.

	Mark X		2. Effluent						3. Units	
	believed present	believed absent	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
			Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Bromide,total (24959-67-6)	__X__	____	0.34	601.5076	.	.	.	.	1	PPM	LB/DAY
Chlorine, Total Residual	__X__	____	<0.1	<176.914	<0.1	<176.1064	<0.1	<145.1478	132	PPM	LB/DAY
Color	__X__	____	25	.	.	.	.	.	1	NTU	.
Fecal Coliform	____	__X__	No Sample	.	.	.	.	.	0	COL/100ML	.
Fluoride (16984-48-8)	__X__	____	0.146	258.29444	.	.	.	.	1	PPM	LB/DAY
Nitrate + Nitrite	__X__	____	0.81	1433.0034	.	.	.	.	1	PPM	LB/DAY

Item V-B Continued Outfall 001

Part C.

1. POLLUTANT	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
Nitrogen, Total Org. As N	__X__	_____	0.46	813.8044	.	.	.	.	1	PPM	LB/DAY
Oil & Grease	__X__	_____	<5	<8845.7	.	.	.	.	1	PPM	LB/DAY
Phosphorus (As P), Total (07723-14-0)	__X__	_____	0.11	194.6054	0.11	186.6104	0.0707	104.0358	28	PPM	LB/DAY
j. Radioactivity **********											
Alpha, Total	__X__	_____	<0.98	.	.	.	.	.	1	PCI/LITER	.
Beta, Total	__X__	_____	3.69	.	.	.	.	.	1	PCI/LITER	.
Radium,total	_____	__X__	No Sample	.	.	.	.	.	0	PCI/LITER	.
Radium 226 , Total	_____	__X__	No Sample	.	.	.	.	.	0	PCI/LITER	.
Sulfate (As So4) (14808-79-8)	__X__	_____	54.52	96453.5128	.	.	.	.	1	PPM	LB/DAY
Sulfide (As S)	__X__	_____	<0.01	<17.6914	.	.	.	.	1	PPM	LB/DAY
Sulfite (As So3) (14265-45-3)	__X__	_____	0.64	1132.2496	.	.	.	.	1	PPM	LB/DAY
Surfactants	__X__	_____	<0.025	<44.2285	.	.	.	.	1	PPM	LB/DAY
Aluminum,total (07429-90-5)	__X__	_____	0.23	406.9022	.	.	.	.	1	PPM	LB/DAY
Barium,total (07440-39-3)	__X__	_____	0.105	185.7597	.	.	.	.	1	PPM	LB/DAY
Boron,total (07440-42-8)	__X__	_____	0.1	176.914	.	.	.	.	1	PPM	LB/DAY
Cobalt,total (07440-48-4)	__X__	_____	<0.003	<5.30742	.	.	.	.	1	PPM	LB/DAY
Iron,total (07439-89-6)	__X__	_____	0.7	1238.398	.	.	.	.	1	PPM	LB/DAY
Magnesium,total (07439-95-4)	__X__	_____	5.25	9287.985	.	.	.	.	1	PPM	LB/DAY
Molybdenum,total (07439-98-7)	__X__	_____	0.002	3.53828	.	.	.	.	1	PPM	LB/DAY
Manganese,total (07439-96-5)	__X__	_____	0.06	106.1484	.	.	.	.	1	PPM	LB/DAY
Tin,total (07440-31-5)	__X__	_____	<0.005	<8.8457	.	.	.	.	1	PPM	LB/DAY
Titanium,total (07440-32-6)	__X__	_____	<0.002	<3.53828	.	.	.	.	1	PPM	LB/DAY

Continued from Page V2

Outfall 001

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
METALS, CYANIDE, AND TOTAL PHENOLS												
Antimony,total (07440-36-0)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
Arsenic,total (07440-38-2)	X	X		<0.003	<5.30742	.	.	.	.	1	PPM	LB/DAY
Beryllium,total (07440-41-7)	X	X		<0.0002	<0.353828	.	.	.	.	1	PPM	LB/DAY
Cadmium,total (07440-43-9)	X	X		<0.0003	<0.530742	.	.	.	.	1	PPM	LB/DAY
Chromium,total (07440-47-3)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
Copper,total (07440-50-8)	X	X		0.014	24.76796	0.014	22.1704	0.0075	22.1704	2	PPM	LB/DAY
Lead,total (07439-92-1)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
Mercury,total (07439-97-6)	X	X		1.26E-6	0.0022291164	.	.	.	.	1	PPM	LB/DAY
Nickel,total (07440-02-0)	X	X		<0.005	<8.8457	.	.	.	.	1	PPM	LB/DAY
Selenium,total (07782-49-2)	X	X		<0.003	<5.30742	.	.	.	.	1	PPM	LB/DAY
Silver,total (07440-22-4)	X	X		<0.0001	<0.176914	.	.	.	.	1	PPM	LB/DAY
Thallium,total (07440-28-0)	X	X		<0.0002	<0.353828	.	.	.	.	1	PPM	LB/DAY
Zinc,total (07440-66-6)	X	X		0.013	22.99882	.	.	.	.	1	PPM	LB/DAY
Cyanide , Total (00057-12-5)	X	X		<0.01	<17.6914	.	.	.	.	1	PPM	LB/DAY
Total Phenols	X	X		0.01	17.6914	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
Dioxin Screen			X	No Sample	.	.	.	.	.	.	PPM	LB/DAY

Run on 05/08/2009

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	Mass	B. MAXIMUM 30 DAY VALUE Concentration	Mass	C. LONG TERM AVRG. VALUE Concentration	Mass	3. Units No. of Analyses	Concentration	Mass
GCMS FRACTION - VOLATILE COMPOUNDS												
Acrolein (00107-02-8)	X	X		<0.01	<17.6914	.	.	.	.	1	PPM	LB/DAY
Acrylonitrile (00107-13-1)	X	X		<0.0015	<2.65371	.	.	.	.	1	PPM	LB/DAY
Benzene (00071-43-2)	X	X		<0.0044	<7.784216	.	.	.	.	1	PPM	LB/DAY
BIS (Chloromethyl) Ether (542-88-1)				not required		not required		not required				
Bromoform (00075-25-2)	X	X		<0.0047	<8.314958	.	.	.	.	1	PPM	LB/DAY
Carbon Tetrachloride (00056-23-5)	X	X		<0.0028	<4.953592	.	.	.	.	1	PPM	LB/DAY
Chlorobenzene (00108-90-7)	X	X		<0.006	<10.61484	.	.	.	.	1	PPM	LB/DAY
Chlorodibromomethane (00124-48-1)	X	X		<0.0031	<5.484334	.	.	.	.	1	PPM	LB/DAY
Chloroethane (00075-00-3)	X	X		<0.0011	<1.946054	.	.	.	.	1	PPM	LB/DAY
2-Chloroethylvinyl Ether (00110-75-8)	X	X		<0.0012	<2.122968	.	.	.	.	1	PPM	LB/DAY
Chloroform (00067-66-3)	X	X		0.00188	3.3259832	.	.	.	.	1	PPM	LB/DAY
Dichlorobromomethane (00075-27-4)	X	X		<0.0022	<3.892108	.	.	.	.	1	PPM	LB/DAY
Dichlorodifluormethane (75-71-8)				not required		not required		not required				
1,1-Dichloroethane (00075-34-3)	X	X		<0.0047	<8.314958	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloroethane (00107-06-2)	X	X		<0.0028	<4.953592	.	.	.	.	1	PPM	LB/DAY
1,1-Dichloroethylene (00075-35-4)	X	X		<0.0028	<4.953592	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloropropane (00078-87-5)	X	X		<0.006	<10.61484	.	.	.	.	1	PPM	LB/DAY
1,3-Dichloropropylene (10061-02-6)	X	X		<0.005	<8.8457	.	.	.	.	1	PPM	LB/DAY
Ethyl Benzene (00100-41-4)	X	X		<0.0072	<12.737808	.	.	.	.	1	PPM	LB/DAY
Methyl Bromide (00074-83-9)	X	X		<0.0014	<2.476796	.	.	.	.	1	PPM	LB/DAY
Methyl Chloride (00074-87-3)	X	X		<0.0011	<1.946054	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units No. of Analyses	Concentration	Mass
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
Methylene Chloride (00075-09-2)	X	X		<0.0028	<4.953592	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-Tetrachloroethane (00079-34-5)	X	X		<0.0069	<12.207066	.	.	.	.	1	PPM	LB/DAY
Tetrachloroethylene (00127-18-4)	X	X		<0.0041	<7.253474	.	.	.	.	1	PPM	LB/DAY
Toluene (00108-88-3)	X	X		<0.006	<10.61484	.	.	.	.	1	PPM	LB/DAY
1,2-Trans-Dichloroethylene (00156-60-5)	X	X		<0.0016	<2.830624	.	.	.	.	1	PPM	LB/DAY
1,1,1-Trichloroethane (00071-55-6)	X	X		<0.0038	<6.722732	.	.	.	.	1	PPM	LB/DAY
1,1,2-Trichloroethane (00079-00-5)	X	X		<0.005	<8.8457	.	.	.	.	1	PPM	LB/DAY
Trichloroethylene (00079-01-6)	X	X		<0.0019	<3.361366	.	.	.	.	1	PPM	LB/DAY
Trichlorofluoromethane (75-69-4)				not required		not required		not required				
Vinyl Chloride (00075-01-4)	X	X		<0.0018	<3.184452	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-Chlorophenol (00095-57-8)	X	X		<0.0033	<5.838162	.	.	.	.	1	PPM	LB/DAY
2,4-Dichlorophenol (00120-83-2)	X	X		<0.0056	<9.907184	.	.	.	.	1	PPM	LB/DAY
2,4-Dimethylphenol (00105-67-9)	X	X		<0.0052	<9.199528	.	.	.	.	1	PPM	LB/DAY
4,6-Dinotro-O-Cresol (00534-52-1)	X	X		<0.024	<42.45936	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrophenol (00051-28-5)	X	X		<0.042	<74.30388	.	.	.	.	1	PPM	LB/DAY
2-Nitrophenol (00088-75-5)	X	X		<0.0036	<6.368904	.	.	.	.	1	PPM	LB/DAY
4-Nitrophenol (00100-02-7)	X	X		<0.0024	<4.245936	.	.	.	.	1	PPM	LB/DAY
P-Chloro-M-Cresol (00059-50-7)	X	X		<0.0075	<13.26855	.	.	.	.	1	PPM	LB/DAY
Pentachlorophenol (00087-86-5)	X	X		<0.0036	<6.368904	.	.	.	.	1	PPM	LB/DAY
Phenol (00108-95-2)	X	X		<0.0027	<4.776678	.	.	.	.	1	PPM	LB/DAY
2,4,6-Trichlorophenol (00088-06-2)	X	X		<0.0027	<4.776678	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
Acenaphthene (00083-32-9)	__X__	__X__	____	<0.003	<5.30742	.	.	.	.	1	PPM	LB/DAY
Acenaphthylene (00208-96-8)	__X__	__X__	____	<0.0035	<6.19199	.	.	.	.	1	PPM	LB/DAY
Anthracene (00120-12-7)	__X__	__X__	____	<0.0019	<3.361366	.	.	.	.	1	PPM	LB/DAY
Benzidine (00092-87-5)	__X__	__X__	____	<0.063	<111.45582	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Anthracene (00056-55-3)	__X__	__X__	____	<0.0078	<13.799292	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Pyrene (00050-32-8)	__X__	__X__	____	<0.0025	<4.42285	.	.	.	.	1	PPM	LB/DAY
3,4-Benzofluoranthene (00205-99-2)	__X__	__X__	____	<0.0048	<8.491872	.	.	.	.	1	PPM	LB/DAY
Benzo (G H I) Perylene (00191-24-2)	__X__	__X__	____	<0.0041	<7.253474	.	.	.	.	1	PPM	LB/DAY
Benzo (K) Fluoranthene (00207-08-9)	__X__	__X__	____	<0.0025	<4.42285	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroethoxy) Methane (00111-91-1)	__X__	__X__	____	<0.0053	<9.376442	.	.	.	.	1	PPM	LB/DAY
Bis(-2-Chloroethyl) Ether (00111-44-4)	__X__	__X__	____	<0.0057	<10.084098	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroisopropyl) Ether (00108-60-1)	__X__	__X__	____	<0.0057	<10.084098	.	.	.	.	1	PPM	LB/DAY
Bis(2-Ethylhexyl) Phthalate (00117-81-7)	__X__	__X__	____	<0.0025	<4.42285	.	.	.	.	1	PPM	LB/DAY
4-Bromophenyl-Phenylether (00101-55-3)	__X__	__X__	____	<0.003	<5.30742	.	.	.	.	1	PPM	LB/DAY
Butylbenzyl Phthalate (00085-68-7)	__X__	__X__	____	<0.0025	<4.42285	.	.	.	.	1	PPM	LB/DAY
2-Chloronaphthalene (00091-58-7)	__X__	__X__	____	<0.0046	<8.138044	.	.	.	.	1	PPM	LB/DAY
4-Chlorophenyl-Phenyl Ether (07005-72-3)	__X__	__X__	____	<0.0042	<7.430388	.	.	.	.	1	PPM	LB/DAY
Chrysene (00218-01-9)	__X__	__X__	____	<0.0025	<4.42285	.	.	.	.	1	PPM	LB/DAY
Dibenzo (A H) Anthracene (00053-70-3)	__X__	__X__	____	<0.0025	<4.42285	.	.	.	.	1	PPM	LB/DAY
1,2-Dichlorobenzene (00095-50-1)	__X__	__X__	____	<0.004	<7.07656	.	.	.	.	1	PPM	LB/DAY
1,3-Dichlorobenzene (00541-73-1)	__X__	__X__	____	<0.0031	<5.484334	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-Dichlorobenzene (00106-46-7)	X	X		<0.0044	<7.764216	.	.	.	.	1	PPM	LB/DAY
3,3''-Dichlorobenzidine (00091-94-1)	X	X		<0.0165	<29.19081	.	.	.	.	1	PPM	LB/DAY
Diethyl Phthalate (00084-66-2)	X	X		<0.0074	<13.091636	.	.	.	.	1	PPM	LB/DAY
Dimethyl Phthalate (00131-11-3)	X	X		<0.0075	<13.26855	.	.	.	.	1	PPM	LB/DAY
Di-N-Butyl Phthalate (00084-74-2)	X	X		<0.0064	<11.322496	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrotoluene (00121-14-2)	X	X		<0.0057	<10.084098	.	.	.	.	1	PPM	LB/DAY
2,6-Dinitrotoluene (00606-20-2)	X	X		<0.0034	<6.015076	.	.	.	.	1	PPM	LB/DAY
Di-N-Octyl Phthalate (00117-84-0)	X	X		<0.0025	<4.42285	.	.	.	.	1	PPM	LB/DAY
1,2-Diphenylhydrazine (00122-66-7)	X	X		<0.0088	<15.568432	.	.	.	.	1	PPM	LB/DAY
Fluoranthene (00206-44-0)	X	X		<0.0022	<3.892108	.	.	.	.	1	PPM	LB/DAY
Fluorene (00086-73-7)	X	X		<0.0022	<3.892108	.	.	.	.	1	PPM	LB/DAY
Hexachlorobenzene (00118-74-1)	X	X		<0.0031	<5.484334	.	.	.	.	1	PPM	LB/DAY
Hexachlorobutadiene (00087-68-3)	X	X		<0.0018	<3.184452	.	.	.	.	1	PPM	LB/DAY
Hexachlorocyclopentadiene (00077-47-4)	X	X		<0.01	<17.6914	.	.	.	.	1	PPM	LB/DAY
Hexachloroethane (00067-72-1)	X	X		<0.0024	<4.245936	.	.	.	.	1	PPM	LB/DAY
Indeno (1,2,3-Cd) Pyrene (00193-39-5)	X	X		<0.0037	<6.545818	.	.	.	.	1	PPM	LB/DAY
Isophorone (00078-59-1)	X	X		<0.0051	<9.022614	.	.	.	.	1	PPM	LB/DAY
Naphthalene (00091-20-3)	X	X		<0.0038	<6.722732	.	.	.	.	1	PPM	LB/DAY
Nitrobenzene (00098-95-3)	X	X		<0.0042	<7.430388	.	.	.	.	1	PPM	LB/DAY
N-Nitrosodimethylamine (00062-75-9)	X	X		<0.0062	<10.968668	.	.	.	.	1	PPM	LB/DAY
N-Nitroso-Di-N-Propylamine (00621-64-7)	X	X		<0.0036	<6.368904	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-Nitrosodiphenylamine (00086-30-6)	X	X		<0.0027	<4.776678	.	.	.	.	1	PPM	LB/DAY
Phenanthrene (00085-01-8)	X	X		<0.0054	<9.553356	.	.	.	.	1	PPM	LB/DAY
Pyrene (00129-00-0)	X	X		<0.0038	<6.722732	.	.	.	.	1	PPM	LB/DAY
1,2,4-Trichlorobenzene (00120-82-1)	X	X		<0.0079	<13.976206	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
Aldrin (00309-00-2)	X	X		<0.000016	<0.02830624	.	.	.	.	1	PPM	LB/DAY
Alpha BHC (00319-84-6)	X	X		<7E-6	<0.01238398	.	.	.	.	1	PPM	LB/DAY
Beta BHC (00319-85-7)	X	X		<0.000013	<0.02299882	.	.	.	.	1	PPM	LB/DAY
Gamma BHC (00058-89-9)	X	X		<0.000011	<0.01946054	.	.	.	.	1	PPM	LB/DAY
Delta BHC (00319-86-8)	X	X		<0.000015	<0.0265371	.	.	.	.	1	PPM	LB/DAY
Chlordane (00057-74-9)	X	X		<0.000014	<0.02476796	.	.	.	.	1	PPM	LB/DAY
4,4pr DDT (00050-29-3)	X	X		<0.000017	<0.03007538	.	.	.	.	1	PPM	LB/DAY
4,4pr DDE (00072-55-9)	X	X		<0.000017	<0.03007538	.	.	.	.	1	PPM	LB/DAY
4,4pr DDD (00072-54-8)	X	X		<0.000021	<0.03715194	.	.	.	.	1	PPM	LB/DAY
Dieldrin (00060-57-1)	X	X		<0.00001	<0.0176914	.	.	.	.	1	PPM	LB/DAY
Alpha-Endosulfan (00115-29-7)	X	X		<0.000014	<0.02476796	.	.	.	.	1	PPM	LB/DAY
Beta-Endosulfan (00115-29-7)	X	X		<0.000017	<0.03007538	.	.	.	.	1	PPM	LB/DAY
Endosulfan Sulfate (01031-07-8)	X	X		<9E-6	<0.01592226	.	.	.	.	1	PPM	LB/DAY
Endrin (00072-20-8)	X	X		<0.00002	<0.0353828	.	.	.	.	1	PPM	LB/DAY
Endrin Aldehyde (07421-93-4)	X	X		<0.000019	<0.03361366	.	.	.	.	1	PPM	LB/DAY
Heptachlor (00076-44-8)	X	X		<0.000016	<0.02830624	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	Mass	B. MAXIMUM 30 DAY VALUE Concentration	Mass	C. LONG TERM AVRG. VALUE Concentration	Mass	3. Units No. of Analyses	Concentration	Mass
GCMS FRACTION - PESTICIDES (CONTINUED)												
Heptachlor-Epoxide (01024-57-3)	X	X		<0.000012	<0.02122968	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.001	<1.76914	.	.	.	.	1	PPM	LB/DAY
Toxaphene (08001-35-2)	X	X		<0.000057	<0.10084098	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VA0004146

V. Intake and effluent characteristics (continued from page 3 of Form 2c) Outfall 002

Part A- You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

	2. Effluent A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE		3. Units		
	Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Biochemical Oxygen Demand	<2	<1485.41	.	.	.	.	1	PPM	LB/DAY
Chemical Oxygen Demand	<5	<3713.525	.	.	.	.	1	PPM	LB/DAY
Total Organic Carbon	8.6	6387.263	.	.	.	.	1	PPM	LB/DAY
Total Suspended Solids	15	11140.575	.	.	.	.	1	PPM	LB/DAY
Ammonia,total	0.07	51.98935	.	.	.	.	1	PPM	LB/DAY
Flow	89	.	89	.	73.3764	.	1001	MGD	.
Temperature (Winter)	18.3	.	15.3	.	15.3	.	3	DEGREES C	.
Temperature (Summer)	37.5	.	36.5	.	36.5	.	3	DEGREES C	.
pH	7.6 (min)	7.6 (max)	N/A	N/A	N/A	N/A	1	STD. UNITS	.

PART B.

	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE		3. Units		
			Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Bromide,total (24959-67-6)	__X__	_____	0.33	245.09265	.	.	.	.	1	PPM	LB/DAY
Chlorine, Total Residual	__X__	_____	<0.1	<74.2705	<0.1	<74.2705	<0.1	<64.9743	124	PPM	LB/DAY
Color	__X__	_____	30	.	.	.	.	.	1	NTU	.
Fecal Coliform	_____	__X__	No Sample	.	.	.	.	.	0	COL/100ML	.
Fluoride (16984-48-8)	__X__	_____	0.154	114.37657	.	.	.	.	1	PPM	LB/DAY
Nitrate + Nitrite	__X__	_____	0.78	579.3099	.	.	.	.	1	PPM	LB/DAY

Item V-B Continued Outfall 002

Part C.

1. POLLUTANT	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units No. of Analyses	Concentration	Mass
Nitrogen, Total Org. As N	__X__	_____	0.36	267.3738	.	.	.	.	1	PPM	LB/DAY
Oil & Grease	__X__	_____	<5	<3713.525	.	.	.	.	1	PPM	LB/DAY
Phosphorus (As P), Total (07723-14-0)	__X__	_____	0.11	81.69755	0.11	67.4841	<0.0681	<41.9519	27	PPM	LB/DAY
j. Radioactivity **********											
Alpha, Total	__X__	_____	<0.88	.	.	.	.	.	1	PCI/LITER	.
Beta, Total	__X__	_____	2.45	.	.	.	.	.	1	PCI/LITER	.
Radium,total	_____	__X__	No Sample	.	.	.	.	.	0	PCI/LITER	.
Radium 226 , Total	_____	__X__	No Sample	.	.	.	.	.	0	PCI/LITER	.
Sulfate (As So4) (14808-79-8)	__X__	_____	55.82	41457.7931	.	.	.	.	1	PPM	LB/DAY
Sulfide (As S)	__X__	_____	<0.01	<7.42705	.	.	.	.	1	PPM	LB/DAY
Sulfite (As So3) (14265-45-3)	__X__	_____	0.64	475.3312	.	.	.	.	1	PPM	LB/DAY
Surfactants	__X__	_____	<0.025	<18.567625	.	.	.	.	1	PPM	LB/DAY
Aluminum,total (07429-90-5)	__X__	_____	0.11	81.69755	.	.	.	.	1	PPM	LB/DAY
Barium,total (07440-39-3)	__X__	_____	0.1	74.2705	.	.	.	.	1	PPM	LB/DAY
Boron,total (07440-42-8)	__X__	_____	0.07	51.98935	.	.	.	.	1	PPM	LB/DAY
Cobalt,total (07440-48-4)	__X__	_____	<0.003	<2.228115	.	.	.	.	1	PPM	LB/DAY
Iron,total (07439-89-6)	__X__	_____	0.5	371.3525	.	.	.	.	1	PPM	LB/DAY
Magnesium,total (07439-95-4)	__X__	_____	5.17	3839.78485	.	.	.	.	1	PPM	LB/DAY
Molybdenum,total (07439-98-7)	__X__	_____	0.002	1.48541	.	.	.	.	1	PPM	LB/DAY
Manganese,total (07439-96-5)	__X__	_____	0.05	37.13525	.	.	.	.	1	PPM	LB/DAY
Tin,total (07440-31-5)	__X__	_____	<0.005	<3.713525	.	.	.	.	1	PPM	LB/DAY
Titanium,total (07440-32-6)	__X__	_____	<0.002	<1.48541	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	Mass	B. MAXIMUM 30 DAY VALUE Concentration	Mass	C. LONG TERM AVRG. VALUE Concentration	Mass	No. of Analyses	3. Units Concentration	Mass
METALS, CYANIDE, AND TOTAL PHENOLS												
Antimony,total (07440-36-0)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
Arsenic,total (07440-38-2)	X	X		<0.003	<2.228115	.	.	.	.	1	PPM	LB/DAY
Beryllium,total (07440-41-7)	X	X		<0.0002	<0.148541	.	.	.	.	1	PPM	LB/DAY
Cadmium,total (07440-43-9)	X	X		<0.0003	<0.2228115	.	.	.	.	1	PPM	LB/DAY
Chromium,total (07440-47-3)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
Copper,total (07440-50-8)	X	X		0.037	27.480085	0.037	26.5847	0.0215	26.5847	2	PPM	LB/DAY
Lead,total (07439-92-1)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
Mercury,total (07439-97-6)	X	X		1.19E-6	0.00088381895	.	.	.	.	1	PPM	LB/DAY
Nickel,total (07440-02-0)	X	X		<0.005	<3.713525	.	.	.	.	1	PPM	LB/DAY
Selenium,total (07782-49-2)	X	X		<0.003	<2.228115	.	.	.	.	1	PPM	LB/DAY
Silver,total (07440-22-4)	X	X		<0.0001	<0.0742705	.	.	.	.	1	PPM	LB/DAY
Thallium,total (07440-28-0)	X	X		<0.0002	<0.148541	.	.	.	.	1	PPM	LB/DAY
Zinc,total (07440-66-6)	X	X		0.012	8.91246	.	.	.	.	1	PPM	LB/DAY
Cyanide , Total (00057-12-5)	X	X		<0.01	<7.42705	.	.	.	.	1	PPM	LB/DAY
Total Phenols	X	X		0.06	44.5623	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
Dioxin Screen			X	No Sample	.	.	.	.	.	.	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION - VOLATILE COMPOUNDS												
Acrolein (00107-02-8)	__X__	__X__	____	<0.01	<7.42705	.	.	.	.	1	PPM	LB/DAY
Acrylonitrile (00107-13-1)	__X__	__X__	____	<0.0015	<1.1140575	.	.	.	.	1	PPM	LB/DAY
Benzene (00071-43-2)	__X__	__X__	____	<0.0044	<3.267902	.	.	.	.	1	PPM	LB/DAY
BIS (Chloromethyl) Ether (542-88-1)				not required		not required		not required				
Bromoform (00075-25-2)	__X__	__X__	____	<0.0047	<3.4907135	.	.	.	.	1	PPM	LB/DAY
Carbon Tetrachloride (00056-23-5)	__X__	__X__	____	<0.0028	<2.079574	.	.	.	.	1	PPM	LB/DAY
Chlorobenzene (00108-90-7)	__X__	__X__	____	<0.006	<4.45623	.	.	.	.	1	PPM	LB/DAY
Chlorodibromomethane (00124-48-1)	__X__	__X__	____	<0.0031	<2.3023855	.	.	.	.	1	PPM	LB/DAY
Chloroethane (00075-00-3)	__X__	__X__	____	<0.0011	<0.8169755	.	.	.	.	1	PPM	LB/DAY
2-Chloroethylvinyl Ether (00110-75-8)	__X__	__X__	____	<0.0012	<0.891246	.	.	.	.	1	PPM	LB/DAY
Chloroform (00067-66-3)	__X__	__X__	____	0.0016	1.188328	.	.	.	.	1	PPM	LB/DAY
Dichlorobromomethane (00075-27-4)	__X__	__X__	____	<0.0022	<1.633951	.	.	.	.	1	PPM	LB/DAY
Dichlorodifluormethane (75-71-8)				not required		not required		not required				
1,1-Dichloroethane (00075-34-3)	__X__	__X__	____	<0.0047	<3.4907135	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloroethane (00107-06-2)	__X__	__X__	____	<0.0028	<2.079574	.	.	.	.	1	PPM	LB/DAY
1,1-Dichloroethylene (00075-35-4)	__X__	__X__	____	<0.0028	<2.079574	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloropropane (00078-87-5)	__X__	__X__	____	<0.006	<4.45623	.	.	.	.	1	PPM	LB/DAY
1,3-Dichloropropylene (10061-02-6)	__X__	__X__	____	<0.005	<3.713525	.	.	.	.	1	PPM	LB/DAY
Ethyl Benzene (00100-41-4)	__X__	__X__	____	<0.0072	<5.347476	.	.	.	.	1	PPM	LB/DAY
Methyl Bromide (00074-83-9)	__X__	__X__	____	<0.0014	<1.039787	.	.	.	.	1	PPM	LB/DAY
Methyl Chloride (00074-87-3)	__X__	__X__	____	<0.0011	<0.8169755	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
Methylene Chloride (00075-09-2)	X	X		<0.0028	<2.079574	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-Tetrachloroethane (00079-34-5)	X	X		<0.0069	<5.1246645	.	.	.	.	1	PPM	LB/DAY
Tetrachloroethylene (00127-18-4)	X	X		<0.0041	<3.0450905	.	.	.	.	1	PPM	LB/DAY
Toluene (00108-88-3)	X	X		<0.006	<4.45623	.	.	.	.	1	PPM	LB/DAY
1,2-Trans-Dichloroethylene (00156-60-5)	X	X		<0.0016	<1.188328	.	.	.	.	1	PPM	LB/DAY
1,1,1-Trichloroethane (00071-55-6)	X	X		<0.0038	<2.822279	.	.	.	.	1	PPM	LB/DAY
1,1,2-Trichloroethane (00079-00-5)	X	X		<0.005	<3.713525	.	.	.	.	1	PPM	LB/DAY
Trichloroethylene (00079-01-6)	X	X		<0.0019	<1.4111395	.	.	.	.	1	PPM	LB/DAY
Trichlorofluoromethane (75-69-4)				not required		not required		not required				
Vinyl Chloride (00075-01-4)	X	X		<0.0018	<1.336869	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-Chlorophenol (00095-57-8)	X	X		<0.0033	<2.4509265	.	.	.	.	1	PPM	LB/DAY
2,4-Dichlorophenol (00120-83-2)	X	X		<0.0056	<4.159148	.	.	.	.	1	PPM	LB/DAY
2,4-Dimethylphenol (00105-67-9)	X	X		<0.0052	<3.862066	.	.	.	.	1	PPM	LB/DAY
4,6-Dinotro-O-Cresol (00534-52-1)	X	X		<0.024	<17.82492	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrophenol (00051-28-5)	X	X		<0.042	<31.19361	.	.	.	.	1	PPM	LB/DAY
2-Nitrophenol (00088-75-5)	X	X		<0.0036	<2.673738	.	.	.	.	1	PPM	LB/DAY
4-Nitrophenol (00100-02-7)	X	X		<0.0024	<1.782492	.	.	.	.	1	PPM	LB/DAY
P-Chloro-M-Cresol (00059-50-7)	X	X		<0.0075	<5.5702875	.	.	.	.	1	PPM	LB/DAY
Pentachlorophenol (00087-86-5)	X	X		<0.0036	<2.673738	.	.	.	.	1	PPM	LB/DAY
Phenol (00108-95-2)	X	X		<0.0027	<2.0053035	.	.	.	.	1	PPM	LB/DAY
2,4,6-Trichlorophenol (00088-06-2)	X	X		<0.0027	<2.0053035	.	.	.	.	1	PPM	LB/DAY

Continued from Page V5

Outfall 002

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
Acenaphthene (00083-32-9)	X	X		<0.003	<2.228115	.	.	.	.	1	PPM	LB/DAY
Acenaphthylene (00208-96-8)	X	X		<0.0035	<2.5994675	.	.	.	.	1	PPM	LB/DAY
Anthracene (00120-12-7)	X	X		<0.0019	<1.4111395	.	.	.	.	1	PPM	LB/DAY
Benzidine (00092-87-5)	X	X		<0.063	<46.790415	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Anthracene (00056-55-3)	X	X		<0.0078	<5.793099	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Pyrene (00050-32-8)	X	X		<0.0025	<1.8567625	.	.	.	.	1	PPM	LB/DAY
3,4-Benzofluoranthene (00205-99-2)	X	X		<0.0048	<3.564984	.	.	.	.	1	PPM	LB/DAY
Benzo (G H I) Perylene (00191-24-2)	X	X		<0.0041	<3.0450905	.	.	.	.	1	PPM	LB/DAY
Benzo (K) Fluoranthene (00207-08-9)	X	X		<0.0025	<1.8567625	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroethoxy) Methane (00111-91-1)	X	X		<0.0053	<3.9363365	.	.	.	.	1	PPM	LB/DAY
Bis(-2-Chloroethyl) Ether (00111-44-4)	X	X		<0.0057	<4.2334185	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroisopropyl) Ether (00108-60-1)	X	X		<0.0057	<4.2334185	.	.	.	.	1	PPM	LB/DAY
Bis(2-Ethylhexyl) Phthalate (00117-81-7)	X	X		<0.0025	<1.8567625	.	.	.	.	1	PPM	LB/DAY
4-Bromophenyl-Phenylether (00101-55-3)	X	X		<0.003	<2.228115	.	.	.	.	1	PPM	LB/DAY
Butylbenzyl Phthalate (00085-68-7)	X	X		<0.0025	<1.8567625	.	.	.	.	1	PPM	LB/DAY
2-Chloronaphthalene (00091-58-7)	X	X		<0.0046	<3.416443	.	.	.	.	1	PPM	LB/DAY
4-Chlorophenyl-Phenyl Ether (07005-72-3)	X	X		<0.0042	<3.119361	.	.	.	.	1	PPM	LB/DAY
Chrysene (00218-01-9)	X	X		<0.0025	<1.8567625	.	.	.	.	1	PPM	LB/DAY
Dibenzo (A H) Anthracene (00053-70-3)	X	X		<0.0025	<1.8567625	.	.	.	.	1	PPM	LB/DAY
1,2-Dichlorobenzene (00095-50-1)	X	X		<0.004	<2.97082	.	.	.	.	1	PPM	LB/DAY
1,3-Dichlorobenzene (00541-73-1)	X	X		<0.0031	<2.3023855	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-Dichlorobenzene (00106-46-7)	__X__	__X__	____	<0.0044	<3.267902	.	.	.	.	1	PPM	LB/DAY
3,3''-Dichlorobenzidine (00091-94-1)	__X__	__X__	____	<0.0165	<12.2546325	.	.	.	.	1	PPM	LB/DAY
Diethyl Phthalate (00084-66-2)	__X__	__X__	____	<0.0074	<5.496017	.	.	.	.	1	PPM	LB/DAY
Dimethyl Phthalate (00131-11-3)	__X__	__X__	____	<0.0075	<5.5702875	.	.	.	.	1	PPM	LB/DAY
Di-N-Butyl Phthalate (00084-74-2)	__X__	__X__	____	<0.0064	<4.753312	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrotoluene (00121-14-2)	__X__	__X__	____	<0.0057	<4.2334185	.	.	.	.	1	PPM	LB/DAY
2,6-Dinitrotoluene (00606-20-2)	__X__	__X__	____	<0.0034	<2.525197	.	.	.	.	1	PPM	LB/DAY
Di-N-Octyl Phthalate (00117-84-0)	__X__	__X__	____	<0.0025	<1.8567625	.	.	.	.	1	PPM	LB/DAY
1,2-Diphenylhydrazine (00122-66-7)	__X__	__X__	____	<0.0088	<6.535804	.	.	.	.	1	PPM	LB/DAY
Fluoranthene (00206-44-0)	__X__	__X__	____	<0.0022	<1.633951	.	.	.	.	1	PPM	LB/DAY
Fluorene (00086-73-7)	__X__	__X__	____	<0.0022	<1.633951	.	.	.	.	1	PPM	LB/DAY
Hexachlorobenzene (00118-74-1)	__X__	__X__	____	<0.0031	<2.3023855	.	.	.	.	1	PPM	LB/DAY
Hexachlorobutadiene (00087-68-3)	__X__	__X__	____	<0.0018	<1.336869	.	.	.	.	1	PPM	LB/DAY
Hexachlorocyclopentadiene (00077-47-4)	__X__	__X__	____	<0.01	<7.42705	.	.	.	.	1	PPM	LB/DAY
Hexachloroethane (00067-72-1)	__X__	__X__	____	<0.0024	<1.782492	.	.	.	.	1	PPM	LB/DAY
Indeno (1,2,3-Cd) Pyrene (00193-39-5)	__X__	__X__	____	<0.0037	<2.7480085	.	.	.	.	1	PPM	LB/DAY
Isophorone (00078-59-1)	__X__	__X__	____	<0.0051	<3.7877955	.	.	.	.	1	PPM	LB/DAY
Naphthalene (00091-20-3)	__X__	__X__	____	<0.0038	<2.822279	.	.	.	.	1	PPM	LB/DAY
Nitrobenzene (00098-95-3)	__X__	__X__	____	<0.0042	<3.119361	.	.	.	.	1	PPM	LB/DAY
N-Nitrosodimethylamine (00062-75-9)	__X__	__X__	____	<0.0062	<4.604771	.	.	.	.	1	PPM	LB/DAY
N-Nitroso-Di-N-Propylamine (00621-64-7)	__X__	__X__	____	<0.0036	<2.673738	.	.	.	.	1	PPM	LB/DAY

Continued from Page V7

Outfall 002

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units: Concentration	3. Units: Mass
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-Nitrosodiphenylamine (00086-30-6)	X	X		<0.0027	<2.0053035	.	.	.	.	1	PPM	LB/DAY
Phenanthrene (00085-01-8)	X	X		<0.0054	<4.010607	.	.	.	.	1	PPM	LB/DAY
Pyrene (00129-00-0)	X	X		<0.0038	<2.822279	.	.	.	.	1	PPM	LB/DAY
1,2,4-Trichlorobenzene (00120-82-1)	X	X		<0.0079	<5.8673695	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
Aldrin (00309-00-2)	X	X		<0.000016	<0.01188328	.	.	.	.	1	PPM	LB/DAY
Alpha BHC (00319-84-6)	X	X		<7E-6	<0.005198935	.	.	.	.	1	PPM	LB/DAY
Beta BHC (00319-85-7)	X	X		<0.000013	<0.009655165	.	.	.	.	1	PPM	LB/DAY
Gamma BHC (00058-89-9)	X	X		<0.000011	<0.008169755	.	.	.	.	1	PPM	LB/DAY
Delta BHC (00319-86-8)	X	X		<0.000015	<0.011140575	.	.	.	.	1	PPM	LB/DAY
Chlordane (00057-74-9)	X	X		<0.000014	<0.01039787	.	.	.	.	1	PPM	LB/DAY
4,4pr DDT (00050-29-3)	X	X		<0.000017	<0.012625985	.	.	.	.	1	PPM	LB/DAY
4,4pr DDE (00072-55-9)	X	X		<0.000017	<0.012625985	.	.	.	.	1	PPM	LB/DAY
4,4pr DDD (00072-54-8)	X	X		<0.000021	<0.015596805	.	.	.	.	1	PPM	LB/DAY
Dieldrin (00060-57-1)	X	X		<0.00001	<0.00742705	.	.	.	.	1	PPM	LB/DAY
Alpha-Endosulfan (00115-29-7)	X	X		<0.000014	<0.01039787	.	.	.	.	1	PPM	LB/DAY
Beta-Endosulfan (00115-29-7)	X	X		<0.000017	<0.012625985	.	.	.	.	1	PPM	LB/DAY
Endosulfan Sulfate (01031-07-8)	X	X		<9E-6	<0.006684345	.	.	.	.	1	PPM	LB/DAY
Endrin (00072-20-8)	X	X		<0.00002	<0.0148541	.	.	.	.	1	PPM	LB/DAY
Endrin Aldehyde (07421-93-4)	X	X		<0.000019	<0.014111395	.	.	.	.	1	PPM	LB/DAY
Heptachlor (00076-44-8)	X	X		<0.000016	<0.01188328	.	.	.	.	1	PPM	LB/DAY

Continued from Page V8

Outfall 002

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - PESTICIDES (CONTINUED)												
Heptachlor-Epoxide (01024-57-3)	X	X		<0.000012	<0.00891246	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.001	<0.742705	.	.	.	.	1	PPM	LB/DAY
Toxaphene (08001-35-2)	X	X		<0.000057	<0.042334185	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VA0004146

V. Intake and effluent characteristics (continued from page 3 of Form 2c) Outfall 003

Part A- You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

	2. Effluent						3. Units		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
	Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Biochemical Oxygen Demand	<2	<12634.33	.	.	.	.	1	PPM	LB/DAY
Chemical Oxygen Demand	<5	<31585.825	.	.	.	.	1	PPM	LB/DAY
Total Organic Carbon	4.8	30322.392	.	.	.	.	1	PPM	LB/DAY
Total Suspended Solids	12.4	78332.846	.	.	.	.	1	PPM	LB/DAY
Ammonia,total	0.08	505.3732	.	.	.	.	1	PPM	LB/DAY
Flow	757	.	757	.	680.6567	.	1031	MGD	.
Temperature (Winter)	16.4	.	13.3333	.	13.3333	.	3	DEGREES C	.
Temperature (Summer)	42.8	.	39.8667	.	39.8667	.	3	DEGREES C	.
pH	7.7 (min)	7.7 (max)	N/A	N/A	N/A	N/A	1	STD. UNITS	.

PART B.

	Mark X		2. Effluent						3. Units	
	believed present	believed absent	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
			Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Bromide,total (24959-67-6)	__X__	_____	0.33	2084.66445	.	.	.	.	1	PPM	LB/DAY
Chlorine, Total Residual	__X__	_____	<0.1	<631.7165	<0.1	<631.7165	<0.1	<578.929	136	PPM	LB/DAY
Color	__X__	_____	20	.	.	.	.	.	1	NTU	.
Fecal Coliform	_____	__X__	No Sample	.	.	.	.	.	0	COL/100ML	.
Fluoride (16984-48-8)	__X__	_____	0.141	890.720265	.	.	.	.	1	PPM	LB/DAY
Nitrate + Nitrite	__X__	_____	0.86	5432.7619	.	.	.	.	1	PPM	LB/DAY

Item V-B Continued Outfall 003

Part C.

1. POLLUTANT	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
Nitrogen, Total Org. As N	X		0.43	2716.38095	.	.	.	.	1	PPM	LB/DAY
Oil & Grease	X		<5	<31585.825	.	.	.	.	1	PPM	LB/DAY
Phosphorus (As P), Total (07723-14-0)	X		0.1	631.7165	0.1	630.1013	<0.0703	<397.9896	30	PPM	LB/DAY
j. Radioactivity **********											
Alpha, Total	X		<1.06	.	.	.	.	.	1	PCI/LITER	.
Beta, Total	X		3.23	.	.	.	.	.	1	PCI/LITER	.
Radium,total		X	No Sample	.	.	.	.	.	0	PCI/LITER	.
Radium 226 , Total		X	No Sample	.	.	.	.	.	0	PCI/LITER	.
Sulfate (As So4) (14808-79-8)	X		57.2	361341.838	.	.	.	.	1	PPM	LB/DAY
Sulfide (As S)	X		<0.01	<63.17165	.	.	.	.	1	PPM	LB/DAY
Sulfite (As So3) (14265-45-3)	X		1.28	8085.9712	.	.	.	.	1	PPM	LB/DAY
Surfactants	X		<0.025	<157.929125	.	.	.	.	1	PPM	LB/DAY
Aluminum,total (07429-90-5)	X		0.21	1326.60465	.	.	.	.	1	PPM	LB/DAY
Barium,total (07440-39-3)	X		0.121	764.376965	.	.	.	.	1	PPM	LB/DAY
Boron,total (07440-42-8)	X		0.07	442.20155	.	.	.	.	1	PPM	LB/DAY
Cobalt,total (07440-48-4)	X		<0.003	<18.951495	.	.	.	.	1	PPM	LB/DAY
Iron,total (07439-89-6)	X		0.56	3537.6124	.	.	.	.	1	PPM	LB/DAY
Magnesium,total (07439-95-4)	X		5.54	34997.0941	.	.	.	.	1	PPM	LB/DAY
Molybdenum,total (07439-98-7)	X		0.002	12.63433	.	.	.	.	1	PPM	LB/DAY
Manganese,total (07439-96-5)	X		0.06	379.0299	.	.	.	.	1	PPM	LB/DAY
Tin,total (07440-31-5)	X		<0.005	<31.585825	.	.	.	.	1	PPM	LB/DAY
Titanium,total (07440-32-6)	X		<0.002	<12.63433	.	.	.	.	1	PPM	LB/DAY

Continued from Page V2

Outfall 003

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units: Concentration	3. Units: Mass
METALS, CYANIDE, AND TOTAL PHENOLS												
Antimony,total (07440-36-0)	__X__	__X__	____	<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
Arsenic,total (07440-38-2)	__X__	__X__	____	<0.003	<18.951495	.	.	.	.	1	PPM	LB/DAY
Beryllium,total (07440-41-7)	__X__	__X__	____	<0.0002	<1.263433	.	.	.	.	1	PPM	LB/DAY
Cadmium,total (07440-43-9)	__X__	__X__	____	<0.0003	<1.8951495	.	.	.	.	1	PPM	LB/DAY
Chromium,total (07440-47-3)	__X__	__X__	____	<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
Copper,total (07440-50-8)	__X__	__X__	____	0.004	25.26866	.	.	.	.	1	PPM	LB/DAY
Lead,total (07439-92-1)	__X__	__X__	____	<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
Mercury,total (07439-97-6)	__X__	__X__	____	2.08E-6	0.0131397032	.	.	.	.	1	PPM	LB/DAY
Nickel,total (07440-02-0)	__X__	__X__	____	<0.005	<31.585825	.	.	.	.	1	PPM	LB/DAY
Selenium,total (07782-49-2)	__X__	__X__	____	<0.003	<18.951495	.	.	.	.	1	PPM	LB/DAY
Silver,total (07440-22-4)	__X__	__X__	____	<0.0001	<0.6317165	.	.	.	.	1	PPM	LB/DAY
Thallium,total (07440-28-0)	__X__	__X__	____	<0.0002	<1.263433	.	.	.	.	1	PPM	LB/DAY
Zinc,total (07440-66-6)	__X__	__X__	____	0.01	63.17165	.	.	.	.	1	PPM	LB/DAY
Cyanide , Total (00057-12-5)	__X__	__X__	____	<0.01	<63.17165	.	.	.	.	1	PPM	LB/DAY
Total Phenols	__X__	__X__	____	0.04	252.6866	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
Dioxin Screen	_____	_____	__X_	No Sample	.	.	.	.	.	.	PPM	LB/DAY

Continued from Page V3

Outfall 003

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - VOLATILE COMPOUNDS												
Acrolein (00107-02-8)	__X__	__X__	____	<0.01	<63.17165	.	.	.	.	1	PPM	LB/DAY
Acrylonitrile (00107-13-1)	__X__	__X__	____	<0.0015	<9.4757475	.	.	.	.	1	PPM	LB/DAY
Benzene (00071-43-2)	__X__	__X__	____	<0.0044	<27.795526	.	.	.	.	1	PPM	LB/DAY
BIS (Chloromethyl) Ether (542-88-1)				not required		not required		not required				
Bromoform (00075-25-2)	__X__	__X__	____	<0.0047	<29.6906755	.	.	.	.	1	PPM	LB/DAY
Carbon Tetrachloride (00056-23-5)	__X__	__X__	____	<0.0028	<17.688062	.	.	.	.	1	PPM	LB/DAY
Chlorobenzene (00108-90-7)	__X__	__X__	____	<0.006	<37.90299	.	.	.	.	1	PPM	LB/DAY
Chlorodibromomethane (00124-48-1)	__X__	__X__	____	<0.0031	<19.5832115	.	.	.	.	1	PPM	LB/DAY
Chloroethane (00075-00-3)	__X__	__X__	____	<0.0011	<6.9488815	.	.	.	.	1	PPM	LB/DAY
2-Chloroethylvinyl Ether (00110-75-8)	__X__	__X__	____	<0.0012	<7.580598	.	.	.	.	1	PPM	LB/DAY
Chloroform (00067-66-3)	__X__	__X__	____	0.00189	11.93944185	.	.	.	.	1	PPM	LB/DAY
Dichlorobromomethane (00075-27-4)	__X__	__X__	____	<0.0022	<13.897763	.	.	.	.	1	PPM	LB/DAY
Dichlorodifluormethane (75-71-8)				not required		not required		not required				
1,1-Dichloroethane (00075-34-3)	__X__	__X__	____	<0.0047	<29.6906755	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloroethane (00107-06-2)	__X__	__X__	____	<0.0028	<17.688062	.	.	.	.	1	PPM	LB/DAY
1,1-Dichloroethylene (00075-35-4)	__X__	__X__	____	<0.0028	<17.688062	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloropropane (00078-87-5)	__X__	__X__	____	<0.006	<37.90299	.	.	.	.	1	PPM	LB/DAY
1,3-Dichloropropylene (10061-02-6)	__X__	__X__	____	<0.005	<31.585825	.	.	.	.	1	PPM	LB/DAY
Ethyl Benzene (00100-41-4)	__X__	__X__	____	<0.0072	<45.483588	.	.	.	.	1	PPM	LB/DAY
Methyl Bromide (00074-83-9)	__X__	__X__	____	<0.0014	<8.844031	.	.	.	.	1	PPM	LB/DAY
Methyl Chloride (00074-87-3)	__X__	__X__	____	<0.0011	<6.9488815	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
Methylene Chloride (00075-09-2)	__X__	__X__	____	<0.0028	<17.688062	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-Tetrachloroethane (00079-34-5)	__X__	__X__	____	<0.0069	<43.5884385	.	.	.	.	1	PPM	LB/DAY
Tetrachloroethylene (00127-18-4)	__X__	__X__	____	<0.0041	<25.9003765	.	.	.	.	1	PPM	LB/DAY
Toluene (00108-88-3)	__X__	__X__	____	<0.006	<37.90299	.	.	.	.	1	PPM	LB/DAY
1,2-Trans-Dichloroethylene (00156-60-5)	__X__	__X__	____	<0.0016	<10.107464	.	.	.	.	1	PPM	LB/DAY
1,1,1-Trichloroethane (00071-55-6)	__X__	__X__	____	<0.0038	<24.005227	.	.	.	.	1	PPM	LB/DAY
1,1,2-Trichloroethane (00079-00-5)	__X__	__X__	____	<0.005	<31.585825	.	.	.	.	1	PPM	LB/DAY
Trichloroethylene (00079-01-6)	__X__	__X__	____	<0.0019	<12.0026135	.	.	.	.	1	PPM	LB/DAY
Trichlorofluoromethane (75-69-4)				not required		not required		not required				
Vinyl Chloride (00075-01-4)	__X__	__X__	____	<0.0018	<11.370897	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-Chlorophenol (00095-57-8)	__X__	__X__	____	<0.0033	<20.8466445	.	.	.	.	1	PPM	LB/DAY
2,4-Dichlorophenol (00120-83-2)	__X__	__X__	____	<0.0056	<35.376124	.	.	.	.	1	PPM	LB/DAY
2,4-Dimethylphenol (00105-67-9)	__X__	__X__	____	<0.0052	<32.849258	.	.	.	.	1	PPM	LB/DAY
4,6-Dinotro-O-Cresol (00534-52-1)	__X__	__X__	____	<0.024	<151.61196	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrophenol (00051-28-5)	__X__	__X__	____	<0.042	<265.32093	.	.	.	.	1	PPM	LB/DAY
2-Nitrophenol (00088-75-5)	__X__	__X__	____	<0.0036	<22.741794	.	.	.	.	1	PPM	LB/DAY
4-Nitrophenol (00100-02-7)	__X__	__X__	____	<0.0024	<15.161196	.	.	.	.	1	PPM	LB/DAY
P-Chloro-M-Cresol (00059-50-7)	__X__	__X__	____	<0.0075	<47.3787375	.	.	.	.	1	PPM	LB/DAY
Pentachlorophenol (00087-86-5)	__X__	__X__	____	<0.0036	<22.741794	.	.	.	.	1	PPM	LB/DAY
Phenol (00108-95-2)	__X__	__X__	____	<0.0027	<17.0563455	.	.	.	.	1	PPM	LB/DAY
2,4,6-Trichlorophenol (00088-06-2)	__X__	__X__	____	<0.0027	<17.0563455	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	2. Effluent: No. of Analyses	3. Units: Concentration	3. Units: Mass
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
Acenaphthene (00083-32-9)	X	X		<0.003	<18.951495	.	.	.	.	1	PPM	LB/DAY
Acenaphthylene (00208-96-8)	X	X		<0.0035	<22.1100775	.	.	.	.	1	PPM	LB/DAY
Anthracene (00120-12-7)	X	X		<0.0019	<12.0026135	.	.	.	.	1	PPM	LB/DAY
Benzidine (00092-87-5)	X	X		<0.063	<397.981395	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Anthracene (00056-55-3)	X	X		<0.0078	<49.273887	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Pyrene (00050-32-8)	X	X		<0.0025	<15.7929125	.	.	.	.	1	PPM	LB/DAY
3,4-Benzofluoranthene (00205-99-2)	X	X		<0.0048	<30.322392	.	.	.	.	1	PPM	LB/DAY
Benzo (G H I) Perylene (00191-24-2)	X	X		<0.0041	<25.9003765	.	.	.	.	1	PPM	LB/DAY
Benzo (K) Fluoranthene (00207-08-9)	X	X		<0.0025	<15.7929125	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroethoxy) Methane (00111-91-1)	X	X		<0.0053	<33.4809745	.	.	.	.	1	PPM	LB/DAY
Bis(-2-Chloroethyl) Ether (00111-44-4)	X	X		<0.0057	<36.0078405	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroisopropyl) Ether (00108-60-1)	X	X		<0.0057	<36.0078405	.	.	.	.	1	PPM	LB/DAY
Bis(2-Ethylhexyl) Phthalate (00117-81-7)	X	X		<0.0025	<15.7929125	.	.	.	.	1	PPM	LB/DAY
4-Bromophenyl-Phenylether (00101-55-3)	X	X		<0.003	<18.951495	.	.	.	.	1	PPM	LB/DAY
Butylbenzyl Phthalate (00085-68-7)	X	X		<0.0025	<15.7929125	.	.	.	.	1	PPM	LB/DAY
2-Chloronaphthalene (00091-58-7)	X	X		<0.0046	<29.058959	.	.	.	.	1	PPM	LB/DAY
4-Chlorophenyl-Phenyl Ether (07005-72-3)	X	X		<0.0042	<26.532093	.	.	.	.	1	PPM	LB/DAY
Chrysene (00218-01-9)	X	X		<0.0025	<15.7929125	.	.	.	.	1	PPM	LB/DAY
Dibenzo (A H) Anthracene (00053-70-3)	X	X		<0.0025	<15.7929125	.	.	.	.	1	PPM	LB/DAY
1,2-Dichlorobenzene (00095-50-1)	X	X		<0.004	<25.26866	.	.	.	.	1	PPM	LB/DAY
1,3-Dichlorobenzene (00541-73-1)	X	X		<0.0031	<19.5832115	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units: Concentration	3. Units: Mass
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-Dichlorobenzene (00106-46-7)	__X__	__X__	____	<0.0044	<27.795526	.	.	.	.	1	PPM	LB/DAY
3,3''-Dichlorobenzidine (00091-94-1)	__X__	__X__	____	<0.0165	<104.2332225	.	.	.	.	1	PPM	LB/DAY
Diethyl Phthalate (00084-66-2)	__X__	__X__	____	<0.0074	<46.747021	.	.	.	.	1	PPM	LB/DAY
Dimethyl Phthalate (00131-11-3)	__X__	__X__	____	<0.0075	<47.3787375	.	.	.	.	1	PPM	LB/DAY
Di-N-Butyl Phthalate (00084-74-2)	__X__	__X__	____	<0.0064	<40.429856	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrotoluene (00121-14-2)	__X__	__X__	____	<0.0057	<36.0078405	.	.	.	.	1	PPM	LB/DAY
2,6-Dinitrotoluene (00606-20-2)	__X__	__X__	____	<0.0034	<21.478361	.	.	.	.	1	PPM	LB/DAY
Di-N-Octyl Phthalate (00117-84-0)	__X__	__X__	____	<0.0025	<15.7929125	.	.	.	.	1	PPM	LB/DAY
1,2-Diphenylhydrazine (00122-66-7)	__X__	__X__	____	<0.0088	<55.591052	.	.	.	.	1	PPM	LB/DAY
Fluoranthene (00206-44-0)	__X__	__X__	____	<0.0022	<13.897763	.	.	.	.	1	PPM	LB/DAY
Fluorene (00086-73-7)	__X__	__X__	____	<0.0022	<13.897763	.	.	.	.	1	PPM	LB/DAY
Hexachlorobenzene (00118-74-1)	__X__	__X__	____	<0.0031	<19.5832115	.	.	.	.	1	PPM	LB/DAY
Hexachlorobutadiene (00087-68-3)	__X__	__X__	____	<0.0018	<11.370897	.	.	.	.	1	PPM	LB/DAY
Hexachlorocyclopentadiene (00077-47-4)	__X__	__X__	____	<0.01	<63.17165	.	.	.	.	1	PPM	LB/DAY
Hexachloroethane (00067-72-1)	__X__	__X__	____	<0.0024	<15.161196	.	.	.	.	1	PPM	LB/DAY
Indeno (1,2,3-Cd) Pyrene (00193-39-5)	__X__	__X__	____	<0.0037	<23.3735105	.	.	.	.	1	PPM	LB/DAY
Isophorone (00078-59-1)	__X__	__X__	____	<0.0051	<32.2175415	.	.	.	.	1	PPM	LB/DAY
Naphthalene (00091-20-3)	__X__	__X__	____	<0.0038	<24.005227	.	.	.	.	1	PPM	LB/DAY
Nitrobenzene (00098-95-3)	__X__	__X__	____	<0.0042	<26.532093	.	.	.	.	1	PPM	LB/DAY
N-Nitrosodimethylamine (00062-75-9)	__X__	__X__	____	<0.0062	<39.166423	.	.	.	.	1	PPM	LB/DAY
N-Nitroso-Di-N-Propylamine (00621-64-7)	__X__	__X__	____	<0.0036	<22.741794	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-Nitrosodiphenylamine (00086-30-6)	X	X		<0.0027	<17.0563455	.	.	.	.	1	PPM	LB/DAY
Phenanthrene (00085-01-8)	X	X		<0.0054	<34.112691	.	.	.	.	1	PPM	LB/DAY
Pyrene (00129-00-0)	X	X		<0.0038	<24.005227	.	.	.	.	1	PPM	LB/DAY
1,2,4-Trichlorobenzene (00120-82-1)	X	X		<0.0079	<49.9056035	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
Aldrin (00309-00-2)	X	X		<0.000016	<0.10107464	.	.	.	.	1	PPM	LB/DAY
Alpha BHC (00319-84-6)	X	X		<7E-6	<0.044220155	.	.	.	.	1	PPM	LB/DAY
Beta BHC (00319-85-7)	X	X		<0.000013	<0.082123145	.	.	.	.	1	PPM	LB/DAY
Gamma BHC (00058-89-9)	X	X		<0.000011	<0.069488815	.	.	.	.	1	PPM	LB/DAY
Delta BHC (00319-86-8)	X	X		<0.000015	<0.094757475	.	.	.	.	1	PPM	LB/DAY
Chlordane (00057-74-9)	X	X		<0.000014	<0.08844031	.	.	.	.	1	PPM	LB/DAY
4,4pr DDT (00050-29-3)	X	X		<0.000017	<0.107391805	.	.	.	.	1	PPM	LB/DAY
4,4pr DDE (00072-55-9)	X	X		<0.000017	<0.107391805	.	.	.	.	1	PPM	LB/DAY
4,4pr DDD (00072-54-8)	X	X		<0.000021	<0.132660465	.	.	.	.	1	PPM	LB/DAY
Dieldrin (00060-57-1)	X	X		<0.00001	<0.06317165	.	.	.	.	1	PPM	LB/DAY
Alpha-Endosulfan (00115-29-7)	X	X		<0.000014	<0.08844031	.	.	.	.	1	PPM	LB/DAY
Beta-Endosulfan (00115-29-7)	X	X		<0.000017	<0.107391805	.	.	.	.	1	PPM	LB/DAY
Endosulfan Sulfate (01031-07-8)	X	X		<9E-6	<0.056854485	.	.	.	.	1	PPM	LB/DAY
Endrin (00072-20-8)	X	X		<0.00002	<0.1263433	.	.	.	.	1	PPM	LB/DAY
Endrin Aldehyde (07421-93-4)	X	X		<0.000019	<0.120026135	.	.	.	.	1	PPM	LB/DAY
Heptachlor (00076-44-8)	X	X		<0.000016	<0.10107464	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	Mass	B. MAXIMUM 30 DAY VALUE Concentration	Mass	C. LONG TERM AVRG. VALUE Concentration	Mass	3. Units No. of Analyses	Concentration	Mass
GCMS FRACTION - PESTICIDES (CONTINUED)												
Heptachlor-Epoxide (01024-57-3)	X	X		<0.000012	<0.07580598	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.001	<6.317165	.	.	.	.	1	PPM	LB/DAY
Toxaphene (08001-35-2)	X	X		<0.000057	<0.360078405	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VA0004146

V. Intake and effluent characteristics (continued from page 3 of Form 2c) Outfall 004

Part A- You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

	2. Effluent							3. Units	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
	Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Biochemical Oxygen Demand	<3	<283.64655	.	.	.	.	1	PPM	LB/DAY
Chemical Oxygen Demand	<5	<472.74425	.	.	.	.	1	PPM	LB/DAY
Total Organic Carbon	13.3	1293.016025	13.3	1084.3576	<2.2833	<196.8967	36	PPM	LB/DAY
Total Suspended Solids	51.5	7447.870775	27.6	2393.6715	11.7629	1017.8366	70	PPM	LB/DAY
Ammonia,total	2.76	236.08005	2	165.6586	0.6357	54.3066	141	PPM	LB/DAY
Flow	21.25	.	13.13	.	10.0692	.	790	MGD	.
Temperature (Winter)	12.15	.	10.61	.	10.61	.	3	DEGREES C	.
Temperature (Summer)	32.2	.	30.6	.	30.6	.	3	DEGREES C	.
pH	6 (min)	8.4 (max)	N/A	N/A	N/A	N/A	70	STD. UNITS	.

PART B.

	Mark X		2. Effluent						3. Units	
	believed present	believed absent	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
			Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Bromide,total (24959-67-6)	__X__	_____	0.47	44.4379595	.	.	.	.	1	PPM	LB/DAY
Chlorine, Total Residual	__X__	_____	<0.1	<9.454885	.	.	.	.	1	PPM	LB/DAY
Color	__X__	_____	0	.	.	.	.	.	0	NTU	.
Fecal Coliform	_____	__X__	No Sample	.	.	.	.	.	0	COL/100ML	.
Fluoride (16984-48-8)	__X__	_____	0.399	37.72499115	.	.	.	.	1	PPM	LB/DAY
Nitrate + Nitrite	__X__	_____	1.73	202.5389915	1.73	145.804	0.7786	67.3355	172	PPM	LB/DAY

Item V-B Continued Outfall 004

Part C.

1. POLLUTANT	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
Nitrogen, Total Org. As N	__X__	_____	2.86	270.409711	.	.	.	.	1	PPM	LB/DAY
Oil & Grease	__X__	_____	<5	<886.65625	<5	<568.5031	<5	<432.4364	70	PPM	LB/DAY
Phosphorus (As P), Total (07723-14-0)	__X__	_____	0.49	47.6374325	0.16	13.0449	0.0372	3.1505	176	PPM	LB/DAY
j. Radioactivity **********											
Alpha, Total	__X__	_____	<2.83	.	.	.	.	.	1	PCI/LITER	.
Beta, Total	__X__	_____	4.44	.	.	.	.	.	1	PCI/LITER	.
Radium,total	_____	__X__	No Sample	.	.	.	.	.	0	PCI/LITER	.
Radium 226 , Total	_____	__X__	No Sample	.	.	.	.	.	0	PCI/LITER	.
Sulfate (As So4) (14808-79-8)	__X__	_____	150.31	14211.6376435	.	.	.	.	1	PPM	LB/DAY
Sulfide (As S)	__X__	_____	<0.01	<0.9454885	.	.	.	.	1	PPM	LB/DAY
Sulfite (As So3) (14265-45-3)	_____	__X__	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Surfactants	__X__	_____	<0.025	<2.36372125	.	.	.	.	1	PPM	LB/DAY
Aluminum,total (07429-90-5)	__X__	_____	0.24	22.691724	.	.	.	.	1	PPM	LB/DAY
Barium,total (07440-39-3)	__X__	_____	0.343	32.43025555	.	.	.	.	1	PPM	LB/DAY
Boron,total (07440-42-8)	__X__	_____	2.21	208.9529585	.	.	.	.	1	PPM	LB/DAY
Cobalt,total (07440-48-4)	__X__	_____	0.006	0.5672931	.	.	.	.	1	PPM	LB/DAY
Iron,total (07439-89-6)	__X__	_____	0.07	6.6184195	.	.	.	.	1	PPM	LB/DAY
Magnesium,total (07439-95-4)	__X__	_____	9.7	917.123845	.	.	.	.	1	PPM	LB/DAY
Molybdenum,total (07439-98-7)	__X__	_____	0.113	10.68402005	.	.	.	.	1	PPM	LB/DAY
Manganese,total (07439-96-5)	__X__	_____	0.08	7.563908	.	.	.	.	1	PPM	LB/DAY
Tin,total (07440-31-5)	__X__	_____	<0.005	<0.47274425	.	.	.	.	1	PPM	LB/DAY
Titanium,total (07440-32-6)	__X__	_____	0.029	2.74191665	.	.	.	.	1	PPM	LB/DAY

Continued from Page V2

Outfall 004

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units No. of Analyses	Concentration	Mass
METALS, CYANIDE, AND TOTAL PHENOLS												
Antimony,total (07440-36-0)	__X__	__X__	____	0.008	0.7563908	.	.	.	.	1	PPM	LB/DAY
Arsenic,total (07440-38-2)	__X__	__X__	____	0.054	5.1056379	.	.	.	.	1	PPM	LB/DAY
Beryllium,total (07440-41-7)	__X__	__X__	____	0.0004	0.03781954	.	.	.	.	1	PPM	LB/DAY
Cadmium,total (07440-43-9)	__X__	__X__	____	0.0012	0.11345862	.	.	.	.	1	PPM	LB/DAY
Chromium,total (07440-47-3)	__X__	__X__	____	0.002	0.1890977	.	.	.	.	1	PPM	LB/DAY
Copper,total (07440-50-8)	__X__	__X__	____	0.009	0.85093965	.	.	.	.	1	PPM	LB/DAY
Lead,total (07439-92-1)	__X__	__X__	____	<0.001	<0.09454885	.	.	.	.	1	PPM	LB/DAY
Mercury,total (07439-97-6)	__X__	__X__	____	<0.0002	<0.01890977	.	.	.	.	1	PPM	LB/DAY
Nickel,total (07440-02-0)	__X__	__X__	____	0.025	2.36372125	.	.	.	.	1	PPM	LB/DAY
Selenium,total (07782-49-2)	__X__	__X__	____	0.019	1.79642815	.	.	.	.	1	PPM	LB/DAY
Silver,total (07440-22-4)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Thallium,total (07440-28-0)	__X__	__X__	____	0.0007	0.066184195	.	.	.	.	1	PPM	LB/DAY
Zinc,total (07440-66-6)	__X__	__X__	____	0.033	3.12011205	.	.	.	.	1	PPM	LB/DAY
Cyanide , Total (00057-12-5)	__X__	__X__	____	<0.01	<0.9454885	.	.	.	.	1	PPM	LB/DAY
Total Phenols	__X__	__X__	____	<0.01	<0.9454885	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
Dioxin Screen	_____	_____	__X_	No Sample	.	.	.	.	.	.	PPM	LB/DAY

Continued from Page V3

Outfall 004

1. POLLUTANT	Mark X testing required	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION - VOLATILE COMPOUNDS												
Acrolein (00107-02-8)	__X__	__X__	____	<0.01	<0.9454885	.	.	.	.	1	PPM	LB/DAY
Acrylonitrile (00107-13-1)	__X__	__X__	____	<0.0015	<0.141823275	.	.	.	.	1	PPM	LB/DAY
Benzene (00071-43-2)	__X__	__X__	____	<0.0044	<0.41601494	.	.	.	.	1	PPM	LB/DAY
BIS (Chloromethyl) Ether (542-88-1)				not required		not required		not required				
Bromoform (00075-25-2)	__X__	__X__	____	<0.0047	<0.444379595	.	.	.	.	1	PPM	LB/DAY
Carbon Tetrachloride (00056-23-5)	__X__	__X__	____	<0.0028	<0.26473678	.	.	.	.	1	PPM	LB/DAY
Chlorobenzene (00108-90-7)	__X__	__X__	____	<0.006	<0.5672931	.	.	.	.	1	PPM	LB/DAY
Chlorodibromomethane (00124-48-1)	__X__	__X__	____	<0.0031	<0.293101435	.	.	.	.	1	PPM	LB/DAY
Chloroethane (00075-00-3)	__X__	__X__	____	<0.0011	<0.104003735	.	.	.	.	1	PPM	LB/DAY
2-Chloroethylvinyl Ether (00110-75-8)	__X__	__X__	____	<0.0012	<0.11345862	.	.	.	.	1	PPM	LB/DAY
Chloroform (00067-66-3)	__X__	__X__	____	<0.0016	<0.15127816	.	.	.	.	1	PPM	LB/DAY
Dichlorobromomethane (00075-27-4)	__X__	__X__	____	<0.0022	<0.20800747	.	.	.	.	1	PPM	LB/DAY
Dichlorodifluormethane (75-71-8)				not required		not required		not required				
1,1-Dichloroethane (00075-34-3)	__X__	__X__	____	<0.0047	<0.444379595	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloroethane (00107-06-2)	__X__	__X__	____	<0.0028	<0.26473678	.	.	.	.	1	PPM	LB/DAY
1,1-Dichloroethylene (00075-35-4)	__X__	__X__	____	<0.0028	<0.26473678	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloropropane (00078-87-5)	__X__	__X__	____	<0.006	<0.5672931	.	.	.	.	1	PPM	LB/DAY
1,3-Dichloropropylene (10061-02-6)	__X__	__X__	____	<0.005	<0.47274425	.	.	.	.	1	PPM	LB/DAY
Ethyl Benzene (00100-41-4)	__X__	__X__	____	<0.0072	<0.68075172	.	.	.	.	1	PPM	LB/DAY
Methyl Bromide (00074-83-9)	__X__	__X__	____	<0.0014	<0.13236839	.	.	.	.	1	PPM	LB/DAY
Methyl Chloride (00074-87-3)	__X__	__X__	____	<0.0011	<0.104003735	.	.	.	.	1	PPM	LB/DAY

Continued from Page V4

Outfall 004

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
Methylene Chloride (00075-09-2)	__X__	__X__	____	<0.0028	<0.26473678	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-Tetrachloroethane (00079-34-5)	__X__	__X__	____	<0.0069	<0.652387065	.	.	.	.	1	PPM	LB/DAY
Tetrachloroethylene (00127-18-4)	__X__	__X__	____	<0.0041	<0.387650285	.	.	.	.	1	PPM	LB/DAY
Toluene (00108-88-3)	__X__	__X__	____	<0.006	<0.5672931	.	.	.	.	1	PPM	LB/DAY
1,2-Trans-Dichloroethylene (00156-60-5)	__X__	__X__	____	<0.0016	<0.15127816	.	.	.	.	1	PPM	LB/DAY
1,1,1-Trichloroethane (00071-55-6)	__X__	__X__	____	<0.0038	<0.35928563	.	.	.	.	1	PPM	LB/DAY
1,1,2-Trichloroethane (00079-00-5)	__X__	__X__	____	<0.005	<0.47274425	.	.	.	.	1	PPM	LB/DAY
Trichloroethylene (00079-01-6)	__X__	__X__	____	<0.0019	<0.179642815	.	.	.	.	1	PPM	LB/DAY
Trichlorofluoromethane (75-69-4)				not required		not required		not required				
Vinyl Chloride (00075-01-4)	__X__	__X__	____	<0.0018	<0.17018793	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-Chlorophenol (00095-57-8)	__X__	__X__	____	<0.0033	<0.312011205	.	.	.	.	1	PPM	LB/DAY
2,4-Dichlorophenol (00120-83-2)	__X__	__X__	____	<0.0056	<0.52947356	.	.	.	.	1	PPM	LB/DAY
2,4-Dimethylphenol (00105-67-9)	__X__	__X__	____	<0.0052	<0.49165402	.	.	.	.	1	PPM	LB/DAY
4,6-Dinotro-O-Cresol (00534-52-1)	__X__	__X__	____	<0.024	<2.2691724	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrophenol (00051-28-5)	__X__	__X__	____	<0.042	<3.9710517	.	.	.	.	1	PPM	LB/DAY
2-Nitrophenol (00088-75-5)	__X__	__X__	____	<0.0036	<0.34037586	.	.	.	.	1	PPM	LB/DAY
4-Nitrophenol (00100-02-7)	__X__	__X__	____	<0.0024	<0.22691724	.	.	.	.	1	PPM	LB/DAY
P-Chloro-M-Cresol (00059-50-7)	__X__	__X__	____	<0.0075	<0.709116375	.	.	.	.	1	PPM	LB/DAY
Pentachlorophenol (00087-86-5)	__X__	__X__	____	<0.0036	<0.34037586	.	.	.	.	1	PPM	LB/DAY
Phenol (00108-95-2)	__X__	__X__	____	<0.0027	<0.255281895	.	.	.	.	1	PPM	LB/DAY
2,4,6-Trichlorophenol (00088-06-2)	__X__	__X__	____	<0.0027	<0.255281895	.	.	.	.	1	PPM	LB/DAY

Continued from Page V5

Outfall 004

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
Acenaphthene (00083-32-9)	X	X		<0.003	<0.28364655	.	.	.	.	1	PPM	LB/DAY
Acenaphthylene (00208-96-8)	X	X		<0.0035	<0.330920975	.	.	.	.	1	PPM	LB/DAY
Anthracene (00120-12-7)	X	X		<0.0019	<0.179642815	.	.	.	.	1	PPM	LB/DAY
Benzidine (00092-87-5)	X	X		<0.063	<5.95657755	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Anthracene (00056-55-3)	X	X		<0.0078	<0.73748103	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Pyrene (00050-32-8)	X	X		<0.0025	<0.236372125	.	.	.	.	1	PPM	LB/DAY
3,4-Benzofluoranthene (00205-99-2)	X	X		<0.0048	<0.45383448	.	.	.	.	1	PPM	LB/DAY
Benzo (G H I) Perylene (00191-24-2)	X	X		<0.0041	<0.387650285	.	.	.	.	1	PPM	LB/DAY
Benzo (K) Fluoranthene (00207-08-9)	X	X		<0.0025	<0.236372125	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroethoxy) Methane (00111-91-1)	X	X		<0.0053	<0.501108905	.	.	.	.	1	PPM	LB/DAY
Bis(-2-Chloroethyl) Ether (00111-44-4)	X	X		<0.0057	<0.538928445	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroisopropyl) Ether (00108-60-1)	X	X		<0.0057	<0.538928445	.	.	.	.	1	PPM	LB/DAY
Bis(2-Ethylhexyl) Phthalate (00117-81-7)	X	X		<0.0025	<0.236372125	.	.	.	.	1	PPM	LB/DAY
4-Bromophenyl-Phenylether (00101-55-3)	X	X		<0.003	<0.28364655	.	.	.	.	1	PPM	LB/DAY
Butylbenzyl Phthalate (00085-68-7)	X	X		<0.0025	<0.236372125	.	.	.	.	1	PPM	LB/DAY
2-Chloronaphthalene (00091-58-7)	X	X		<0.0046	<0.43492471	.	.	.	.	1	PPM	LB/DAY
4-Chlorophenyl-Phenyl Ether (07005-72-3)	X	X		<0.0042	<0.39710517	.	.	.	.	1	PPM	LB/DAY
Chrysene (00218-01-9)	X	X		<0.0025	<0.236372125	.	.	.	.	1	PPM	LB/DAY
Dibenzo (A H) Anthracene (00053-70-3)	X	X		<0.0025	<0.236372125	.	.	.	.	1	PPM	LB/DAY
1,2-Dichlorobenzene (00095-50-1)	X	X		<0.004	<0.3781954	.	.	.	.	1	PPM	LB/DAY
1,3-Dichlorobenzene (00541-73-1)	X	X		<0.0031	<0.293101435	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-Dichlorobenzene (00106-46-7)	X	X		<0.0044	<0.41601494	.	.	.	.	1	PPM	LB/DAY
3,3''-Dichlorobenzidine (00091-94-1)	X	X		<0.0165	<1.560056025	.	.	.	.	1	PPM	LB/DAY
Diethyl Phthalate (00084-66-2)	X	X		<0.0074	<0.69966149	.	.	.	.	1	PPM	LB/DAY
Dimethyl Phthalate (00131-11-3)	X	X		<0.0075	<0.709116375	.	.	.	.	1	PPM	LB/DAY
Di-N-Butyl Phthalate (00084-74-2)	X	X		<0.0064	<0.60511264	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrotoluene (00121-14-2)	X	X		<0.0057	<0.538928445	.	.	.	.	1	PPM	LB/DAY
2,6-Dinitrotoluene (00606-20-2)	X	X		<0.0034	<0.32146609	.	.	.	.	1	PPM	LB/DAY
Di-N-Octyl Phthalate (00117-84-0)	X	X		<0.0025	<0.236372125	.	.	.	.	1	PPM	LB/DAY
1,2-Diphenylhydrazine (00122-66-7)	X	X		<0.0088	<0.83202988	.	.	.	.	1	PPM	LB/DAY
Fluoranthene (00206-44-0)	X	X		<0.0022	<0.20800747	.	.	.	.	1	PPM	LB/DAY
Fluorene (00086-73-7)	X	X		<0.0022	<0.20800747	.	.	.	.	1	PPM	LB/DAY
Hexachlorobenzene (00118-74-1)	X	X		<0.0031	<0.293101435	.	.	.	.	1	PPM	LB/DAY
Hexachlorobutadiene (00087-68-3)	X	X		<0.0018	<0.17018793	.	.	.	.	1	PPM	LB/DAY
Hexachlorocyclopentadiene (00077-47-4)	X	X		<0.01	<0.9454885	.	.	.	.	1	PPM	LB/DAY
Hexachloroethane (00067-72-1)	X	X		<0.0024	<0.22691724	.	.	.	.	1	PPM	LB/DAY
Indeno (1,2,3-Cd) Pyrene (00193-39-5)	X	X		<0.0037	<0.349830745	.	.	.	.	1	PPM	LB/DAY
Isophorone (00078-59-1)	X	X		<0.0051	<0.482199135	.	.	.	.	1	PPM	LB/DAY
Naphthalene (00091-20-3)	X	X		<0.0038	<0.35928563	.	.	.	.	1	PPM	LB/DAY
Nitrobenzene (00098-95-3)	X	X		<0.0042	<0.39710517	.	.	.	.	1	PPM	LB/DAY
N-Nitrosodimethylamine (00062-75-9)	X	X		<0.0062	<0.58620287	.	.	.	.	1	PPM	LB/DAY
N-Nitroso-Di-N-Propylamine (00621-64-7)	X	X		<0.0036	<0.34037586	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-Nitrosodiphenylamine (00086-30-6)	__X__	__X__	____	<0.0027	<0.255281895	.	.	.	.	1	PPM	LB/DAY
Phenanthrene (00085-01-8)	__X__	__X__	____	<0.0054	<0.51056379	.	.	.	.	1	PPM	LB/DAY
Pyrene (00129-00-0)	__X__	__X__	____	<0.0038	<0.35928563	.	.	.	.	1	PPM	LB/DAY
1,2,4-Trichlorobenzene (00120-82-1)	__X__	__X__	____	<0.0079	<0.746935915	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
Aldrin (00309-00-2)	__X__	__X__	____	<0.00005	<0.0047274425	.	.	.	.	1	PPM	LB/DAY
Alpha BHC (00319-84-6)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Beta BHC (00319-85-7)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Gamma BHC (00058-89-9)	__X__	__X__	____	<0.0005	<0.047274425	.	.	.	.	1	PPM	LB/DAY
Delta BHC (00319-86-8)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Chlordane (00057-74-9)	__X__	__X__	____	<0.0002	<0.01890977	.	.	.	.	1	PPM	LB/DAY
4,4pr DDT (00050-29-3)	__X__	__X__	____	<0.00005	<0.0047274425	.	.	.	.	1	PPM	LB/DAY
4,4pr DDE (00072-55-9)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
4,4pr DDD (00072-54-8)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Dieldrin (00060-57-1)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Alpha-Endosulfan (00115-29-7)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Beta-Endosulfan (00115-29-7)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Endosulfan Sulfate (01031-07-8)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Endrin (00072-20-8)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Endrin Aldehyde (07421-93-4)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
Heptachlor (00076-44-8)	__X__	__X__	____	<0.0005	<0.047274425	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units No. of Analyses	Concentration	Mass
GCMS FRACTION - PESTICIDES (CONTINUED)												
Heptachlor-Epoxide (01024-57-3)	__X__	__X__	____	<0.0001	<0.009454885	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	__X__	__X__	____	<0.001	<0.09454885	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	__X__	__X__	____	<0.001	<0.09454885	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	__X__	__X__	____	<0.001	<0.09454885	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	__X__	__X__	____	<0.001	<0.09454885	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	__X__	__X__	____	<0.001	<0.09454885	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	__X__	__X__	____	<0.001	<0.09454885	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	__X__	__X__	____	<0.001	<0.09454885	.	.	.	.	1	PPM	LB/DAY
Toxaphene (08001-35-2)	__X__	__X__	____	<0.005	<0.47274425	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VA0004146

V. Intake and effluent characteristics (continued from page 3 of Form 2c) Outfall 005

Part A- You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

	2. Effluent						3. Units		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
	Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Biochemical Oxygen Demand	<3	<101.39175	.	.	.	.	1	PPM	LB/DAY
Chemical Oxygen Demand	41.93	1417.1186925	.	.	.	.	1	PPM	LB/DAY
Total Organic Carbon	7	236.58075	.	.	.	.	1	PPM	LB/DAY
Total Suspended Solids	15.9	790.80558	12.8	340.209	9.8714	259.3173	7	PPM	LB/DAY
Ammonia,total	0.07	2.48681	0.07	1.7191	<0.0536	<1.4909	11	PPM	LB/DAY
Flow	5.96	.	3.2	.	3.21	.	9	MGD	.
Temperature (Winter)	5.7	.	.	.	.	.	1	DEGREES C	.
Temperature (Summer)	31.5	.	.	.	.	.	1	DEGREES C	.
pH	7.5 (min)	9.6 (max)	N/A	N/A	N/A	N/A	7	STD. UNITS	.

PART B.

	Mark X		2. Effluent						3. Units	
	believed present	believed absent	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
			Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Bromide,total (24959-67-6)	__X__	_____	0.2	6.75945	.	.	.	.	1	PPM	LB/DAY
Chlorine, Total Residual	__X__	_____	<0.1	<3.379725	.	.	.	.	1	PPM	LB/DAY
Color	__X__	_____	25	.	.	.	.	.	1	NTU	.
Fecal Coliform	_____	__X__	No Sample	.	.	.	.	.	0	COL/100ML	.
Fluoride (16984-48-8)	__X__	_____	0.184	6.218694	.	.	.	.	1	PPM	LB/DAY
Nitrate + Nitrite	__X__	_____	0.03	1.492086	0.03	0.8595	0.0283	0.777	12	PPM	LB/DAY

Item V-B Continued Outfall 005

Part C.

1. POLLUTANT	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units No. of Analyses	Concentration	Mass
Nitrogen, Total Org. As N	__X__	____	0.33	11.1530925	.	.	.	.	1	PPM	LB/DAY
Oil & Grease	__X__	____	<5	<248.681	<5	<171.907	<5	<136.6494	7	PPM	LB/DAY
Phosphorus (As P), Total (07723-14-0)	__X__	____	0.12	2.934102	0.12	2.9341	0.0692	1.6667	13	PPM	LB/DAY
j. Radioactivity **********											
Alpha, Total	__X__	____	<1.92	.	.	.	.	.	1	PCI/LITER	.
Beta, Total	__X__	____	2.88	.	.	.	.	.	1	PCI/LITER	.
Radium,total	____	__X__	No Sample	.	.	.	.	.	0	PCI/LITER	.
Radium 226 , Total	____	__X__	No Sample	.	.	.	.	.	0	PCI/LITER	.
Sulfate (As So4) (14808-79-8)	__X__	____	76.58	2588.193405	.	.	.	.	1	PPM	LB/DAY
Sulfide (As S)	__X__	____	<0.01	<0.3379725	.	.	.	.	1	PPM	LB/DAY
Sulfite (As So3) (14265-45-3)	____	__X__	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Surfactants	__X__	____	<0.025	<0.84493125	.	.	.	.	1	PPM	LB/DAY
Aluminum,total (07429-90-5)	__X__	____	0.26	8.787285	.	.	.	.	1	PPM	LB/DAY
Barium,total (07440-39-3)	__X__	____	0.177	5.98211325	.	.	.	.	1	PPM	LB/DAY
Boron,total (07440-42-8)	__X__	____	0.22	7.435395	.	.	.	.	1	PPM	LB/DAY
Cobalt,total (07440-48-4)	__X__	____	<0.003	<0.10139175	.	.	.	.	1	PPM	LB/DAY
Iron,total (07439-89-6)	__X__	____	0.39	13.1809275	.	.	.	.	1	PPM	LB/DAY
Magnesium,total (07439-95-4)	__X__	____	6.94	234.552915	.	.	.	.	1	PPM	LB/DAY
Molybdenum,total (07439-98-7)	__X__	____	0.01	0.3379725	.	.	.	.	1	PPM	LB/DAY
Manganese,total (07439-96-5)	__X__	____	0.08	2.70378	.	.	.	.	1	PPM	LB/DAY
Tin,total (07440-31-5)	__X__	____	0.005	0.16898625	.	.	.	.	1	PPM	LB/DAY
Titanium,total (07440-32-6)	__X__	____	0.004	0.135189	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
METALS, CYANIDE, AND TOTAL PHENOLS												
Antimony,total (07440-36-0)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
Arsenic,total (07440-38-2)	X	X		0.006	0.2027835	.	.	.	.	1	PPM	LB/DAY
Beryllium,total (07440-41-7)	X	X		<0.0002	<0.00675945	.	.	.	.	1	PPM	LB/DAY
Cadmium,total (07440-43-9)	X	X		<0.0003	<0.010139175	.	.	.	.	1	PPM	LB/DAY
Chromium,total (07440-47-3)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
Copper,total (07440-50-8)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
Lead,total (07439-92-1)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
Mercury,total (07439-97-6)	X	X		<0.0002	<0.00675945	.	.	.	.	1	PPM	LB/DAY
Nickel,total (07440-02-0)	X	X		<0.005	<0.16898625	.	.	.	.	1	PPM	LB/DAY
Selenium,total (07782-49-2)	X	X		0.006	0.2027835	.	.	.	.	1	PPM	LB/DAY
Silver,total (07440-22-4)	X	X		<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Thallium,total (07440-28-0)	X	X		0.0006	0.02027835	.	.	.	.	1	PPM	LB/DAY
Zinc,total (07440-66-6)	X	X		<0.01	<0.3379725	.	.	.	.	1	PPM	LB/DAY
Cyanide , Total (00057-12-5)	X	X		<0.01	<0.3379725	.	.	.	.	1	PPM	LB/DAY
Total Phenols	X	X		0.01	0.3379725	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
Dioxin Screen			X	No Sample	.	.	.	.	.	.	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	Mass	B. MAXIMUM 30 DAY VALUE Concentration	Mass	C. LONG TERM AVRG. VALUE Concentration	Mass	No. of Analyses	3. Units Concentration	Mass
GCMS FRACTION - VOLATILE COMPOUNDS												
Acrolein (00107-02-8)	__X__	__X__	____	<0.01	<0.3379725	.	.	.	.	1	PPM	LB/DAY
Acrylonitrile (00107-13-1)	__X__	__X__	____	<0.0015	<0.050695875	.	.	.	.	1	PPM	LB/DAY
Benzene (00071-43-2)	__X__	__X__	____	<0.0044	<0.1487079	.	.	.	.	1	PPM	LB/DAY
BIS (Chloromethyl) Ether (542-88-1)				not required		not required		not required				
Bromoform (00075-25-2)	__X__	__X__	____	<0.0047	<0.158847075	.	.	.	.	1	PPM	LB/DAY
Carbon Tetrachloride (00056-23-5)	__X__	__X__	____	<0.0028	<0.0946323	.	.	.	.	1	PPM	LB/DAY
Chlorobenzene (00108-90-7)	__X__	__X__	____	<0.006	<0.2027835	.	.	.	.	1	PPM	LB/DAY
Chlorodibromomethane (00124-48-1)	__X__	__X__	____	<0.0031	<0.104771475	.	.	.	.	1	PPM	LB/DAY
Chloroethane (00075-00-3)	__X__	__X__	____	<0.0011	<0.037176975	.	.	.	.	1	PPM	LB/DAY
2-Chloroethylvinyl Ether (00110-75-8)	__X__	__X__	____	<0.0012	<0.0405567	.	.	.	.	1	PPM	LB/DAY
Chloroform (00067-66-3)	__X__	__X__	____	<0.0016	<0.0540756	.	.	.	.	1	PPM	LB/DAY
Dichlorobromomethane (00075-27-4)	__X__	__X__	____	<0.0022	<0.07435395	.	.	.	.	1	PPM	LB/DAY
Dichlorodifluormethane (75-71-8)				not required		not required		not required				
1,1-Dichloroethane (00075-34-3)	__X__	__X__	____	<0.0047	<0.158847075	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloroethane (00107-06-2)	__X__	__X__	____	<0.0028	<0.0946323	.	.	.	.	1	PPM	LB/DAY
1,1-Dichloroethylene (00075-35-4)	__X__	__X__	____	<0.0028	<0.0946323	.	.	.	.	1	PPM	LB/DAY
1,2-Dichloropropane (00078-87-5)	__X__	__X__	____	<0.006	<0.2027835	.	.	.	.	1	PPM	LB/DAY
1,3-Dichloropropylene (10061-02-6)	__X__	__X__	____	<0.005	<0.16898625	.	.	.	.	1	PPM	LB/DAY
Ethyl Benzene (00100-41-4)	__X__	__X__	____	<0.0072	<0.2433402	.	.	.	.	1	PPM	LB/DAY
Methyl Bromide (00074-83-9)	__X__	__X__	____	<0.0014	<0.04731615	.	.	.	.	1	PPM	LB/DAY
Methyl Chloride (00074-87-3)	__X__	__X__	____	<0.0011	<0.037176975	.	.	.	.	1	PPM	LB/DAY

Continued from Page V4

Outfall 005

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units: Concentration	3. Units: Mass
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
Methylene Chloride (00075-09-2)	X	X		<0.0028	<0.0946323	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-Tetrachloroethane (00079-34-5)	X	X		<0.0069	<0.233201025	.	.	.	.	1	PPM	LB/DAY
Tetrachloroethylene (00127-18-4)	X	X		<0.0041	<0.138568725	.	.	.	.	1	PPM	LB/DAY
Toluene (00108-88-3)	X	X		<0.006	<0.2027835	.	.	.	.	1	PPM	LB/DAY
1,2-Trans-Dichloroethylene (00156-60-5)	X	X		<0.0016	<0.0540756	.	.	.	.	1	PPM	LB/DAY
1,1,1-Trichloroethane (00071-55-6)	X	X		<0.0038	<0.12842955	.	.	.	.	1	PPM	LB/DAY
1,1,2-Trichloroethane (00079-00-5)	X	X		<0.005	<0.16898625	.	.	.	.	1	PPM	LB/DAY
Trichloroethylene (00079-01-6)	X	X		<0.0019	<0.064214775	.	.	.	.	1	PPM	LB/DAY
Trichlorofluoromethane (75-69-4)				not required		not required		not required				
Vinyl Chloride (00075-01-4)	X	X		<0.0018	<0.06083505	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-Chlorophenol (00095-57-8)	X	X		<0.0033	<0.111530925	.	.	.	.	1	PPM	LB/DAY
2,4-Dichlorophenol (00120-83-2)	X	X		<0.0056	<0.1892646	.	.	.	.	1	PPM	LB/DAY
2,4-Dimethylphenol (00105-67-9)	X	X		<0.0052	<0.1757457	.	.	.	.	1	PPM	LB/DAY
4,6-Dinotro-O-Cresol (00534-52-1)	X	X		<0.024	<0.811134	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrophenol (00051-28-5)	X	X		<0.042	<1.4194845	.	.	.	.	1	PPM	LB/DAY
2-Nitrophenol (00088-75-5)	X	X		<0.0036	<0.1216701	.	.	.	.	1	PPM	LB/DAY
4-Nitrophenol (00100-02-7)	X	X		<0.0024	<0.0811134	.	.	.	.	1	PPM	LB/DAY
P-Chloro-M-Cresol (00059-50-7)	X	X		<0.0075	<0.253479375	.	.	.	.	1	PPM	LB/DAY
Pentachlorophenol (00087-86-5)	X	X		<0.0036	<0.1216701	.	.	.	.	1	PPM	LB/DAY
Phenol (00108-95-2)	X	X		<0.0027	<0.091252575	.	.	.	.	1	PPM	LB/DAY
2,4,6-Trichlorophenol (00088-06-2)	X	X		<0.0027	<0.091252575	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	Mass	B. MAXIMUM 30 DAY VALUE Concentration	Mass	C. LONG TERM AVRG. VALUE Concentration	Mass	No. of Analyses	3. Units Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
Acenaphthene (00083-32-9)	__X__	__X__	____	<0.003	<0.10139175	.	.	.	.	1	PPM	LB/DAY
Acenaphthylene (00208-96-8)	__X__	__X__	____	<0.0035	<0.118290375	.	.	.	.	1	PPM	LB/DAY
Anthracene (00120-12-7)	__X__	__X__	____	<0.0019	<0.064214775	.	.	.	.	1	PPM	LB/DAY
Benzidine (00092-87-5)	__X__	__X__	____	<0.063	<2.12922675	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Anthracene (00056-55-3)	__X__	__X__	____	<0.0078	<0.26361855	.	.	.	.	1	PPM	LB/DAY
Benzo (A) Pyrene (00050-32-8)	__X__	__X__	____	<0.0025	<0.084493125	.	.	.	.	1	PPM	LB/DAY
3,4-Benzofluoranthene (00205-99-2)	__X__	__X__	____	<0.0048	<0.1622268	.	.	.	.	1	PPM	LB/DAY
Benzo (G H I) Perylene (00191-24-2)	__X__	__X__	____	<0.0041	<0.138568725	.	.	.	.	1	PPM	LB/DAY
Benzo (K) Fluoranthene (00207-08-9)	__X__	__X__	____	<0.0025	<0.084493125	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroethoxy) Methane (00111-91-1)	__X__	__X__	____	<0.0053	<0.179125425	.	.	.	.	1	PPM	LB/DAY
Bis(-2-Chloroethyl) Ether (00111-44-4)	__X__	__X__	____	<0.0057	<0.192644325	.	.	.	.	1	PPM	LB/DAY
Bis(2-Chloroisopropyl) Ether (00108-60-1)	__X__	__X__	____	<0.0057	<0.192644325	.	.	.	.	1	PPM	LB/DAY
Bis(2-Ethylhexyl) Phthalate (00117-81-7)	__X__	__X__	____	<0.0025	<0.084493125	.	.	.	.	1	PPM	LB/DAY
4-Bromophenyl-Phenylether (00101-55-3)	__X__	__X__	____	<0.003	<0.10139175	.	.	.	.	1	PPM	LB/DAY
Butylbenzyl Phthalate (00085-68-7)	__X__	__X__	____	<0.0025	<0.084493125	.	.	.	.	1	PPM	LB/DAY
2-Chloronaphthalene (00091-58-7)	__X__	__X__	____	<0.0046	<0.15546735	.	.	.	.	1	PPM	LB/DAY
4-Chlorophenyl-Phenyl Ether (07005-72-3)	__X__	__X__	____	<0.0042	<0.14194845	.	.	.	.	1	PPM	LB/DAY
Chrysene (00218-01-9)	__X__	__X__	____	<0.0025	<0.084493125	.	.	.	.	1	PPM	LB/DAY
Dibenzo (A H) Anthracene (00053-70-3)	__X__	__X__	____	<0.0025	<0.084493125	.	.	.	.	1	PPM	LB/DAY
1,2-Dichlorobenzene (00095-50-1)	__X__	__X__	____	<0.004	<0.135189	.	.	.	.	1	PPM	LB/DAY
1,3-Dichlorobenzene (00541-73-1)	__X__	__X__	____	<0.0031	<0.104771475	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-Dichlorobenzene (00106-46-7)	X	X		<0.0044	<0.1487079	.	.	.	.	1	PPM	LB/DAY
3,3''-Dichlorobenzidine (00091-94-1)	X	X		<0.0165	<0.557654625	.	.	.	.	1	PPM	LB/DAY
Diethyl Phthalate (00084-66-2)	X	X		<0.0074	<0.25009965	.	.	.	.	1	PPM	LB/DAY
Dimethyl Phthalate (00131-11-3)	X	X		<0.0075	<0.253479375	.	.	.	.	1	PPM	LB/DAY
Di-N-Butyl Phthalate (00084-74-2)	X	X		<0.0064	<0.2163024	.	.	.	.	1	PPM	LB/DAY
2,4-Dinitrotoluene (00121-14-2)	X	X		<0.0057	<0.192644325	.	.	.	.	1	PPM	LB/DAY
2,6-Dinitrotoluene (00606-20-2)	X	X		<0.0034	<0.11491065	.	.	.	.	1	PPM	LB/DAY
Di-N-Octyl Phthalate (00117-84-0)	X	X		<0.0025	<0.084493125	.	.	.	.	1	PPM	LB/DAY
1,2-Diphenylhydrazine (00122-66-7)	X	X		<0.0088	<0.2974158	.	.	.	.	1	PPM	LB/DAY
Fluoranthene (00206-44-0)	X	X		<0.0022	<0.07435395	.	.	.	.	1	PPM	LB/DAY
Fluorene (00086-73-7)	X	X		<0.0022	<0.07435395	.	.	.	.	1	PPM	LB/DAY
Hexachlorobenzene (00118-74-1)	X	X		<0.0031	<0.104771475	.	.	.	.	1	PPM	LB/DAY
Hexachlorobutadiene (00087-68-3)	X	X		<0.0018	<0.06083505	.	.	.	.	1	PPM	LB/DAY
Hexachlorocyclopentadiene (00077-47-4)	X	X		<0.01	<0.3379725	.	.	.	.	1	PPM	LB/DAY
Hexachloroethane (00067-72-1)	X	X		<0.0024	<0.0811134	.	.	.	.	1	PPM	LB/DAY
Indeno (1,2,3-Cd) Pyrene (00193-39-5)	X	X		<0.0037	<0.125049825	.	.	.	.	1	PPM	LB/DAY
Isophorone (00078-59-1)	X	X		<0.0051	<0.172365975	.	.	.	.	1	PPM	LB/DAY
Naphthalene (00091-20-3)	X	X		<0.0038	<0.12842955	.	.	.	.	1	PPM	LB/DAY
Nitrobenzene (00098-95-3)	X	X		<0.0042	<0.14194845	.	.	.	.	1	PPM	LB/DAY
N-Nitrosodimethylamine (00062-75-9)	X	X		<0.0062	<0.20954295	.	.	.	.	1	PPM	LB/DAY
N-Nitroso-Di-N-Propylamine (00621-64-7)	X	X		<0.0036	<0.1216701	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-Nitrosodiphenylamine (00086-30-6)	__X__	__X__	____	<0.0027	<0.091252575	.	.	.	.	1	PPM	LB/DAY
Phenanthrene (00085-01-8)	__X__	__X__	____	<0.0054	<0.18250515	.	.	.	.	1	PPM	LB/DAY
Pyrene (00129-00-0)	__X__	__X__	____	<0.0038	<0.12842955	.	.	.	.	1	PPM	LB/DAY
1,2,4-Trichlorobenzene (00120-82-1)	__X__	__X__	____	<0.0079	<0.266998275	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
Aldrin (00309-00-2)	__X__	__X__	____	<0.00005	<0.0016898625	.	.	.	.	1	PPM	LB/DAY
Alpha BHC (00319-84-6)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Beta BHC (00319-85-7)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Gamma BHC (00058-89-9)	__X__	__X__	____	<0.0005	<0.016898625	.	.	.	.	1	PPM	LB/DAY
Delta BHC (00319-86-8)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Chlordane (00057-74-9)	__X__	__X__	____	<0.0002	<0.00675945	.	.	.	.	1	PPM	LB/DAY
4,4pr DDT (00050-29-3)	__X__	__X__	____	<0.00005	<0.0016898625	.	.	.	.	1	PPM	LB/DAY
4,4pr DDE (00072-55-9)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
4,4pr DDD (00072-54-8)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Dieldrin (00060-57-1)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Alpha-Endosulfan (00115-29-7)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Beta-Endosulfan (00115-29-7)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Endosulfan Sulfate (01031-07-8)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Endrin (00072-20-8)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Endrin Aldehyde (07421-93-4)	__X__	__X__	____	<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
Heptachlor (00076-44-8)	__X__	__X__	____	<0.0005	<0.016898625	.	.	.	.	1	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
GCMS FRACTION - PESTICIDES (CONTINUED)												
Heptachlor-Epoxide (01024-57-3)	X	X		<0.0001	<0.003379725	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.001	<0.03379725	.	.	.	.	1	PPM	LB/DAY
Toxaphene (08001-35-2)	X	X		<0.005	<0.16898625	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VA0004146

V. Intake and effluent characteristics (continued from page 3 of Form 2c) Outfall 104

Part A- You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

	2. Effluent							3. Units	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
	Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Biochemical Oxygen Demand	<3	<4.0056	.	.	.	.	1	PPM	LB/DAY
Chemical Oxygen Demand	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Total Organic Carbon	15	20.028	.	.	.	.	1	PPM	LB/DAY
Total Suspended Solids	19.2	208.2912	19.2	208.2912	4.7813	52.949	16	PPM	LB/DAY
Ammonia,total	8.9	11.88328	.	.	.	.	1	PPM	LB/DAY
Flow	5	.	5	.	2.6625	.	8	MGD	.
Temperature (Winter)	13.2	.	.	.	.	.	1	DEGREES C	.
Temperature (Summer)	31.5	.	.	.	.	.	1	DEGREES C	.
pH	8.9 (min)	12.2 (max)	N/A	N/A	N/A	N/A	16	STD. UNITS	.

PART B.

	Mark X		2. Effluent						3. Units	
	believed present	believed absent	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
			Concentration	Mass	Concentration	Mass	Concentration	Mass	No. of Analyses	Concentration	Mass
Bromide,total (24959-67-6)	__X__	_____	<0.2	<0.26704	.	.	.	.	1	PPM	LB/DAY
Chlorine, Total Residual	_____	__X__	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Color	__X__	_____	15	.	.	.	.	.	1	NTU	.
Fecal Coliform	_____	__X__	No Sample	.	.	.	.	.	0	COL/100ML	.
Fluoride (16984-48-8)	__X__	_____	0.799	1.0668248	.	.	.	.	1	PPM	LB/DAY
Nitrate + Nitrite	__X__	_____	53.45	71.36644	.	.	.	.	1	PPM	LB/DAY

Item V-B Continued Outfall 104

Part C.

1. POLLUTANT	Mark X believed present	Mark X believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units No. of Analyses	Concentration	Mass
Nitrogen, Total Org. As N	__X__	_____	4.39	5.861528	.	.	.	.	1	PPM	LB/DAY
Oil & Grease	__X__	_____	<5	<208.625	<5	<208.625	<5	<63.1351	16	PPM	LB/DAY
Phosphorus (As P), Total (07723-14-0)	__X__	_____	<0.05	<0.06676	.	.	.	.	1	PPM	LB/DAY
j. Radioactivity **********											
Alpha, Total	__X__	_____	<31.2	.	<31.2	.	<18.445	.	2	PCI/LITER	.
Beta, Total	__X__	_____	33.6	.	33.6	.	20.79	.	2	PCI/LITER	.
Radium,total	__X__	_____	<0.92	.	.	.	.	.	1	PCI/LITER	.
Radium 226 , Total	__X__	_____	<0.92	.	.	.	.	.	1	PCI/LITER	.
Sulfate (As So4) (14808-79-8)	__X__	_____	644.6	860.66992	.	.	.	.	1	PPM	LB/DAY
Sulfide (As S)	__X__	_____	<0.01	<0.013352	.	.	.	.	1	PPM	LB/DAY
Sulfite (As So3) (14265-45-3)	_____	__X__	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Surfactants	__X__	_____	2.1	2.80392	.	.	.	.	1	PPM	LB/DAY
Aluminum,total (07429-90-5)	__X__	_____	0.11	0.146872	.	.	.	.	1	PPM	LB/DAY
Barium,total (07440-39-3)	__X__	_____	0.062	0.0827824	.	.	.	.	1	PPM	LB/DAY
Boron,total (07440-42-8)	__X__	_____	37.67	50.296984	.	.	.	.	1	PPM	LB/DAY
Cobalt,total (07440-48-4)	_____	__X__	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Iron,total (07439-89-6)	__X__	_____	0.63	10.43125	0.63	10.4313	<0.2838	<3.5229	16	PPM	LB/DAY
Magnesium,total (07439-95-4)	__X__	_____	220	293.744	.	.	.	.	1	PPM	LB/DAY
Molybdenum,total (07439-98-7)	__X__	_____	0.016	0.0213632	.	.	.	.	1	PPM	LB/DAY
Manganese,total (07439-96-5)	__X__	_____	0.41	0.547432	.	.	.	.	1	PPM	LB/DAY
Tin,total (07440-31-5)	_____	__X__	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Titanium,total (07440-32-6)	_____	__X__	No Sample	.	.	.	.	.	0	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	No. of Analyses	3. Units Concentration	3. Units Mass
METALS, CYANIDE, AND TOTAL PHENOLS												
Antimony,total (07440-36-0)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Arsenic,total (07440-38-2)	X	X		0.007	0.0093464	.	.	.	.	1	PPM	LB/DAY
Beryllium,total (07440-41-7)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Cadmium,total (07440-43-9)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Chromium,total (07440-47-3)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Copper,total (07440-50-8)	X	X		<0.072	<3.0042	<0.072	<3.0042	<0.072	<0.9091	16	PPM	LB/DAY
Lead,total (07439-92-1)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Mercury,total (07439-97-6)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Nickel,total (07440-02-0)	X	X		0.056	0.0747712	.	.	.	.	1	PPM	LB/DAY
Selenium,total (07782-49-2)	X	X		0.116	0.1548832	.	.	.	.	1	PPM	LB/DAY
Silver,total (07440-22-4)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Thallium,total (07440-28-0)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Zinc,total (07440-66-6)	X	X		<0.01	<0.013352	.	.	.	.	1	PPM	LB/DAY
Cyanide , Total (00057-12-5)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Total Phenols			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
DIOXIN												
Dioxin Screen			X	No Sample	.	.	.	.	.	.	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - VOLATILE COMPOUNDS												
Acrolein (00107-02-8)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Acrylonitrile (00107-13-1)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Benzene (00071-43-2)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
BIS (Chloromethyl) Ether (542-88-1)				not required		not required		not required				
Bromoform (00075-25-2)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Carbon Tetrachloride (00056-23-5)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Chlorobenzene (00108-90-7)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Chlorodibromomethane (00124-48-1)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Chloroethane (00075-00-3)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
2-Chloroethylvinyl Ether (00110-75-8)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Chloroform (00067-66-3)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Dichlorobromomethane (00075-27-4)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Dichlorodifluormethane (75-71-8)				not required		not required		not required				
1,1-Dichloroethane (00075-34-3)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,2-Dichloroethane (00107-06-2)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,1-Dichloroethylene (00075-35-4)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,2-Dichloropropane (00078-87-5)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,3-Dichloropropylene (10061-02-6)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Ethyl Benzene (00100-41-4)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Methyl Bromide (00074-83-9)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Methyl Chloride (00074-87-3)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
Methylene Chloride (00075-09-2)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,1,2,2-Tetrachloroethane (00079-34-5)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Tetrachloroethylene (00127-18-4)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Toluene (00108-88-3)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,2-Trans-Dichloroethylene (00156-60-5)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,1,1-Trichloroethane (00071-55-6)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,1,2-Trichloroethane (00079-00-5)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Trichloroethylene (00079-01-6)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Trichlorofluoromethane (75-69-4)				not required		not required		not required				
Vinyl Chloride (00075-01-4)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-Chlorophenol (00095-57-8)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
2,4-Dichlorophenol (00120-83-2)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
2,4-Dimethylphenol (00105-67-9)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
4,6-Dinotro-O-Cresol (00534-52-1)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
2,4-Dinitrophenol (00051-28-5)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
2-Nitrophenol (00088-75-5)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
4-Nitrophenol (00100-02-7)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
P-Chloro-M-Cresol (00059-50-7)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Pentachlorophenol (00087-86-5)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Phenol (00108-95-2)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
2,4,6-Trichlorophenol (00088-06-2)	____	____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY

1. POLLUTANT	Mark X testing required	believed present	believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	Mass	B. MAXIMUM 30 DAY VALUE Concentration	Mass	C. LONG TERM AVRG. VALUE Concentration	Mass	3. Units No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL	COMPOUNDS											
Acenaphthene (00083-32-9)			X	No Sample						0	PPM	LB/DAY
Acenaphthylene (00208-96-8)			X	No Sample						0	PPM	LB/DAY
Anthracene (00120-12-7)			X	No Sample						0	PPM	LB/DAY
Benzidine (00092-87-5)			X	No Sample						0	PPM	LB/DAY
Benzo (A) Anthracene (00056-55-3)			X	No Sample						0	PPM	LB/DAY
Benzo (A) Pyrene (00050-32-8)			X	No Sample						0	PPM	LB/DAY
3,4-Benzofluoranthene (00205-99-2)			X	No Sample						0	PPM	LB/DAY
Benzo (G H I) Perylene (00191-24-2)			X	No Sample						0	PPM	LB/DAY
Benzo (K) Fluoranthene (00207-08-9)			X	No Sample						0	PPM	LB/DAY
Bis(2-Chloroethoxy) Methane (00111-91-1)			X	No Sample						0	PPM	LB/DAY
Bis(-2-Chloroethyl) Ether (00111-44-4)			X	No Sample						0	PPM	LB/DAY
Bis(2-Chloroisopropyl) Ether (00108-60-1)			X	No Sample						0	PPM	LB/DAY
Bis(2-Ethylhexyl) Phthalate (00117-81-7)			X	No Sample						0	PPM	LB/DAY
4-Bromophenyl-Phenylether (00101-55-3)			X	No Sample						0	PPM	LB/DAY
Butylbenzyl Phthalate (00085-68-7)			X	No Sample						0	PPM	LB/DAY
2-Chloronaphthalene (00091-58-7)			X	No Sample						0	PPM	LB/DAY
4-Chlorophenyl-Phenyl Ether (07005-72-3)			X	No Sample						0	PPM	LB/DAY
Chrysene (00218-01-9)			X	No Sample						0	PPM	LB/DAY
Dibenzo (A H) Anthracene (00053-70-3)			X	No Sample						0	PPM	LB/DAY
1,2-Dichlorobenzene (00095-50-1)			X	No Sample						0	PPM	LB/DAY
1,3-Dichlorobenzene (00541-73-1)			X	No Sample						0	PPM	LB/DAY

Continued from Page V6

Outfall 104

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent: A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-Dichlorobenzene (00106-46-7)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
3,3''-Dichlorobenzidine (00091-94-1)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Diethyl Phthalate (00084-66-2)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Dimethyl Phthalate (00131-11-3)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Di-N-Butyl Phthalate (00084-74-2)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
2,4-Dinitrotoluene (00121-14-2)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
2,6-Dinitrotoluene (00606-20-2)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Di-N-Octyl Phthalate (00117-84-0)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
1,2-Diphenylhydrazine (00122-66-7)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Fluoranthene (00206-44-0)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Fluorene (00086-73-7)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Hexachlorobenzene (00118-74-1)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Hexachlorobutadiene (00087-68-3)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Hexachlorocyclopentadiene (00077-47-4)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Hexachloroethane (00067-72-1)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Indeno (1,2,3-Cd) Pyrene (00193-39-5)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Isophorone (00078-59-1)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Naphthalene (00091-20-3)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Nitrobenzene (00098-95-3)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
N-Nitrosodimethylamine (00062-75-9)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY
N-Nitroso-Di-N-Propylamine (00621-64-7)			X	No Sample	.	.	.	.	.	0	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-Nitrosodiphenylamine (00086-30-6)			X	No Sample						0	PPM	LB/DAY
Phenanthrene (00085-01-8)			X	No Sample						0	PPM	LB/DAY
Pyrene (00129-00-0)			X	No Sample						0	PPM	LB/DAY
1,2,4-Trichlorobenzene (00120-82-1)			X	No Sample						0	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
Aldrin (00309-00-2)			X	No Sample						0	PPM	LB/DAY
Alpha BHC (00319-84-6)			X	No Sample						0	PPM	LB/DAY
Beta BHC (00319-85-7)			X	No Sample						0	PPM	LB/DAY
Gamma BHC (00058-89-9)			X	No Sample						0	PPM	LB/DAY
Delta BHC (00319-86-8)			X	No Sample						0	PPM	LB/DAY
Chlordane (00057-74-9)			X	No Sample						0	PPM	LB/DAY
4,4pr DDT (00050-29-3)			X	No Sample						0	PPM	LB/DAY
4,4pr DDE (00072-55-9)			X	No Sample						0	PPM	LB/DAY
4,4pr DDD (00072-54-8)			X	No Sample						0	PPM	LB/DAY
Dieldrin (00060-57-1)			X	No Sample						0	PPM	LB/DAY
Alpha-Endosulfan (00115-29-7)			X	No Sample						0	PPM	LB/DAY
Beta-Endosulfan (00115-29-7)			X	No Sample						0	PPM	LB/DAY
Endosulfan Sulfate (01031-07-8)			X	No Sample						0	PPM	LB/DAY
Endrin (00072-20-8)			X	No Sample						0	PPM	LB/DAY
Endrin Aldehyde (07421-93-4)			X	No Sample						0	PPM	LB/DAY
Heptachlor (00076-44-8)			X	No Sample						0	PPM	LB/DAY

1. POLLUTANT	Mark X: testing required	Mark X: believed present	Mark X: believed absent	2. Effluent A. MAXIMUM DAILY VALUE Concentration	A. MAXIMUM DAILY VALUE Mass	B. MAXIMUM 30 DAY VALUE Concentration	B. MAXIMUM 30 DAY VALUE Mass	C. LONG TERM AVRG. VALUE Concentration	C. LONG TERM AVRG. VALUE Mass	3. Units: No. of Analyses	Concentration	Mass
GCMS FRACTION - PESTICIDES (CONTINUED)												
Heptachlor-Epoxide (01024-57-3)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
PCB 1242 (53469-21-9)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
PCB 1254 (11097-69-1)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
PCB 1221 (11104-28-2)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
PCB 1232 (11141-16-5)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
PCB 1248 (12672-29-6)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
PCB 1260 (11096-82-5)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
PCB 1016 (12674-11-2)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY
Toxaphene (08001-35-2)	_____	_____	__X_	No Sample	.	.	.	.	.	0	PPM	LB/DAY

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** VIRGINIA ELECTRIC AND POWER COMPANY
Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** Y / (N)

3. **What is the tax map parcel number for the land where this facility is located?** 806664806300000

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** 0

5. ALL FACILITIES: **What is the design average flow of this facility?** 900 MGD
Industrial facilities: **What is the max. 30-day avg. production level (include units)?** 783718 MW

In addition to the above design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Y / (N)

If AYes≅, please specify the other flow tiers (in MGD) or production levels:

Please consider: Is your facility=s design flow considerably greater than your current flow? Do you plan to expand operations during the next five years?

6. **Nature of operations generating wastewater:**
GENERATION OF ELETRICITY By steam produced by the combustion of fossil fuels.

0 % of flow from domestic connections/sources
Number of private residences to be served by the wastewater treatment facilities: X 0 __ 1-49 __ 50 or more

100 % of flow from non-domestic connections/sources

7. **Mode of discharge:** ✓Continuous __Intermittent __Seasonal
Describe frequency and duration of intermittent or seasonal discharges:
SEE ATTACHMENT FOR INFORMATION CONCERNING INTERMITTENT Discharges.

8. **Identify the characteristics of the receiving stream at the point just above the facility=s discharge point:**
✓Permanent stream, never dry
__ Intermittent stream, usually flowing, sometimes dry
__ Ephemeral stream, wet-weather flow, often dry
__ Effluent-dependent stream, usually or always dry
__ Lake or pond at or below the discharge point
__ Other:

9. **Approval Date(s):** Received DEQ 3/10/05
O & M Manual No Known Approval (DATE.) **Sludge/Solids Management Plan** Included with O&M Manual

Have there been any changes in your operations or procedures since the above approval dates? Y / N

ATTACHMENT

Information to Supplement the Application for Renewal of the VPDES Permit for Dominion's Chesterfield Power Station

This attachment provides information to supplement the information that is contained in the required application Forms 1 and 2C. In addition, this attachment contains Dominion's request for continuance of the Chesterfield Power Station's thermal variance under 316(a) of the of the Clean Water Act (CWA), and a summary of Dominion's activities to comply with CWA Section 316(b) requirements.

FORM 1- GENERAL

Item VIII. OPERATOR INFORMATION

The Chesterfield Power Station is owned by Virginia Electric and Power Company and operated by Dominion Generation (referred to as Dominion throughout this attachment), a trade name for the combined generating assets of Virginia Electric and Power Company. The parent company of Virginia Electric and Power Company is Dominion Resources, Inc.

Item X. EXISTING ENVIRONMENTAL PERMITS:

Permit Number	Type of Permit	Effective Date
110000342530	EPA Facility Registry System ID number	NA
VAD000621177	RCRA HWG ID Number	07/13/1982
50396	Federal Air Emissions Operating Permit: • Phase II Acid Rain Permit • Coal handling permit • NSPS Permit • Title V Permit	 01/01/2008 06/13/2008 01/27/2009 01/13/2004
VA0004146	VPDES Individual Permit	12/10/2004
VAR051023	General Permit for Storm water Discharges Associated with Industrial Activity	01/01/2007
VAN040086	General Permit for Total Nitrogen and Total Phosphorous Discharges and Nutrient Trading in the Chesapeake Bay Watershed	01/01/2007
VMRC# 07-1739	Subaqueous encroachment permit	12/18/2007
Inventory Number 04145	Dam Safety Conditional O&M Certificate	01/30/2009
03-V0742 and 00-V043108	USACE Regional Dredging Permit 19	02/12/2009

FORM 2C - NPDES

Item II-A: LINE DRAWING

Steam and Evaporative Losses

A precise water balance cannot be provided as a considerable amount of water is released to the atmosphere as steam or evaporation, and we do not have estimates or measurements of these water losses, which can vary greatly with season and station operating conditions. The dashed lines on the drawing represent flows that occur on an intermittent basis. Rainfall runoff contributing to average flows of internal discharges is not available for several sources or treatment units.

Industrial Storm Water Discharges

Industrial storm water discharges from the station to the James River, Farrar Gut, and Aiken Swamp are identified for informational purposes only. These discharges are permitted under the VPDES General Storm Water Permit VAR540079.

Item II-B: WASTEWATER SOURCES TO EACH OUTFALL

Non-Process Water Discharges

There is no discharge of process water from the following points:

- Intake screen backwash
- Occasional pumping of river water from intake screen wells to permit access for maintenance
- Discharges associated with the routine testing of the fire fighting system involving the withdrawal and direct return of water from the river
- The discharge from one sump pump each in the condenser cooling water intake pump rooms for Units 7 and 8.

OUTFALL 004: Lower (Old) Ash Pond

The Old (Lower) Ash Pond is located across Coxendale Road south of the Chesterfield Power Generation Facility. Fly ash, bottom ash, and pyrites produced by generating units 3, 4, 5, and 6 are sluiced to the head of the ash pond using water withdrawn from the circulating river water system. The ash sluicing system typically operates 24 hours per day and alternates between bottom ash or fly ash as needed with the flow rate dependant on which generating units are on line. Wastewater treatment in the Lower Ash Pond consists primarily of settling, and chemical coagulants may be added from time to time to facilitate this process. Chemicals may also be added as needed for pH adjustment to ensure that the discharge pH is within the allowable range. Ash that settles within the ash pond is manually removed and is transported via truck to the New Ash Pond where it is used in the pond closure project. Bottom ash sluice may be directed to a processing area where a portion of the bottom ash is removed for beneficial reuse.

In addition to ash sluice water, the Old Ash Pond also receives most of the station's low volume wastes, non-chemical cleaning wastes, chemical cleaning wastes (via the metals pond), and coal pile runoff. The ash pond also receives effluent from the FGD chloride purge stream wastewater treatment plant, screen backwash associated with the reuse of Proctors Creek WWTP effluent, wastewater from the station's car wash (non-chemical), and storm water from the Unit 6 FGD runoff collection system, from a portion of Drainage Area 4 (includes demineralizer building and associated ASTs), and from various other onsite tank containment areas including the station's light oil storage tank.

Metals Cleaning Waste Treatment Basin or Metals Pond (Outfall 104)

The influent flows to the metals cleaning waste treatment basin (Outfall 104) consist of chemical cleaning wastes from periodic cleanings of the station's boilers, and non-chemical wastewater from precipitator and air preheater washes. Non-chemical cleaning wastewater from exterior boiler washes is typically routed directly to the ash pond via the master sump. The volume of wastewater generated by individual chemical and non-chemical washings is not measured. These wastewaters are generated infrequently, and the volume of water generated during a particular washing event is dependent on the amount, type and condition of the equipment being cleaned.

Flue Gas Desulphurization Chloride Purge Stream Wastewater Treatment Plant and Associated Storm Water Runoff

Flue gas desulphurization (FGD) is the current state-of-the art technology used for removing sulfur dioxide (SO_2) from the exhaust flue gases from steam electric power plants that burn coal or oil. Dominion is installing FGD technology at CPS to reduce SO_2 emissions from four pulverized coal-fired generating units 3, 4, 5, and 6. Installation of the FGD technology associated with Unit 6 was completed, and the unit became operational, during 2008. A second FGD is currently being constructed to handle the combined SO_2 emissions from Units 3, 4, and 5. The scrubber tie-ins to the second FGD unit are scheduled to begin during the spring 2011 and should be completed by spring 2012.

The FGD technology being installed and operated at CPS involves a wet scrubbing system where pulverized limestone is blended with water to form a slurry. The slurry is then sprayed into the exhaust flue gas and the calcium carbonate ($CaCO_3$) in the slurry reacts with the SO_2 in the flue gas to form calcium sulfate ($CaSO_4$) or gypsum. The resulting gypsum is collected, and then dewatered using two stages of hydro-cyclones followed by vacuum filtration to separate and reclaim the gypsum. The remaining water is returned for reuse in the scrubber.

The primary source of make-up water to the FGD units is final effluent from the Proctors Creek Wastewater Treatment Plant (WWTP). Wastewater from the Proctors Creek WWTP is discharged to the James River through two pipes, which run along a Chesterfield County easement through Dominion property just west of the station's barge slip. The wastewater for reuse at CPS is diverted from the two discharge pipes

via a pumping station located on Dominion property adjacent to the County's discharge pipes. James River water will serve as a back-up water source to the FGD.

Each FGD unit requires approximately 1,400 gpm (2.016 mgd) of make-up water. The great majority of the make-up water to each FGD will be lost to the atmosphere through evaporation. Dominion may also use about 2,000 gpm (2.88 mgd) of additional Proctors Creek effluent as make-up water to many other plant processes that are currently supplied by water withdrawn from the James River.

Dominion plans to reclaim gypsum that is suitable for use in the manufacture of commercial wallboard. To produce wallboard-quality gypsum requires the use of a high purity limestone in conjunction with a gypsum reclamation process designed to maintain a chloride concentration of less than 30,000 mg/L in the circulating FGD water system. Maintenance of the appropriate chloride concentration will be accomplished through use of a blowdown (or purge) stream. Each FGD unit will generate approximately 0.115 mgd of CPS that will be directed to the stations FGD wastewater treatment facility (WWTF) located south of the Unit 6 FGD and just southeast of the station's existing fuel oil storage tank. The treated wastewater will then be directed to a master sump, and from there will be pumped to the existing lower ash pond and will eventually be discharged to Farrar Gut through the existing Outfall 004.

Limestone for use in the FGD units is delivered to the station by barge. The limestone is unloaded at the stations existing barge slip and is transferred via conveyor to a covered storage area located just northwest of the station's existing fuel oil storage tank. Reclaimed gypsum is stored in a covered area located just south of the barge slip unloading area and is then loaded onto barges for delivery to a wallboard manufacturer. Reclaimed gypsum may also be placed, along with other coal combustion by-products, in the New (Upper) Ash Pond closure project at CPS. A reserve gypsum storage area is located adjacent to the barge slip just north of the primary gypsum storage area.

Storm water runoff from the Unit 6 FGD site, including the limestone and gypsum storage areas and barge slip collection sump, is collected in 3 yard sumps where it is commingled with effluent from the FGD WWTP, routed to the head of the existing ash pond, and eventually discharged to Farrar Gut via Outfall 004.

The wastewater treatment and storm water management facilities associated with the installation of FGD technology at CPS were described in detail in a Concept Engineering Report that was submitted to DEQ by letter dated October 23, 2007. The CER was was approved by DEQ staff by letter dated March 5, 2008.

Proctors Creek Wastewater Reuse Screen Backwash

There has been some growth of algae on the discharge structure associated with the Proctors Creek WWTP and also within Dominion's sump that receives the WWTP effluent. Periodically, this algae sloughs off and clogs the strainers that are located downstream from the sump but prior to the FGD process. Historically, the station has removed the material from the screens by hand (~ 1/2 of 55 gallon drum per week) but now has plans to install self cleaning screens, which would use a backwash stream of about 180 gpm for 3 minutes a cycle at about 5 cycles per hour (~65,000 gpd). This backwash stream will be routed to the #1 sump associated with the FGD storm water management system, and will ultimately be discharged to Farrar Gut through Outfall 004.

New Ash Pond Settling Basin (Outfall 005)

The new ash pond (sometimes referred to as the upper or east ash pond) is being closed. Closure of the pond will be accomplished as described in the revised Ash Pond Closure Plan (September 2003), Phasing Plan (May 2003), and Construction Quality Assurance Plan (May 2003), which were approved by DEQ in a letter dated September 12, 2003. As the site is closed surface runoff is being channeled to a sedimentation basin located at the eastern end of the ash pond. This basin discharges through Outfall 005 to Farrar Gut. The retention time of the basin varies depending on the amount of rainfall that is received during a given period of time. Solids that accumulate in the basin are removed as needed and are returned to the active cells associated with the ash pond closure. During certain periods of the year (primarily summer) the respiration of algae growing in the New Ash Pond Settling Basin (NAPSB) can result in pond pH values that are outside of the acceptable range for discharge through Outfall 005. Should such conditions occur during periods when the NAPSB is full and excessive rains are expected the station may transfer water from the NAPSB to the Lower Ash Pond where it is ultimately discharged through Outfall 004

In addition to surface runoff, the sedimentation pond also receives ground water collected in four (4) "toe drains", and from recovery wells located along Henricus Road to the east of the basin. The recovery wells were installed during 1996 along the northern crest of the Upper (New) Ash Pond dike. The recovery wells were installed to counter excess pressures and seepage forces resulting from increased water levels in the new ash pond that occurred during periods when ash was being dredged from the lower ash pond to the upper ash pond. The wells are equipped with submersible pumps and collected water is pumped to the pond associated with Outfall 005. With dredging and sluicing wet ash no longer occurring and water levels well below former trigger levels, these wells are no longer necessary to maintain stability of the north dike.

Intake Screen Backwash Discharges (Outfalls 006 – 011)

The cooling water intake structures at the Chesterfield Power Station are equipped with trash bars, vertical traveling screens, and an intake screen backwash system (ISBS). Collectively the ISBS consists of thirteen individual backwash flows (designated as Outfalls 006 – 011 in the current VPDES permit) to the main channel of the James River. Operation of the ISBS is on an "as needed" basis with the frequency of operation dependent on the amount of debris that is

present in the river. Typically spring (March and April) and fall (October and November) are the periods of highest ISBS operation. During other periods of the year the ISBS is operated approximately two hours per day.

The intake screen wash water for all units is James River water that is taken from the station's circulating water system before contact with industrial processes. Historically, chlorine was added to the circulating water system at points prior to removal of the water for use in the ISBS. As a result, monitoring data indicated that some residual chlorine was present in the ISBS discharges and, consequently, water quality-based effluent limits for total residual chlorine (TRC) were included on Outfalls 006 – 011 when the permit was reissued effective December 10, 2004. Also included in the permit was a four-year schedule requiring compliance with the TRC limits by December 10, 2008.

By letter dated June 8, 2006, Dominion submitted to DEQ our Plan of Action and Conceptual Engineering Report for achieving compliance with the TRC limits. The compliance method selected was to relocate the points for chlorine injection to locations downstream from where the water is withdrawn for use in the ISBS. The compliance plan was approved by DEQ on June 23, 2006, and Dominion began implementation of the plan in August 2006. Relocation of all chlorine injection points was officially completed during the fall of 2008 and there is no longer a station source of chlorine to the screen backwash discharges. Consequently, all ISBS discharges now consist of James River water that has not been contaminated by use in any plant processes, and DEQ staff have indicated that these outfalls will be removed from the permit during the upcoming reissuance process.

ITEM II-C: INTERMITTENT AND/OR SEASONAL DISCHARGES

Outfall 005 (New Ash Pond)

The runoff pond associated with Outfall 005 is typically discharged only during two or three months out of the year, and the duration of each discharge is usually less than 4 days.

Outfall 104 (Metals Cleaning Waste Treatment Basin)

The Metals Cleaning Waste Treatment Basin is a batch operated system, which is designed for non-seasonal, intermittent use. Operations that contribute flows to the basin are shown on the line drawings and as described in the narrative under Item 2A above. Typically, the valve is opened to begin the discharge and is not closed again until the pond is drained. During a typical discharge approximately 20 million gallons is released from the pond over a period of about 10 days. The pond level at the start of a discharge is not consistent from discharge to discharge, and, therefore, the total volume discharged from the metals pond during any single discharge event can vary substantially depending on the volume present in the pond prior to discharge.

Intake Screen Backwash System

The Intake Screen Backwash System is designed to discharge seven days per week and twelve months per year. In practice, however, the system does not operate continuously and individual backwash flows are highly variable. Based on flow estimates determined for the individual unit backwash systems, the collective long-term average (assuming all units operated for 2 hours per day) and daily maximum (assumes all units operated continuously for a 24-hour period) flow rates for the system are 0.60 MGD and 7.24 MGD, respectively. The corresponding long-term average and maximum daily discharge volumes are 0.60 MG and 7.24 MG, respectively.

ITEM IV-A: IMPROVEMENTS

Installation of Flue Gas Desulphurization Technology

Flue Gas Desulphurization technology is being installed at the Chesterfield Power Station. See discussion under Item II-B for description of potential impacts.

ITEMS V-A.B. & C: INTAKE AND EFFLUENT CHARACTERISTICS

Effluent data used in the preparation of Parts A, B, and C were generated during the period May 1, 2006 through March 31, 2009, with the following exceptions:

- Outfall 104 flow data are for the period from May 1, 2006 through May 31, 2008. Flow data for the period from June 1, 2008 through March 31, 2009 were not included because during that period discharges from Outfall 104 were controlled below normal realease rates due to the temporary placement of FGD CPS WWTF wastewater in the metals pond.
- Outfall 104 data for radioactivity (gross alpha and beta, and Radium 226 and 228). These results are for a grab sample collected from within the metals pond on April 6, 2009.

Effluent samples used to produce the Form 2C data were collected from Outfalls 001, 002, 003, 004, 005, and 104 on the dates shown below, unless otherwise specified in this submittal.

OUTFALL	SAMPLE DATE
001	11/12/2008
002	11/12/2008
003	11/12/2008
004	01/26/2009
005	01/12/2009
104	01/12/2009

The data were produced in accordance with Dominion's data generation strategy, which was provided to DEQ by letter dated October 7, 2008, and was subsequently revised to incorporate DEQ comments and resubmitted by electronic mail on November 21, 2008 (see Table 1).

TABLE 1. Chesterfield Power Station: Proposed Data Generation Strategy for VPDES Permit Renewal Application

FORM 2C Parameter	FORM 2C	DEQ WQC Attachment A	OUTFALL 001	002	003	004	005	104
PART A								
Biochemical Oxygen Demand	X		GS	GS	GS	GS	GS	GS
Chemical Oxygen Demand	X		GS	GS	GS	GS	GS	BA
Total Organic Carbon	X		GS	GS	GS	DMR	GS	GS
Total Suspended Solids	X		GS	GS	GS	DMR	DMR	DMR
Ammonia	X	X	GS	GS	GS	DMR	DMR	GS
Flow	X		DMR	DMR	DMR	DMR	DMR	DMR
Temperature (winter)	X	X	GS	GS	GS	GS	GS	GS
Temperature (summer)	X		GS	GS	GS	GS	GS	GS
pH	X	X	GS	GS	GS	DMR	DMR	DMR
PART B								
Bromide	X		GS	GS	GS	GS	GS	GS
Chloride		X	WQS	WQS	WQS	WQS	WQS	NR
Chlorine (TRC)	X	X	DMR	DMR	DMR	BA	BA	BA
Color	X		GS	GS	GS	GS	GS	GS
Fecal Coliform	X	X	BA	BA	BA	BA	BA	BA
Fluoride	X		GS	GS	GS	GS	GS	GS
Nitrate-Nitrite	X		GS	GS	GS	DMR	DMR	GS
Nitrogen (Total Organic)	X		GS	GS	GS	DMR	DMR	GS
Oil & Grease	X		GS	GS	GS	DMR	DMR	DMR
Phosphorous	X	X	DMR	DMR	DMR	DMR	DMR	GS
Radioactivity								
Alpha, Total	X	X	GS	GS	GS	GS	GS	GS
Beta, Total	X	X	GS	GS	GS	GS	GS	GS
Radium, Total	X		GS	GS	GS	GS	GS	GS
Radium 226, Total	X		GS	GS	GS	GS	GS	GS
Strontium 90 (pCi/L)		X	WQS	WQS	WQS	WQS	WQS	NR
Tritium (pCi/L)		X	WQS	WQS	WQS	WQS	WQS	NR
Sulfate	X	X	GS	GS	GS	GS	GS	GS
Sulfide	X		GS	GS	GS	GS	GS	GS
Sulfite	X		REP	REP	GS	BA	BA	BA
Surfactants (aka foaming agents)	X		GS	GS	GS	GS	GS	BA
Aluminum, Total	X		GS	GS	GS	GS	GS	GS
Barium, Total	X	X	GS	GS	GS	GS	GS	GS
Boron, Total	X		GS	GS	GS	GS	GS	GS
Cobalt, Total	X		GS	GS	GS	GS	GS	BA
Iron, Total	X	X	GS	GS	GS	GS	GS	DMR
Magnesium, Total	X		GS	GS	GS	GS	GS	GS
Molybdenum, Total	X		GS	GS	GS	GS	GS	GS
Manganese, Total	X	X	GS	GS	GS	GS	GS	GS
Tin, Total	X		GS	GS	GS	GS	GS	BA
Titanium, Total	X		GS	GS	GS	GS	GS	BA
PART C								
METALS, CYANIDE, TOTAL PHENOLS								
Antimony, Total	X	X	GS	GS	GS	GS	GS	BA
Antimony, Dissolved		X	WQS	WQS	WQS	WQS	WQS	BA
Arsenic, Total	X		GS	GS	GS	GS	GS	GS
Arsenic, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Beryllyum, Total	X		GS	GS	GS	GS	GS	BA
Cadmium, Total	X		GS	GS	GS	GS	GS	BA
Cadmium, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Chromium, Total	X		GS	GS	GS	GS	GS	BA
Chromium 3 (as dissolved chromium)		X	WQS	WQS	WQS	WQS	WQS	NR
Chromium 6, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Copper, Total	X		GS	GS	GS	GS	GS	DMR
Copper, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Lead, Total	X		GS	GS	GS	GS	GS	BA
Lead, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Mercury, Total	X		GS	GS	GS	GS	GS	BA
Mercury, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Nickel, Total	X		GS	GS	GS	GS	GS	GS
Nickel, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Selenium, Total	X		GS	GS	GS	GS	GS	GS
Selenium, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Silver, Total	X		GS	GS	GS	GS	GS	BA
Silver, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Thallium, Total	X	X	GS	GS	GS	GS	GS	BA
Zinc, Total	X		GS	GS	GS	GS	GS	GS
Zinc, Dissolved		X	WQS	WQS	WQS	WQS	WQS	NR
Cyanide	X	X	GS	GS	GS	GS	GS	BA
Phenols, Total	X		GS	GS	GS	GS	GS	BA
DIOXIN	X	X	BA	BA	BA	BA	BA	BA
VOLATILE COMPOUNDS								
Acrolein	X	X	GS	GS	GS	GS	GS	BA
Acrylonitrile	X	X	GS	GS	GS	GS	GS	BA
Benzene	X	X	GS	GS	GS	GS	GS	BA
Bromoform	X	X	GS	GS	GS	GS	GS	BA
Carbon Tetrachloride	X	X	GS	GS	GS	GS	GS	BA
Chlorobenzene (monochlorobenzene)	X	X	GS	GS	GS	GS	GS	BA
Chlorodibromomethane	X	X	GS	GS	GS	GS	GS	BA
Chloroethane	X		GS	GS	GS	GS	GS	BA
2-Chloroethylvinyl Ether	X		GS	GS	GS	GS	GS	BA
Chloroform	X	X	GS	GS	GS	GS	GS	BA
Dichlorobromomethane	X	X	GS	GS	GS	GS	GS	BA
1,1-Dichloroethane	X		GS	GS	GS	GS	GS	BA
1,2-Dichloroethane	X	X	GS	GS	GS	GS	GS	BA
1,1,-Dichloroethylene	X	X	GS	GS	GS	GS	GS	BA
1,2-Dichloropropane	X	X	GS	GS	GS	GS	GS	BA
1,3-Dichloropropylene	X	X	GS	GS	GS	GS	GS	BA
Ethylbenzene	X	X	GS	GS	GS	GS	GS	BA
Methyl Bromide	X	X	GS	GS	GS	GS	GS	BA
Methly Chloride (same as chloromethane)	X		GS	GS	GS	GS	GS	BA
Methylene Chloride (same as dichloromethane)	X	X	GS	GS	GS	GS	GS	BA
1,1,2,2-Tetrachloroethane	X	X	GS	GS	GS	GS	GS	BA
Tetrachlorcethylene	X	X	GS	GS	GS	GS	GS	BA
Toluene	X	X	GS	GS	GS	GS	GS	BA
1,2-TransDichlorcethylene	X	X	GS	GS	GS	GS	GS	BA
1,1,1-Trichloroethane	X		GS	GS	GS	GS	GS	BA
1,1,2-Trichloroethane	X	X	GS	GS	GS	GS	GS	BA
Trichloroethylene	X	X	GS	GS	GS	GS	GS	BA
Vinyl Chloride	X	X	GS	GS	GS	GS	GS	BA
ACID COMPOUNDS								
2-Chlorophenol	X	X	GS	GS	GS	GS	GS	BA
2,4-Dichlorophenol	X	X	GS	GS	GS	GS	GS	BA
2,4-Dimethylphenol	X	X	GS	GS	GS	GS	GS	BA
4,6-Dinitro-O-Cresol (aka 2-Methyl-4,6-Dinitrophenol)	X	X	GS	GS	GS	GS	GS	BA

TABLE 1. Chesterfield Power Station: Proposed Data Generation Strategy for VPDES Permit Renewal Application

FORM 2C Parameter	FORM 2C	DEQ WQC Attachment A	OUTFALL 001	002	003	004	005	104
PART A								
2,4-Dinitrophenol	X	X	GS	GS	GS	GS	GS	BA
2-Nitrophenol	X		GS	GS	GS	GS	GS	BA
4-Nitrophenol	X		GS	GS	GS	GS	GS	BA
P-Chloro-M-Cresol	X		GS	GS	GS	GS	GS	BA
Pentachlorophenol	X	X	GS	GS	GS	GS	GS	BA
Phenol	X	X	GS	GS	GS	GS	GS	BA
2,4,6-Trichlorophenol	X	X	GS	GS	GS	GS	GS	BA
BASE/NEUTRAL COMPOUNDS								
Acenaphthene	X	X	WQS	WQS	WQS	GS	GS	BA
Acenaphtylene	X		NR	NR	NR	GS	GS	BA
Anthrancene	X	X	WQS	WQS	WQS	GS	GS	BA
Benzidine	X	X	WQS	WQS	WQS	GS	GS	BA
Benzo (a) Anthrancene	X	X	WQS	WQS	WQS	GS	GS	BA
Benzo (a) Pyrene	X	X	WQS	WQS	WQS	GS	GS	BA
Benzo (ghi) Perylene	X		NR	NR	NR	GS	GS	BA
Benzo (b) Fluoranthene (aka 3,4 Benzofluoranthene)	X	X	WQS	WQS	WQS	GS	GS	BA
Benzo (k) Fluoranthene	X	X	WQS	WQS	WQS	GS	GS	BA
Bis (2-Chloroethoxy) Methane	X		NR	NR	NR	GS	GS	BA
Bis (2-Chloroethyl) Ether	X	X	WQS	WQS	WQS	GS	GS	BA
Bis (2-Chloroisopropyl) Ether	X	X	WQS	WQS	WQS	GS	GS	BA
Bis (2-Ethylhexyl) Phthalate (aka Di-2 Ethylhexyl Phalate)	X	X	WQS	WQS	WQS	GS	GS	BA
4-Bromophenyl Phenyl Ether	X		NR	NR	NR	GS	GS	BA
Butyl Benzyl Phthalate	X	X	WQS	WQS	WQS	GS	GS	BA
2-Chloronaphthalene	X	X	WQS	WQS	WQS	GS	GS	BA
4-Chlorophenyl Phenyl Ether	X		NR	NR	NR	GS	GS	BA
Chrysene	X	X	WQS	WQS	WQS	GS	GS	BA
Dibenzo (a,h) Anthracene	X	X	WQS	WQS	WQS	GS	GS	BA
1,2-Dichlorobenzene	X	X	WQS	WQS	WQS	GS	GS	BA
1,3-Dichlorobenzene	X	X	WQS	WQS	WQS	GS	GS	BA
1,4-Dichlorobenzene	X	X	WQS	WQS	WQS	GS	GS	BA
3,3'-Dichlorobenzidine	X	X	WQS	WQS	WQS	GS	GS	BA
Diethyl Phthalate	X	X	WQS	WQS	WQS	GS	GS	BA
Dimethyl Phthalate	X	X	WQS	WQS	WQS	GS	GS	BA
Di-N-Butyl Phthalate	X	X	WQS	WQS	WQS	GS	GS	BA
2,4-Dinitrotoluene	X	X	WQS	WQS	WQS	GS	GS	BA
2,6-Dinitrotoluene	X		NR	NR	NR	GS	GS	BA
Di-N-Octyl Phthalate	X		NR	NR	NR	GS	GS	BA
1,2-Diphenylhydrazine (as Azobenzene)	X	X	WQS	WQS	WQS	GS	GS	BA
Fluoranthene	X	X	WQS	WQS	WQS	GS	GS	BA
Fluorene	X	X	WQS	WQS	WQS	GS	GS	BA
Hexachlorobenzene	X	X	WQS	WQS	WQS	GS	GS	BA
Hexachlorobutadiene	X	X	WQS	WQS	WQS	GS	GS	BA
Hexachlorocyclopentadiene	X	X	WQS	WQS	WQS	GS	GS	BA
Hexachloroethane	X	X	WQS	WQS	WQS	GS	GS	BA
Indeno (1,2,3-cd) Pyrene	X	X	WQS	WQS	WQS	GS	GS	BA
Isophorone	X	X	WQS	WQS	WQS	GS	GS	BA
Naphthalene	X		NR	NR	NR	GS	GS	BA
Nitrobenzene	X	X	WQS	WQS	WQS	GS	GS	BA
N-Nitrosodimethylamine	X	X	WQS	WQS	WQS	GS	GS	BA
N-Nitrosodi-N-Propylamine	X	X	WQS	WQS	WQS	GS	GS	BA
N-Nitrosdiphenylamine	X	X	WQS	WQS	WQS	GS	GS	BA
Phenanthrene	X		NR	NR	NR	GS	GS	BA
Pyrene	X	X	WQS	WQS	WQS	GS	GS	BA
1,2,4-Trichlorobenzene	X	X	WQS	WQS	WQS	GS	GS	BA
PESTICIDES								
Aldrin	X	X	WQS	WQS	WQS	WQS	WQS	BA
Alpha-BHC	X	X	WQS	WQS	WQS	WQS	WQS	BA
Beta-BHC (aka Beta Hexachlorocyclohexane)	X	X	WQS	WQS	WQS	WQS	WQS	BA
Gama-BHC (Lindane)	X	X	WQS	WQS	WQS	WQS	WQS	BA
Delta-BHC	X		WQS	WQS	WQS	WQS	WQS	BA
Chlordane	X	X	WQS	WQS	WQS	WQS	WQS	NR
Chlorpyrifos		X	WQS	WQS	WQS	WQS	WQS	NR
Demeton		X	WQS	WQS	WQS	WQS	WQS	NR
4,4'-DDT	X	X	WQS	WQS	WQS	WQS	WQS	BA
4,4'-DDE	X	X	WQS	WQS	WQS	WQS	WQS	BA
4,4'-DDD	X	X	WQS	WQS	WQS	WQS	WQS	BA
Dieldrin	X	X	WQS	WQS	WQS	WQS	WQS	BA
Alpha-Endosulfan	X	X	WQS	WQS	WQS	WQS	WQS	BA
Beta-Endosulfan	X	X	WQS	WQS	WQS	WQS	WQS	BA
Endosulfan Sulfate	X	X	WQS	WQS	WQS	WQS	WQS	BA
Endrin	X	X	WQS	WQS	WQS	WQS	WQS	BA
Endrin Aldehyde	X	X	WQS	WQS	WQS	WQS	WQS	BA
Guthion		X	WQS	WQS	WQS	WQS	WQS	NR
Heptachlor	X	X	WQS	WQS	WQS	WQS	WQS	BA
Heptachlor Epoxide	X	X	WQS	WQS	WQS	WQS	WQS	BA
Kepone		X	WQS	WQS	WQS	WQS	WQS	NR
Malathion		X	WQS	WQS	WQS	WQS	WQS	NR
Methoxychlor		X	WQS	WQS	WQS	WQS	WQS	BA
Mirex		X	WQS	WQS	WQS	WQS	WQS	NR
Parathion		X	WQS	WQS	WQS	WQS	WQS	NR
PCB-1242	X	X	WQS	WQS	WQS	WQS	WQS	BA
PCB-1254	X	X	WQS	WQS	WQS	WQS	WQS	BA
PCP-1221	X	X	WQS	WQS	WQS	WQS	WQS	BA
PCB-1232	X	X	WQS	WQS	WQS	WQS	WQS	BA
PCB-1248	X	X	WQS	WQS	WQS	WQS	WQS	BA
PCB-1260	X	X	WQS	WQS	WQS	WQS	WQS	BA
PCB-1016	X	X	WQS	WQS	WQS	WQS	WQS	BA
Total PCBs		X	WQS	WQS	WQS	WQS	WQS	NR
Toxaphene	X	X	WQS	WQS	WQS	WQS	WQS	BA
OTHER								
Hydrogen Sulfide		X	WQS	WQS	WQS	WQS	WQS	NR
e. coli		X	WQS	WQS	WQS	WQS	WQS	NR
Tributyltin		X	WQS	WQS	WQS	WQS	WQS	NR

DMR = Data generated for DMR compliance will be used to fulfill testing requirements
BA = Believed absent, no testing to be performed for this paramter
NR = Not required for Steam Electric Power Plants or, for Outfall 104, is not required because parameter is a WQS and Outfall 104 is an internal discharge.
GS = Request to use grab sample. For cooling water discharges samples flow varies less than 10%. For Outfall 004 and 005 retention is greater than 24 hours..
WQS = Not required for Form 2C, but is a State Water Quality Standard and data for parameter will be generated using a grab sample.
REP = Request to sample Outfall 003 for sulfite as representative of Outfalls 001 and 002.

Effluent samples were collected during periods representative of facility operations by persons experienced in the sampling of industrial effluents. Sample analyses were performed in accordance with test methods promulgated in 40 CFR Part 136.

ITEM V-A: REPORTING

As allowed by Form 2C instructions, and approved by DEQ permitting staff, the required data are being submitted on separate sheets as an attachment to Form 2C. The data sheets we are submitting were computer generated, which greatly shortened the amount of clerical effort necessary to prepare the application. The sheets contain the required information in a format, which is consistent with pages V-1 to V-9 in spacing and in identification of pollutants and pollutant columns.

ITEM V-C. ANALYSIS

Temperature Data

Winter and summer discharge temperatures were recorded for Outfalls 001, 002, 003, 004, and 005 during the collection of effluent samples for use in toxicity tests with these discharges. For Outfalls 001, 002, and 003 winter temperatures were measured during the collection of samples on January 23, 25, and 28, 20008. For Outfall 004, winter temperatures were measured on December 4, 6, and 8, 2006. Summer temperatures were determined for Outfalls 001, 002, 003, and 004 on July 16, 18, and 21, 2008. Winter and summer temperature data for Outfall 005 were collected on February 8, 2006 and August 2, 2006, respectively. Winter temperature data were collected for Outfall 104 on January 12, 2009 during the collection of the samples to be analyzed for other application parameters. No summer temperature data exist for Outfall 104, however, this discharge results from a pond and summer temperatures within that environment should be similar to other lentic surface waters within the area, such as the sedimentation basin associated with Outfall 005. Consequently, the summer temperature data for Outfall 005 are being reported as representative for Outfall 104.

Tributyltin

TBT was reported at 32 ng/L (004), <30 ng/L (001), < 30 (002), < 30 (003), and 30 ng/L (005). No TBT containing products are used at the Chesterfield Power Station and Dominion is not aware of any reason that TBT should be present in any discharge from the Chesterfield Power Station. Both detected concentrations are well below the existing acute and chronic freshwater quality criteria for TBT of 0.46 and 0.063 ug/L, respectively.

Total and Dissolved Mercury

Mercury was measured in samples collected from Outfalls 001, 002, and 003 on November 12, 2008. The analyses were performed by Dominion's contract laboratory Pace Analytical using EPA Method 1631E. Dissolved and total mercury concentrations determined for these samples ranged from 0.638 ng/L – 2.08 ng/L. A concentration of 0.811 ng/L total mercury was determined for a field blank collected during the collection of the November 12, 2008 effluent samples.

Strontium-90 (Outfalls 001, 002, and 003)

The strontium-90 data for Outfalls 001, 002, and 003 were generated using samples collected from these outfalls on February 18, 2009.

Radioactivity (Outfall 104)

Effluent was collected from Outfall 104 on January 12, 2009 and was analyzed for gross alpha and gross beta radioactivity. The effluent on that day had a high TDS concentration which interfered with the analysis, so the sample was diluted as per standard procedures for dealing with this type of situation. Gross alpha and beta radioactivities of <31.2 and 33.6 pCi/L were determined for the sample. Even though no alpha radioactivity was detected, the detection level was higher than 5 pCI/L and the sample should have been analyzed for Radium. Unfortunately, Dominion's contract laboratory did not perform the test for Radium. Consequently, a sample was collected of standing water within the metals pond on April 6 2009. These samples were analyzed for gross alpha and beta radioactivity and for Radium 226 and Radium 228. The results for both sets of analyses were used to generate the data presented on Form 2C of this application.

Radioactivity (Outfall 005)

Due to an oversight, no samples for alpha and beta radioactivity were collected from Outfall 005 on January 12, 2009. Rather than create another discharge to produce the data, samples for gross alpha and gross beta analyses were collected from within the Outfall 005 sedimentation pond on March 25, 2009. This approach was discussed with, and was approved by, DEQ staff.

Virginia Water Quality Criteria Parameters

At DEQ's request, Dominion is providing, as part of this permit application, effluent data for Outfalls 001, 002, 003, 004 and 005 for parameters that are not required for submittal on EPA Form 2C, but for which Virginia Water Quality Criteria (VWQC) exist that are applicable to the James River in the vicinity of the Chesterfield Power Station. The data for these VWQC parameters were generated using EPA-approved analytical methods capable of achieving the quantification levels given in the data forms provided by DEQ. Where possible, samples for the VWQC parameters were collected concurrent with effluent samples collected for the required Form 2C parameters. Data for the VWQC parameters are presented in the tables at the end of this addendum. It should be noted that some parameters that are required for Form 2C are also VWQC parameters and, consequently, the same data are presented on the Form 2C and VWQC tables for these parameters.

Hardness Data (Outfalls 001, 002, 003, 004, and 005)

Hardness data for effluent samples used in toxicity tests performed on Outfalls 001, 002, 003, 004 and 005 in compliance with the current VPDES permit conditions are presented in the following tables. Effluent samples from Outfalls 001, 002, and 003 were 24-hour composite samples consisting for four samples collected at 6-hour intervals. All samples from Outfalls

004 and 005 were grab samples. In addition to the hardness data for the toxicity testing samples, hardness was also measured in grab samples that were collected from Outfalls 001 and 002 on April 6, 2009. These data are also presented the following table.

Hardness Measurements Taken on Samples Used in Whole Effluent Toxicity Tests with Chesterfield Power Station Outfalls

	OUTFALLS 001, 002, 003, 004, and 005				
	Hardness (mg/L as CaCO3)				
Sample Date	001	002	003	004	005
6/22/2005	92	62	84		
6/24/2005	68	84	80		
6/27/2005	88	68	78	128	
5/22/2006				118	
5/26/2006				98	
6/7/2006	76	84	80		
6/9/2006	88	78	96		
6/12/2006	90	98	104	128	
8/2/2006					48
9/11/2006				82	
9/13/2006				84	
11/6/2006				126	
11/8/2006				86	
11/9/2006				96	
12/4/2006				86	
12/6/2006				108	
3/20/2007					124
1/23/2008	126	112	128	132	
1/25/2008	108	104	112	136	
1/28/2008	118	122	136	134	
2/1/2008				138	
3/4/2008					118
7/16/2008	108	92	162	84	
7/18/2008	90	72	88	172	
7/21/2008	118	116	114	192	
1/12/2009					146
2/16/2009				460*	
2/18/2009				448*	
2/1/2009				420*	
4/6/2009	48	48			
Average	**94**	**88**	**105**	**165**	**109**

*The increase in the hardness of Outfall 004 between July 2008 and Februrary 2009 is most likely due to the contribution of the station's FGD Chloride Purge Stream wastewater treatment plant, which came on-line during this period.

Parameters for which analyses were not performed

Sulfite

Outfalls 004 and 005 were not analyzed for sulfite because the pollutant is believed to be absent from these discharges.

Total Radium and Total Radium 226

No analyses were performed for Radium 226 or Radium 228 in Outfalls 001, 002, 003, or 004. The amount of Total Radium (sum of Radium 226 and 228) and Radium 226 present in these outfalls would be less than or equal to the amount of Total Alpha and Total Beta radioactivity determined for each outfall.

Outfall 104: Fecal Coliforms and Total Residual Chlorine

None of the discharges from the Chesterfield Power Station receive sanitary wastewater. Consequently, there is no reason to suspect that human fecal coliform bacteria are present and no testing for this parameter was performed. However, at the request of DEQ staff, Outfalls 001 002, 003, 004, and 005 were monitored for *E. coli* because it is a Virginia Water Quality Criteria parameter.

ITEM V-D: POLLUTANTS LISTED IN TABLE 2C-3 THAT MAY BE DISCHARGED

The Chesterfield Power Station withdraws water from the James River for use as once-through non-contact cooling water as well as in other plant processes. In addition, wastewater from the Proctors Creek Wastewater Treatment plant may also be used as make-up water to station processes. Therefore it is possible that some or all of the pollutants listed in Table 2C-3 may be present in our intake water, and consequently our discharges, due to current or historical pollutant sources not under Dominion's direct control.

Additional information concerning chemicals that may be discharged

In addition to the materials listed in Table 2C-3 of the application instructions manual, the following bulk materials are stored or used at the Chesterfield Power Station, and are, or may contain toxic pollutants and/or hazardous substances. The station uses many commercial products that contain a variety of chemicals. While no concise inventory of these chemicals is available, Material Safety Data Sheets identifying the constituents of these products are available, and can be provided upon request.

FORM 2C ITEM V-D		
Chemical	**Approximate Usage / Year**	**Purpose of Usage**
Carbon Dioxide	~10 tons	Fire suppression systems and generator degassing
Propylene Glycol	Constant Use Makeup Only	Antifreeze in heat transfer systems for natural gas and unit combustion air.
Ethylene Glycol	Constant Use Makeup Only	Antifreeze in vehicles and equipment.
Diethylene Glycol/ Triethylene Glycol	Varies	Antifreeze in vehicles and equipment and freeze conditioning of coal. Grinding agent for Marsulex limestone.
Unleaded Gasoline	Varies	Fuel
Calcium Hydroxide Hydrated Lime	~408 tons	pH adjustment in settling ponds and FGD WWTP
BetzDearborn KlarAid PC 1195 (coagulant)	Varies	Settling aid (ash pond)
Unleaded Gasoline	Varies	Fuel
Diesel Fuel	Varies	Fuel
Sulfuric Acid	~478 tons	Regenerate chemical for demineralizer system
Sodium Hydroxide (Caustic 50%)	~923 tons	Regenerate chemical for demineralizer system
Sodium Hydroxide 25%	~108 tons	pH control in water plant
Sodium Chloride	~550 tons	Water treatment for softener regeneration
Sodium Hypochlorite (Bleach 12%)	~200 tons	Condenser cooling water chlorination, various sanitation activities
Sodium Bisulfite (37%)	~1,000 tons	De-chlorination of condenser cooling water/RO influent
Methoxypropylamine	~8 tons	Corrosion control in plant condensate system
Carbohydrazide	~8 tons	Corrosion control in plant condensate and boiler systems (reducing agent)
Trisodium Phosphate	~10 tons	Corrosion control in plant boilers
Anhydrous Ammonia	4,000 tons	SCR use
TMT 15	~21 tons	Heavy metal removal, Waste Water Treatment Plant
Hydrochloric Acid	~40 tons	pH control, Waste Water Treatment Plant, Boiler Chemical Cleaning.
Ferric Chloride	~41 tons	Coagulant, Waste Water Treatment Plant
Dibasic Acid &/or Formic Acid	Varies	Limestone slurry aid, Waste Water Treatment Plant
Nalco 7768	Varies-+	Floculant, Waste Water Treatment Plant
Wastewater sludge	14 tons (varies)	Transported off site
Limestone	46,834 tons	Scrubber absorber & Marsulex system
Gypsum	65,948 tons	Scrubber commercial product

FORM 2C ITEM V-D		
Chemical	**Approximate Usage / Year**	**Purpose of Usage**
Xylene	As needed	Paint ingredient only (not allowed as stand alone solvent)
Methyl Ethyl Ketone	N/A	Paint solvent (not allowed on site as stand-alone solvent)
Ammonium EDTA	Varies	Boiler cleaning
Aqueous Ammonia	Varies	Boiler cleaning
Thiourea	Varies	Boiler cleaning (copper complexor)
Ammonium Carbonate	N/A	Chemical cleaning of plant equipment
Sodium Nitrite	N/A	Chemical cleaning of plant equipment
Ammonium Bicarbonate	N/A	Chemical cleaning of plant equipment
Citric Acid	N/A	Chemical cleaning of plant equipment
Sodium Bromate	N/A	Chemical cleaning of plant equipment
Ammonium Bifluoride	N/A	Chemical cleaning of plant equipment
Wen Don CL89	Varies	General cleaning of various station equipment
Detergents / cleaning agents	Varies	General cleaning of various station equipment
Soda Ash (Sodium Carbonate)	Varies	General and chemical cleaning pH control
Denatured Alcohol	As needed	Various maintenance activities
Natural Gas Condensate	< 200 gals	Byproduct collected from use of Natural Gas
Tri-aryl Phosphate	N/A	Hydraulic fluid for turbine operation control
Mercury	N/A	Mercoid switches, thermometers, etc.
Nalco 3D Trasar 3DT189 aromatic amine	655 pounds	Cooling Tower treatment
Nalco 7330	varies	Cooling Tower treatment
Nalco Towerbrom991	225 pounds	Cooling Tower micro biocide
Nalco 8325	55 gallons	Cooling Tower treatment corrosion inhibitor
Mineral Oil	Varies	Equipment lubrication
Mineral Oil	Varies	Equipment lubrication

ITEM VI: USE OR MANUFACTURE OF A TOXIC POLLUTANT AS AN INTERMEDIATE OR FINAL PRODUCT OR BYPRODUCT

The following pollutants listed in ITEM V-C may be present in coal and/or coal combustion by-products:

Total Antimony	Total Copper	Total Silver
Total Arsenic	Total Lead	Total Thallium
Total Beryllium	Total Mercury	Total Zinc
Total Cadmium	Total Nickel	Total Cyanide
Total Chromium	Total Selenium	Total Phenols

ITEM VII: BIOLOGICAL TOXICITY TESTING DATA

Whole Effluent Toxicity (WET) tests were performed on Outfalls 001, 002, 003, 004, and 005 in compliance with the Chesterfield Power Station's current VPDES Permit. Results of the tests are summarized in the table below. All testing was performed by Coastal Bioanalysts, Inc., 6400 Enterprise Court, Gloucester, VA 23061. All test results were within the toxicity acceptance criterion described in the permit.

Summary of WET Testing Results Outfalls 001, 002, 003, 004, and 005.

OUTFALL	TEST START	TEST SPECIES	TEST TYPE	LC50	NOEC
001	6/23/2005	*C. dubia*	Chronic		100
001	6/28/2005	*C. dubia*	Acute	>100	
001	6/8/2006	*C. dubia*	Chronic		100
001	6/13/2006	*C. dubia*	Acute	>100	
001	1/23/2008	*C. dubia*	Chronic		100
001	1/28/2008	*C. dubia*	Acute	>100	
001	7/17/2008	*C. dubia*	Chronic		100
001	7/22/2008	*C. dubia*	Acute	>100	
002	6/23/2005	*C. dubia*	Chronic		100
002	6/28/2005	*C. dubia*	Acute	>100	
002	6/8/2006	*C. dubia*	Chronic		100
002	6/13/2006	*C. dubia*	Acute	>100	
002	1/23/2008	*C. dubia*	Chronic		100
002	1/28/2008	*C. dubia*	Acute	>100	
002	7/17/2008	*C. dubia*	Chronic		100
002	7/22/2008	*C. dubia*	Acute	>100	
003	6/23/2005	*C. dubia*	Chronic		100
003	6/28/2005	*C. dubia*	Acute	>100	
003	6/8/2006	*C. dubia*	Chronic		100
003	6/13/2006	*C. dubia*	Acute	>100	
003	1/23/2008	*C. dubia*	Chronic		100
003	1/28/2008	*C. dubia*	Acute	>100	
003	7/17/2008	*C. dubia*	Chronic		100
003	7/22/2008	*C. dubia*	Acute	>100	
004	4/14/2005	*C. dubia*	Chronic		4 (2)
004	6/28/2005	*C. dubia*	Acute	>37 (1)	
004	5/23/2006	*C. dubia*	Chronic		8 (2)
004	6/13/2006	*C. dubia*	Acute	>100	
004	9/12/2006	*C. dubia*	Chronic		100
004	1/23/2008	*C. dubia*	Chronic		100
004	2/2/2008	*C. dubia*	Acute	>100	
004	7/17/2008	*C. dubia*	Chronic		32 (2)
004	2/17/2009	*C. dubia*	Chronic		100
005	8/3/2006	*C. dubia*	Acute	>100	
005	8/3/2006	*P. promelas*	Acute	>100	
005	3/21/2007	*C. dubia*	Acute	>100	
005	3/21/2007	*P. promelas*	Acute	>100	

Summary of WET Testing Results Outfalls 001, 002, 003, 004, and 005.					
OUTFALL	TEST START	TEST SPECIES	TEST TYPE	LC50	NOEC
005	3/5/2008	*C. dubia*	Acute	>100	
005	3/5/2008	*P. promelas*	Acute	>100	
005	1/13/2009	*C. dubia*	Acute	>100	
005	1/13/2009	*P. promelas*	Acute	>100	
(1) = Highest concentration tested was 37%					
(2) = NOEC presented is for reproduction endpoint. NOEC for survival was 100%					

Clean Water Act Sections 316(a) and 316(b)

Request to Continue CWA Section 316(a) Variance

Chesterfield Power Station currently operates under a Clean Water Act (CWA) Section 316(a) thermal variance, which was granted by DEQ with reissuance of the VPDES Permit. The process leading to DEQ's decision to grant the 316(a) variance spanned about seven years. During this seven-year period, Dominion worked closely with the DEQ and other stakeholders to develop and implement a comprehensive 316(a) demonstration study plan. The study plan approved by DEQ, and carried out by Dominion, was multifaceted and consisted of resource intensive field investigations involving the collection of extensive environmental data. These data were coupled with state-of-the-art hydrodynamic modeling to examine the thermal impacts to the James River associated with operation of the power station at full station thermal load conditions. Results of the 316(a) study were reviewed by fisheries biologists who are considered expert in their field. Their review found, and DEQ concurred, that the thermal discharge from the Chesterfield Power Station does not cause appreciable harm to the overall aquatic biological community and that a balanced, indigenous community of shellfish, fish, and wildlife does exist in the James River in the vicinity of the power station.

The current VPDES permit for the Chesterfield Power Station contains heat rejection limits (expressed as BTUs/hr) on the three non-contact cooling water discharges (Outfalls 001, 002, and 003). Through the above 316(a) studies Dominion successfully demonstrated that the existing heat rejection limits are protective of the balanced, indigenous aquatic community in the James River. Since completion of these studies and issuance of the variance, station operations have not materially changed with respect to the cooling water discharges and there are no current plans to increase the thermal loading from the Chesterfield Power Station beyond the existing thermal limitations. Dominion believes that the data generated during our 316(a) studies remains representative for the James River and for our station operations, and therefore, we request continuance of Chesterfield's 316(a) variance.

Clean Water Act Section 316(b)

The Chesterfield Power Station withdraws water from the James River for use in plant processes. The majority of the water withdrawn is used in a once-through cooling water system to dissipate waste heat from the station's generating units. The intake structures associated with this withdrawal are regulated under Clean Water Act Section 316(b). The following is a brief summary of 316(b) related activities that Dominion has been involved with, relative to the Chesterfield Power Station, during the effective term of the existing VPDES permit.

On July 9, 2004, EPA promulgated new 316(b) regulations governing cooling water intake structures for existing power plants (Phase II rule), such as the Chesterfield Power Station. Under the Phase II rule, Dominion was required to prepare and submit a Comprehensive Demonstration Study (CDS) for the Chesterfield Power Station providing Dominion's mechanism for documenting compliance with the Phase II regulatory requirements. A special condition was included in Chesterfield's VPDES permit requiring submittal of the CDS by January 7, 2008 as part of an application for permit renewal to incorporate 316(b) compliance alternatives.

As an initial step in the CDS process, Dominion prepared a Proposal for Information Collection (PIC) that described our approach to achieving compliance with the rule and the processes that would be used to generate the information required for CDS development. The PIC for the Chesterfield Power Station was submitted to DEQ on February 16, 2005 and was subsequently approved by DEQ by letter dated July 29 2005. Another step in the CDS development process involved studies to investigate the degree that the existing aquatic population of the James River is being impinged and/or entrained by Chesterfield Power Station's current water withdrawal system. Dominion carried out these studies between July 2005 and June 2006.

On July 9, 2007 EPA suspended the requirements of the Phase II rule. As a result of this action, the DEQ modified Chesterfield's VPDES Permit on January 1, 2007 to remove the requirement for submittal of the 316(b) related permit application. This condition was replaced with the current Special Condition I.B.21 which requires submittal of the biological data generated as part of the approved PIC by December 31, 2008. In compliance with this requirement, Dominion submitted a report containing the impingement mortality and entrainment characterization results to DEQ on December 29, 2008.

Outfall 001 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
METALS				
Antimony, dissolved	(3)	700	<1.00	G
Arsenic, dissolved	(3)	270	<3.00	G
Cadmium, dissolved	(3)	2.3	<0.30	G
Chromium III, dissolved [8]	(3)	360	<1.00[A]	G
Chromium VI, dissolved [8]	(3)	13	<1.00	G
Copper, dissolved	(3)	8.3	6.00 B <1.00	G
Lead, dissolved	(3)	67	<1.00	G
Mercury, dissolved	(3)	1.1	0.00064	G
Nickel, dissolved	(3)	120	<5.00	G
Selenium, dissolved	(3)	16	<3.00	G
Silver, dissolved	(3)	1.7	<0.10	G
Thallium, dissolved	(4)	320	<0.20	G
Zinc, dissolved	(3)	74	13.00	G
PESTICIDES / PCBs				
Aldrin	608	0.05	<0.016	G
Chlordane	608	0.2	<0.014	G
Chlorpyrifos (Dursban)	622	(5)	<0.014	G
DDD	608	0.1	<0.021	G
DDE	608	0.1	<0.017	G
DDT	608	0.1	<0.017	G
Demeton	(4)	(5)	<0.521	G
Dieldrin	608	0.1	<0.010	G
Alpha-Endosulfan	608	0.1	<0.014	G
Beta-Endosulfan	608	0.1	<0.017	G
Endosulfan Sulfate	608	0.1	<0.009	G
Endrin	608	0.1	<0.020	G
Endrin Aldehyde	(4)	(5)	<0.019	G

Outfall 001 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Guthion	622	(5)	<0.3577	G
Heptachlor	608	0.05	<0.016	G
Heptachlor Epoxide	(4)	(5)	<0.012	G
Hexachlorocyclohexane Alpha-BHC	608	(5)	<0.007	G
Hexachlorocyclohexane Beta-BHC	608	(5)	<0.013	G
HexachlorocyclohexaneGamma-BHC (Lindane)	608	(5)	<0.011	G
Kepone	(9)	(5)	<0.015	G
Malathion	(4)	(5)	<0.123	G
Methoxychlor	(4)	(5)	<0.017	G
Mirex	(4)	(5)	<0.015	G
Parathion	(4)	(5)	<0.121	G
PCB 1260	608	1.0	<1.00	G
PCB 1254	608	1.0	<1.00	G
PCB 1248	608	1.0	<1.00	G
PCB 1242	608	1.0	<1.00	G
PCB 1232	608	1.0	<1.00	G
PCB 1221	608	1.0	<1.00	G
PCB 1016	608	1.0	<1.00	G
PCB Total	608	7.0	<7.00	G
Toxaphene	608	5.0	<0.057	G
BASE NEUTRALS				
Acenaphthene	625	10.0	<3.00	G
Anthracene	625	10.0	<1.90	G
Benzidine	(4)	(5)	<63.00	G
Benzo (a) anthracene	625	10.0	<7.80	G
Benzo (b) fluoranthene	625	10.0	<4.80	G
Benzo (k) fluoranthene	625	10.0	<2.50	G
Benzo (a) pyrene	625	10.0	<2.50	G

Outfall 001 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Bis 2-Chloroethyl Ether	(4)	(5)	<5.70	G
Bis 2-Chloroisopropyl Ether	(4)	(5)	<5.70	G
Butyl benzyl phthalate	625	10.0	<2.50	G
2-Chloronaphthalene	(4)	(5)	<4.60	G
Chrysene	625	10.0	<2.50	G
Dibenz(a,h)anthracene	625	20.0	<2.50	G
Dibutyl phthalate (Di-n-Butyl Phthalate)	625	10.0	<6.40	G
1,2-Dichlorobenzene	624	10.0	<4.00	G
1,3-Dichlorobenzene	624	10.0	<3.10	G
1,4-Dichlorobenzene	624	10.0	<4.40	G
3,3-Dichlorobenzidine	(4)	(5)	<16.50	G
Diethyl phthalate	625	10.0	<7.40	G
Di-2-Ethylhexyl Phthalate	625	10.0	<2.50	G
Dimethyl phthalate	(4)	(5)	<7.50	G
2,4-Dinitrotoluene	625	10.0	<5.70	G
1,2-Diphenylhydrazine	(4)	(5)	<8.80	G
Fluoranthene	625	10.0	<2.20	G
Fluorene	625	10.0	<3.10	G
Hexachlorobenzene	(4)	(5)	<1.80	G
Hexachlorobutadiene	(4)	(5)	<10.00	G
Hexachlorocyclopentadiene	(4)	(5)	<2.40	G
Hexachloroethane	(4)	(5)	<3.70	G
Indeno(1,2,3-cd)pyrene	625	20.0	<3.70	G
Isophorone	625	10.0	<5.10	G
Nitrobenzene	625	10.0	<4.20	G
N-Nitrosodimethylamine	(4)	(5)	<6.20	G
N-Nitrosodi-n-propylamine	(4)	(5)	<3.60	G
N-Nitrosodiphenylamine	(4)	(5)	<2.70	G

Outfall 001 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Pyrene	625	10.0	<3.80	G
1,2,4-Trichlorobenzene	625	10.0	<7.90	G
VOLATILES				
Acrolein	(4)	(5)	<10.00	G
Acrylonitrile	(4)	(5)	<1.50	G
Benzene	624	10.0	<4.40	G
Bromoform	624	10.0	<4.70	G
Chlorobenzene (monochlorobenzene)	624	50.0	<6.00	G
Chlorodibromomethane	624	10.0	<3.10	G
Chloroform	624	10.0	1.88	G
Dichloromethane (methylene chloride)	624	20.0	<2.80	G
Dichlorobromomethane	624	10.0	<2.20	G
1,2-Dichloroethane	624	10.0	<2.80	G
1,1-Dichloroethylene	624	10.0	<2.80	G
1,2-trans-dichloroethylene	(4)	(5)	<1.60	G
1,2-Dichloropropane	(4)	(5)	<6.00	G
1,3-Dichloropropene	(4)	(5)	<5.90	G
Ethylbenzene	624	10.0	<7.20	G
Methyl Bromide	(4)	(5)	<1.40	G
1,1,2,2-Tetrachloroethane	(4)	(5)	<6.90	G
Tetrachloroethylene	624	10.0	<4.10	G
Toluene	624	10.0	<6.00	G
1,1,2-Trichloroethane	(4)	(5)	<5.00	G
Trichloroethylene	624	10.0	<1.90	G
RADIONUCLIDES				
Strontium 90 (pCi/L)	(4)	(5)	<0.87	G
Tritium (pCi/L)	(4)	(5)	<217	G
Beta Particle & Photon Activity (pCi/L)	(4)	(5)	3.69	G

Outfall 001 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Gross Alpha Particle Activity (pCi/L)	(4)	(5)	<0.98	G
ACIDS				
2-Chlorophenol	625	10.0	<3.30	G
2,4 Dichlorophenol	625	10.0	<5.60	G
2,4 Dimethylphenol	625	10.0	<5.20	G
2,4-Dinitrophenol	(4)	(5)	<42.00	G
2-Methyl-4,6-Dinitrophenol	(4)	(5)	<24.00	G
Pentachlorophenol	625	50.0	<3.60	G
Phenol	625	10.0	<2.70	G
2,4,6-Trichlorophenol	625	10.0	<2.70	G
MISCELLANEOUS				
Ammonia as NH3-N	350.1	200	100	G
Chlorides	(4)	(5)	30,440	G
Chlorine, Total Residual	(4)	100	< 100	G
Cyanide, Total	(4)	10.0	<10.00	G
E. coli / Enterococcus (N/CML)	(4)	(5)	50	G
Hydrogen Sulfide	(4)	(5)	<50	G
Tributyltin [7]	NBSR 85-3295	(5)	<0.030	G

A = Result is for total chromium
B = Samples for copper analysis were collected from Outfall 001 on 04/06/09 (<1.0 ug/L) and 11/12/09 (6.0 ug/L)

(1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

SC = Special Composite = samples for base/neutral/acid compounds, PCBs, and pesticides must be collected as 4 individual grab samples taken proportional to flow at 6-hour intervals over the course of one day. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period. Grab samples must be analyzed separately and the concentrations averaged. Alternately, grab samples may be collected in the field and composited in the laboratory if the compositing procedure produces results equivalent to results produced by arithmetic averaging of the results of analysis of individual grab samples.

(3) A specific analytical method is not specified; however a target value for each metal has been established. An appropriate method to meet the target value shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

Metal	Analytical Method
Antimony	1638; 1639
Arsenic	206.5; 1632
Chromium[9]	1639
Cadmium	1637; 1638; 1639; 1640
Chromium VI	218.6; 1639
Copper	1638; 1640
Lead	1637; 1638; 1640
Mercury	245.7; 1631
Nickel	1638; 1639; 1640
Selenium	1638; 1639
Silver	1638
Zinc	1638; 1639

(4) Any approved method presented in 40 CFR Part 136.

(5) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.

(6) Testing for phenol requires continuous extraction.

(7) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for Tributyltin may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].

(8) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(9) The lab may use SW846 Method 8270D provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270D

Outfall 002 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
METALS				
Antimony, dissolved	(3)	700	<1.00	G
Arsenic, dissolved	(3)	270	<3.00	G
Cadmium, dissolved	(3)	2.3	<0.30	G
Chromium III, dissolved [6]	(3)	360	<1.00 A	G
Chromium VI, dissolved [6]	(3)	13	<10.00	G
Copper, dissolved	(3)	8.3	13.00 B 4.00	G
Lead, dissolved	(3)	67	<1.00	G
Mercury, dissolved	(3)	1.1	0.00094	G
Nickel, dissolved	(3)	120	<5.00	G
Selenium, dissolved	(3)	16	<3.00	G
Silver, dissolved	(3)	1.7	<0.10	G
Thallium, dissolved	(4)	320	<0.20	G
Zinc, dissolved	(3)	74	26.00	G
PESTICIDES / PCBs				
Aldrin	608	0.05	<0.016	G
Chlordane	608	0.2	<0.014	G
Chlorpyrifos (Dursban)	622	(5)	<0.014	G
DDD	608	0.1	<0.021	G
DDE	608	0.1	<0.017	G
DDT	608	0.1	<0.017	G
Demeton	(4)	(5)	<0.521	G
Dieldrin	608	0.1	<0.010	G
Alpha-Endosulfan	608	0.1	<0.014	G
Beta-Endosulfan	608	0.1	<0.017	G
Endosulfan Sulfate	608	0.1	<0.009	G
Endrin	608	0.1	<0.020	G

Outfall 002 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Endrin Aldehyde	(4)	(5)	<0.019	G
Guthion	622	(5)	<0.3577	G
Heptachlor	608	0.05	<0.016	G
Heptachlor Epoxide	(4)	(5)	<0.012	G
Hexachlorocyclohexane Alpha-BHC	608	(5)	<0.007	G
Hexachlorocyclohexane Beta-BHC	608	(5)	<0.013	G
HexachlorocyclohexaneGamma-BHC (Lindane)	608	(5)	<0.011	G
Kepone	(9)	(5)	<0.015	G
Malathion	(4)	(5)	<0.123	G
Methoxychlor	(4)	(5)	<0.017	G
Mirex	(4)	(5)	<0.015	G
Parathion	(4)	(5)	<0.121	G
PCB 1260	608	1.0	<1.00	G
PCB 1254	608	1.0	<1.00	G
PCB 1248	608	1.0	<1.00	G
PCB 1242	608	1.0	<1.00	G
PCB 1232	608	1.0	<1.00	G
PCB 1221	608	1.0	<1.00	G
PCB 1016	608	1.0	<1.00	G
PCB Total	608	7.0	<7.00	G
Toxaphene	608	5.0	<0.057	G
BASE NEUTRALS				
Acenaphthene	625	10.0	<3.00	G
Anthracene	625	10.0	<1.90	G
Benzidine	(4)	(5)	<63.00	G
Benzo (a) anthracene	625	10.0	<7.80	G
Benzo (b) fluoranthene	625	10.0	<4.80	G
Benzo (k) fluoranthene	625	10.0	<2.50	G

Outfall 002 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Benzo (a) pyrene	625	10.0	<2.50	G
Bis 2-Chloroethyl Ether	(4)	(5)	<5.70	G
Bis 2-Chloroisopropyl Ether	(4)	(5)	<5.70	G
Butyl benzyl phthalate	625	10.0	<2.50	G
2-Chloronaphthalene	(4)	(5)	<4.60	G
Chrysene	625	10.0	<2.50	G
Dibenz(a,h)anthracene	625	20.0	<2.50	G
Dibutyl phthalate (Di-n-Butyl Phthalate)	625	10.0	<6.40	G
1,2-Dichlorobenzene	624	10.0	<4.00	G
1,3-Dichlorobenzene	624	10.0	<3.10	G
1,4-Dichlorobenzene	624	10.0	<4.40	G
3,3-Dichlorobenzidine	(4)	(5)	<16.50	G
Diethyl phthalate	625	10.0	<7.40	G
Di-2-Ethylhexyl Phthalate	625	10.0	<2.50	G
Dimethyl phthalate	(4)	(5)	<7.50	G
2,4-Dinitrotoluene	625	10.0	<5.70	G
1,2-Diphenylhydrazine	(4)	(5)	<8.80	G
Fluoranthene	625	10.0	<2.20	G
Fluorene	625	10.0	<3.10	G
Hexachlorobenzene	(4)	(5)	<1.80	G
Hexachlorobutadiene	(4)	(5)	<10.00	G
Hexachlorocyclopentadiene	(4)	(5)	<2.40	G
Hexachloroethane	(4)	(5)	<3.70	G
Indeno(1,2,3-cd)pyrene	625	20.0	<3.70	G
Isophorone	625	10.0	<5.10	G
Nitrobenzene	625	10.0	<4.20	G
N-Nitrosodimethylamine	(4)	(5)	<6.20	G
N-Nitrosodi-n-propylamine	(4)	(5)	<3.60	G

Outfall 002 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
N-Nitrosodiphenylamine	(4)	(5)	<2.70	G
Pyrene	625	10.0	<3.80	G
1,2,4-Trichlorobenzene	625	10.0	<7.90	G
VOLATILES				
Acrolein	(4)	(5)	<10.00	G
Acrylonitrile	(4)	(5)	<1.50	G
Benzene	624	10.0	<4.40	G
Bromoform	624	10.0	<4.70	G
Chlorobenzene (monochlorobenzene)	624	50.0	<6.00	G
Chlorodibromomethane	624	10.0	<3.10	G
Chloroform	624	10.0	1.60	G
Dichloromethane (methylene chloride)	624	20.0	<2.80	G
Dichlorobromomethane	624	10.0	<2.20	G
1,2-Dichloroethane	624	10.0	<2.80	G
1,1-Dichloroethylene	624	10.0	<2.80	G
1,2-trans-dichloroethylene	(4)	(5)	<1.60	G
1,2-Dichloropropane	(4)	(5)	<6.00	G
1,3-Dichloropropene	(4)	(5)	<5.90	G
Ethylbenzene	624	10.0	<7.20	G
Methyl Bromide	(4)	(5)	<1.40	G
1,1,2,2-Tetrachloroethane	(4)	(5)	<6.90	G
Tetrachloroethylene	624	10.0	<4.10	G
Toluene	624	10.0	<6.00	G
1,1,2-Trichloroethane	(4)	(5)	<5.00	G
Trichloroethylene	624	10.0	<1.90	G
RADIONUCLIDES				
Strontium 90 (pCi/L)	(4)	(5)	<0.92	G
Tritium (pCi/L)	(4)	(5)	<217	G

Outfall 002 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Beta Particle & Photon Activity (pCi/L)	(4)	(5)	<0.013	G
Gross Alpha Particle Activity (pCi/L)	(4)	(5)	<0.007	G
ACIDS				
2-Chlorophenol	625	10.0	<3.30	G
2,4 Dichlorophenol	625	10.0	<5.60	G
2,4 Dimethylphenol	625	10.0	<5.20	G
2,4-Dinitrophenol	(4)	(5)	<42.00	G
2-Methyl-4,6-Dinitrophenol	(4)	(5)	<24.00	G
Pentachlorophenol	625	50.0	<3.60	G
Phenol	625	10.0	<2.70	G
2,4,6-Trichlorophenol	625	10.0	<2.70	G
MISCELLANEOUS				
Ammonia as NH3-N	350.1	200	70	C
Chlorides	(4)	(5)	32,010	C
Chlorine, Total Residual	(4)	100	< 100	G
Cyanide, Total	(4)	10.0	<10.00	G
E. coli / Enterococcus (N/CML)	(4)	(5)	30	G
Hydrogen Sulfide	(4)	(5)	<50.00	G
Tributyltin [7]	NBSR 85-3295	(5)	<0.030	G

A = Result is for Total Chromium
B = Samples for copper analysis were collected from Outfall 002 on 04/06/09 (4 ug/L) and on 11/12/08 (13 ug/L)

(1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

SC = Special Composite = samples for base/neutral/acid compounds, PCBs, and pesticides must be collected as 4 individual grab samples taken proportional to flow at 6-hour intervals over the course of one day. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period. Grab samples must be analyzed separately and the concentrations averaged. Alternately, grab samples may be collected in the field and composited in the laboratory if the compositing procedure produces results equivalent to results produced by arithmetic averaging of the results of analysis of individual grab samples.

(3) A specific analytical method is not specified; however a target value for each metal has been established. An appropriate method to meet the target value shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

Metal	Analytical Method
Antimony	1638; 1639
Arsenic	206.5; 1632
Chromium[9]	1639
Cadmium	1637; 1638; 1639; 1640
Chromium VI	218.6; 1639
Copper	1638; 1640
Lead	1637; 1638; 1640
Mercury	245.7; 1631
Nickel	1638; 1639; 1640
Selenium	1638; 1639
Silver	1638
Zinc	1638; 1639

(4) Any approved method presented in 40 CFR Part 136.

(5) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.

(6) Testing for phenol requires continuous extraction.

(7) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for Tributyltin may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].

(8) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(9) The lab may use SW846 Method 8270D provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270D

Outfall 003 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
METALS				
Antimony, dissolved	(3)	14	<1.00	G
Arsenic, dissolved	(3)	10	<3.00	G
Cadmium, dissolved	(3)	0.55	<0.30	G
Chromium III, dissolved [8]	(3)	36	<1.00 A	G
Chromium VI, dissolved [8]	(3)	6.4	<1.00 A	G
Copper, dissolved	(3)	4.2	2.00	G
Lead, dissolved	(3)	5.7	<1.00	G
Mercury, dissolved	(3)	1.0	0.00116	G
Nickel, dissolved	(3)	9.6	<5.00	G
Selenium, dissolved	(3)	3.0	<3.00	G
Silver, dissolved	(3)	0.86	<0.10	G
Thallium, dissolved	(4)	6.3	<0.20	G
Zinc, dissolved	(3)	37	<10.00	G
PESTICIDES / PCBs				
Aldrin	608	0.05	<0.016	G
Chlordane	608	0.2	<0.014	G
Chlorpyrifos (Dursban)	622	(5)	<0.014	G
DDD	608	0.1	<0.021	G
DDE	608	0.1	<0.017	G
DDT	608	0.1	<0.017	G
Demeton	(4)	(5)	<0.521	G
Dieldrin	608	0.1	<0.010	G
Alpha-Endosulfan	608	0.1	<0.014	G
Beta-Endosulfan	608	0.1	<0.017	G
Endosulfan Sulfate	608	0.1	<0.009	G
Endrin	608	0.1	<0.020	G
Endrin Aldehyde	(4)	(5)	<0.019	G

Outfall 003 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Guthion	622	(5)	<0.3577	G
Heptachlor	608	0.05	<0.016	G
Heptachlor Epoxide	(4)	(5)	<0.012	G
Hexachlorocyclohexane Alpha-BHC	608	(5)	<0.007	G
Hexachlorocyclohexane Beta-BHC	608	(5)	<0.013	G
HexachlorocyclohexaneGamma-BHC (Lindane)	608	(5)	<0.011	G
Kepone	(9)	(5)	<0.015	G
Malathion	(4)	(5)	<0.123	G
Methoxychlor	(4)	(5)	<0.017	G
Mirex	(4)	(5)	<0.015	G
Parathion	(4)	(5)	<0.121	G
PCB 1260	608	1.0	<1.00	G
PCB 1254	608	1.0	<1.00	G
PCB 1248	608	1.0	<1.00	G
PCB 1242	608	1.0	<1.00	G
PCB 1232	608	1.0	<1.00	G
PCB 1221	608	1.0	<1.00	G
PCB 1016	608	1.0	<1.00	G
PCB Total	608	7.0	<7.00	G
Toxaphene	608	5.0	<0.057	G
BASE NEUTRALS				
Acenaphthene	625	10.0	<3.00	G
Anthracene	625	10.0	<1.90	G
Benzidine	(4)	(5)	<63.00	G
Benzo (a) anthracene	625	10.0	<7.80	G
Benzo (b) fluoranthene	625	10.0	<4.80	G
Benzo (k) fluoranthene	625	10.0	<2.50	G
Benzo (a) pyrene	625	10.0	<2.50	G

Outfall 003 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Bis 2-Chloroethyl Ether	(4)	(5)	<5.70	G
Bis 2-Chloroisopropyl Ether	(4)	(5)	<5.70	G
Butyl benzyl phthalate	625	10.0	<2.50	G
2-Chloronaphthalene	(4)	(5)	<4.60	G
Chrysene	625	10.0	<2.50	G
Dibenz(a,h)anthracene	625	20.0	<2.50	G
Dibutyl phthalate (Di-n-Butyl Phthalate)	625	10.0	<6.40	G
1,2-Dichlorobenzene	624	10.0	<4.00	G
1,3-Dichlorobenzene	624	10.0	<3.10	G
1,4-Dichlorobenzene	624	10.0	<4.40	G
3,3-Dichlorobenzidine	(4)	(5)	<16.50	G
Diethyl phthalate	625	10.0	<7.40	G
Di-2-Ethylhexyl Phthalate	625	10.0	<2.50	G
Dimethyl phthalate	(4)	(5)	<7.50	G
2,4-Dinitrotoluene	625	10.0	<5.70	G
1,2-Diphenylhydrazine	(4)	(5)	<8.80	G
Fluoranthene	625	10.0	<2.20	G
Fluorene	625	10.0	<3.10	G
Hexachlorobenzene	(4)	(5)	<1.80	G
Hexachlorobutadiene	(4)	(5)	<10.00	G
Hexachlorocyclopentadiene	(4)	(5)	<2.40	G
Hexachloroethane	(4)	(5)	<3.70	G
Indeno(1,2,3-cd)pyrene	625	20.0	<3.70	G
Isophorone	625	10.0	<5.10	G
Nitrobenzene	625	10.0	<4.20	G
N-Nitrosodimethylamine	(4)	(5)	<6.20	G
N-Nitrosodi-n-propylamine	(4)	(5)	<3.60	G
N-Nitrosodiphenylamine	(4)	(5)	<2.70	G

Outfall 003 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Pyrene	625	10.0	<3.80	G
1,2,4-Trichlorobenzene	625	10.0	<7.90	G
VOLATILES				
Acrolein	(4)	(5)	<10.00	G
Acrylonitrile	(4)	(5)	<1.50	G
Benzene	624	10.0	<4.40	G
Bromoform	624	10.0	<4.70	G
Chlorobenzene (monochlorobenzene)	624	50.0	<6.00	G
Chlorodibromomethane	624	10.0	<3.10	G
Chloroform	624	10.0	1.89	G
Dichloromethane (methylene chloride)	624	20.0	<2.80	G
Dichlorobromomethane	624	10.0	<2.20	G
1,2-Dichloroethane	624	10.0	<2.80	G
1,1-Dichloroethylene	624	10.0	<2.80	G
1,2-trans-dichloroethylene	(4)	(5)	<1.60	G
1,2-Dichloropropane	(4)	(5)	<6.00	G
1,3-Dichloropropene	(4)	(5)	<5.90	G
Ethylbenzene	624	10.0	<7.20	G
Methyl Bromide	(4)	(5)	<1.40	G
1,1,2,2-Tetrachloroethane	(4)	(5)	<6.90	G
Tetrachloroethylene	624	10.0	<4.10	G
Toluene	624	10.0	<6.00	G
1,1,2-Trichloroethane	(4)	(5)	<5.00	G
Trichloroethylene	624	10.0	<1.90	G
RADIONUCLIDES				
Strontium 90 (pCi/L)	(4)	(5)	<0.90	G
Tritium (pCi/L)	(4)	(5)	<217	G
Beta Particle & Photon Activity (pCi/L)	(4)	(5)	3.23	G

Outfall 003 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Gross Alpha Particle Activity (pCi/L)	(4)	(5)	<1.06	G
ACIDS				
2-Chlorophenol	625	10.0	<3.30	G
2,4 Dichlorophenol	625	10.0	<5.60	G
2,4 Dimethylphenol	625	10.0	<5.20	G
2,4-Dinitrophenol	(4)	(5)	<42.00	G
2-Methyl-4,6-Dinitrophenol	(4)	(5)	<24.00	G
Pentachlorophenol	625	50.0	<3.60	G
Phenol	625	10.0	<2.70	G
2,4,6-Trichlorophenol	625	10.0	<2.70	G
MISCELLANEOUS				
Ammonia as NH3-N	350.1	200	80	G
Chlorides	(4)	(5)	32,060	G
Chlorine, Total Residual	(4)	100	< 100	G
Cyanide, Total	(4)	10.0	<10.00	G
E. coli / Enterococcus (N/CML)	(4)	(5)	30	G
Hydrogen Sulfide	(4)	(5)	<0.05	G
Tributyltin [7]	NBSR 85-3295	(5)	<0.030	G

A = Result is for total chromium

(1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

SC = Special Composite = samples for base/neutral/acid compounds, PCBs, and pesticides must be collected as 4 individual grab samples taken proportional to flow at 6-hour intervals over the course of one day. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period. Grab samples must be analyzed separately and the concentrations averaged. Alternately, grab samples may be collected in the field and composited in the laboratory if the compositing procedure produces results equivalent to results produced by arithmetic averaging of the results of analysis of individual grab samples.

(3) A specific analytical method is not specified; however a target value for each metal has been established. An appropriate method to meet the target value shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

Metal	Analytical Method
Antimony	1638; 1639
Arsenic	206.5; 1632
Chromium[9]	1639
Cadmium	1637; 1638; 1639; 1640
Chromium VI	218.6; 1639
Copper	1638; 1640
Lead	1637; 1638; 1640
Mercury	245.7; 1631
Nickel	1638; 1639; 1640
Selenium	1638; 1639
Silver	1638
Zinc	1638; 1639

(4) Any approved method presented in 40 CFR Part 136.

(5) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.

(6) Testing for phenol requires continuous extraction.

(7) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for Tributyltin may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].

(8) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(9) The lab may use SW846 Method 8270D provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270D

Outfall 004 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
METALS				
Antimony, dissolved	(3)	130,000	8.00	G
Arsenic, dissolved	(3)	2,800	41.00	G
Cadmium, dissolved	(3)	17	1.10	G
Chromium III, dissolved [8]	(3)	1,100	2.00[A]	G
Chromium VI, dissolved [8]	(3)	200	<10.00	G
Copper, dissolved	(3)	130	8.00	G
Lead, dissolved	(3)	180	<1.00	G
Mercury, dissolved	(3)	1.6	<0.20	G
Nickel, dissolved	(3)	300	25.00	G
Selenium, dissolved	(3)	93	17.00	G
Silver, dissolved	(3)	27	<0.10	G
Thallium, dissolved	(4)	200	0.50	G
Zinc, dissolved	(3)	1,200	26.00	G
PESTICIDES / PCBs				
Aldrin	608	0.05	<0.016	G
Chlordane	608	0.2	<0.014	G
Chlorpyrifos (Dursban)	622	(5)	<0.014	G
DDD	608	0.1	<0.021	G
DDE	608	0.1	<0.017	G
DDT	608	0.1	<0.017	G
Demeton	(4)	(5)	<0.521	G
Dieldrin	608	0.1	<0.010	G
Alpha-Endosulfan	608	0.1	<0.014	G
Beta-Endosulfan	608	0.1	<0.017	G
Endosulfan Sulfate	608	0.1	<0.009	G
Endrin	608	0.1	<0.020	G
Endrin Aldehyde	(4)	(5)	<0.019	G

Outfall 004 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Guthion	622	(5)	<0.3577	G
Heptachlor	608	0.05	<0.016	G
Heptachlor Epoxide	(4)	(5)	<0.012	G
Hexachlorocyclohexane Alpha-BHC	608	(5)	<0.007	G
Hexachlorocyclohexane Beta-BHC	608	(5)	<0.013	G
HexachlorocyclohexaneGamma-BHC (Lindane)	608	(5)	<0.011	G
Kepone	(9)	(5)	<0.015	G
Malathion	(4)	(5)	<0.123	G
Methoxychlor	(4)	(5)	<0.017	G
Mirex	(4)	(5)	<0.015	G
Parathion	(4)	(5)	<0.121	G
PCB 1260	608	1.0	<1.00	G
PCB 1254	608	1.0	<1.00	G
PCB 1248	608	1.0	<1.00	G
PCB 1242	608	1.0	<1.00	G
PCB 1232	608	1.0	<1.00	G
PCB 1221	608	1.0	<1.00	G
PCB 1016	608	1.0	<1.00	G
PCB Total	608	7.0	<7.00	G
Toxaphene	608	5.0	<0.057	G
BASE NEUTRALS				
Acenaphthene	625	10.0	<3.00	G
Anthracene	625	10.0	<1.90	G
Benzidine	(4)	(5)	<63.00	G
Benzo (a) anthracene	625	10.0	<7.80	G
Benzo (b) fluoranthene	625	10.0	<4.80	G
Benzo (k) fluoranthene	625	10.0	<2.50	G
Benzo (a) pyrene	625	10.0	<2.50	G

Outfall 004 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Bis 2-Chloroethyl Ether	(4)	(5)	<5.70	G
Bis 2-Chloroisopropyl Ether	(4)	(5)	<5.70	G
Butyl benzyl phthalate	625	10.0	<2.50	G
2-Chloronaphthalene	(4)	(5)	<4.60	G
Chrysene	625	10.0	<2.50	G
Dibenz(a,h)anthracene	625	20.0	<2.50	G
Dibutyl phthalate (Di-n-Butyl Phthalate)	625	10.0	<6.40	G
1,2-Dichlorobenzene	624	10.0	<4.00	G
1,3-Dichlorobenzene	624	10.0	<3.10	G
1,4-Dichlorobenzene	624	10.0	<4.40	G
3,3-Dichlorobenzidine	(4)	(5)	<16.50	G
Diethyl phthalate	625	10.0	<7.40	G
Di-2-Ethylhexyl Phthalate	625	10.0	<2.50	G
Dimethyl phthalate	(4)	(5)	<7.50	G
2,4-Dinitrotoluene	625	10.0	<5.70	G
1,2-Diphenylhydrazine	(4)	(5)	<8.80	G
Fluoranthene	625	10.0	<2.20	G
Fluorene	625	10.0	<3.10	G
Hexachlorobenzene	(4)	(5)	<1.80	G
Hexachlorobutadiene	(4)	(5)	<10.00	G
Hexachlorocyclopentadiene	(4)	(5)	<2.40	G
Hexachloroethane	(4)	(5)	<3.70	G
Indeno(1,2,3-cd)pyrene	625	20.0	<3.70	G
Isophorone	625	10.0	<5.10	G
Nitrobenzene	625	10.0	<4.20	G
N-Nitrosodimethylamine	(4)	(5)	<6.20	G
N-Nitrosodi-n-propylamine	(4)	(5)	<3.60	G
N-Nitrosodiphenylamine	(4)	(5)	<2.70	G

Outfall 004 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Pyrene	625	10.0	<3.80	G
1,2,4-Trichlorobenzene	625	10.0	<7.90	G
VOLATILES				
Acrolein	(4)	(5)	<10.00	G
Acrylonitrile	(4)	(5)	<1.50	G
Benzene	624	10.0	<4.40	G
Bromoform	624	10.0	<4.70	G
Chlorobenzene (monochlorobenzene)	624	50.0	<6.00	G
Chlorodibromomethane	624	10.0	<3.10	G
Chloroform	624	10.0	<1.60	G
Dichloromethane (methylene chloride)	624	20.0	<2.80	G
Dichlorobromomethane	624	10.0	<2.20	G
1,2-Dichloroethane	624	10.0	<2.80	G
1,1-Dichloroethylene	624	10.0	<2.80	G
1,2-trans-dichloroethylene	(4)	(5)	<1.60	G
1,2-Dichloropropane	(4)	(5)	<6.00	G
1,3-Dichloropropene	(4)	(5)	<5.90	G
Ethylbenzene	624	10.0	<7.20	G
Methyl Bromide	(4)	(5)	<1.40	G
1,1,2,2-Tetrachloroethane	(4)	(5)	<6.90	G
Tetrachloroethylene	624	10.0	<4.10	G
Toluene	624	10.0	<6.00	G
1,1,2-Trichloroethane	(4)	(5)	<5.00	G
Trichloroethylene	624	10.0	<1.90	G
RADIONUCLIDES				
Strontium 90 (pCi/L)	(4)	(5)	<0.498	G
Tritium (pCi/L)	(4)	(5)	<247	G
Beta Particle & Photon Activity (pCi/L)	(4)	(5)	<2.83	G

Outfall 004 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Gross Alpha Particle Activity (pCi/L)	(4)	(5)	4.44	G
ACIDS				
2-Chlorophenol	625	10.0	<3.30	G
2,4 Dichlorophenol	625	10.0	<5.60	G
2,4 Dimethylphenol	625	10.0	<5.20	G
2,4-Dinitrophenol	(4)	(5)	<42.00	G
2-Methyl-4,6-Dinitrophenol	(4)	(5)	<24.00	G
Pentachlorophenol	625	50.0	<3.60	G
Phenol	625	10.0	<2.70	G
2,4,6-Trichlorophenol	625	10.0	<2.70	G
MISCELLANEOUS				
Ammonia as NH3-N	350.1	200	2,360	G
Chlorides	(4)	(5)	118,320	G
Chlorine, Total Residual	(4)	100	< 100	G
Cyanide, Total	(4)	10.0	<10.00	G
E. coli / Enterococcus (N/CML)	(4)	(5)	<2.00	G
Hydrogen Sulfide	(4)	(5)	<50.00	G
Tributyltin [7]	NBSR 85-3295	(5)	0.032	G

A = Result is for total chromium

(1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

SC = Special Composite = samples for base/neutral/acid compounds, PCBs, and pesticides must be collected as 4 individual grab samples taken proportional to flow at 6-hour intervals over the course of one day. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period. Grab samples must be analyzed separately and the concentrations averaged. Alternately, grab samples may be collected in the field and composited in the laboratory if the compositing procedure produces results equivalent to results produced by arithmetic averaging of the results of analysis of individual grab samples.

(3) A specific analytical method is not specified; however a target value for each metal has been established. An appropriate method to meet the target value shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

Metal	Analytical Method
Antimony	1638; 1639
Arsenic	206.5; 1632
Chromium[9]	1639
Cadmium	1637; 1638; 1639; 1640
Chromium VI	218.6; 1639
Copper	1638; 1640
Lead	1637; 1638; 1640
Mercury	245.7; 1631
Nickel	1638; 1639; 1640
Selenium	1638; 1639
Silver	1638
Zinc	1638; 1639

(4) Any approved method presented in 40 CFR Part 136.

(5) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.

(6) Testing for phenol requires continuous extraction.

(7) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for Tributyltin may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].

(8) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(9) The lab may use SW846 Method 8270D provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270D

Outfall 005 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
METALS				
Antimony, dissolved	(3)	130,000	<1.00	G
Arsenic, dissolved	(3)	2,800	5.00	G
Cadmium, dissolved	(3)	17	<0.30	G
Chromium III, dissolved [8]	(3)	1,100	<1.00[A]	G
Chromium VI, dissolved [8]	(3)	200	<10.00	G
Copper, dissolved	(3)	130	<1.00	G
Lead, dissolved	(3)	180	<1.00	G
Mercury, dissolved	(3)	1.6	<0.20	G
Nickel, dissolved	(3)	300	<5.00	G
Selenium, dissolved	(3)	93	4.00	G
Silver, dissolved	(3)	27	<0.10	G
Thallium, dissolved	(4)	200	0.50	G
Zinc, dissolved	(3)	1,200	<10.00	G
PESTICIDES / PCBs				
Aldrin	608	0.05	<0.016	G
Chlordane	608	0.2	<0.014	G
Chlorpyrifos (Dursban)	622	(5)	<0.014	G
DDD	608	0.1	<0.021	G
DDE	608	0.1	<0.017	G
DDT	608	0.1	<0.017	G
Demeton	(4)	(5)	<0.521	G
Dieldrin	608	0.1	<0.010	G
Alpha-Endosulfan	608	0.1	<0.014	G
Beta-Endosulfan	608	0.1	<0.017	G
Endosulfan Sulfate	608	0.1	<0.009	G
Endrin	608	0.1	<0.020	G
Endrin Aldehyde	(4)	(5)	<0.019	G

Outfall 005 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Guthion	622	(5)	<0.3577	G
Heptachlor	608	0.05	<0.016	G
Heptachlor Epoxide	(4)	(5)	<0.012	G
Hexachlorocyclohexane Alpha-BHC	608	(5)	<0.007	G
Hexachlorocyclohexane Beta-BHC	608	(5)	<0.013	G
HexachlorocyclohexaneGamma-BHC (Lindane)	608	(5)	<0.011	G
Kepone	(9)	(5)	<0.015	G
Malathion	(4)	(5)	<0.123	G
Methoxychlor	(4)	(5)	<0.017	G
Mirex	(4)	(5)	<0.015	G
Parathion	(4)	(5)	<0.121	G
PCB 1260	608	1.0	<1.00	G
PCB 1254	608	1.0	<1.00	G
PCB 1248	608	1.0	<1.00	G
PCB 1242	608	1.0	<1.00	G
PCB 1232	608	1.0	<1.00	G
PCB 1221	608	1.0	<1.00	G
PCB 1016	608	1.0	<1.00	G
PCB Total	608	7.0	<7.00	G
Toxaphene	608	5.0	<0.057	G
BASE NEUTRALS				
Acenaphthene	625	10.0	<3.00	G
Anthracene	625	10.0	<1.90	G
Benzidine	(4)	(5)	<63.00	G
Benzo (a) anthracene	625	10.0	<7.80	G
Benzo (b) fluoranthene	625	10.0	<4.80	G
Benzo (k) fluoranthene	625	10.0	<2.50	G
Benzo (a) pyrene	625	10.0	<2.50	G

Outfall 005 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Bis 2-Chloroethyl Ether	(4)	(5)	<5.70	G
Bis 2-Chloroisopropyl Ether	(4)	(5)	<5.70	G
Butyl benzyl phthalate	625	10.0	<2.50	G
2-Chloronaphthalene	(4)	(5)	<4.60	G
Chrysene	625	10.0	<2.50	G
Dibenz(a,h)anthracene	625	20.0	<2.50	G
Dibutyl phthalate (Di-n-Butyl Phthalate)	625	10.0	<6.40	G
1,2-Dichlorobenzene	624	10.0	<4.00	G
1,3-Dichlorobenzene	624	10.0	<3.10	G
1,4-Dichlorobenzene	624	10.0	<4.40	G
3,3-Dichlorobenzidine	(4)	(5)	<16.50	G
Diethyl phthalate	625	10.0	<7.40	G
Di-2-Ethylhexyl Phthalate	625	10.0	<2.50	G
Dimethyl phthalate	(4)	(5)	<7.50	G
2,4-Dinitrotoluene	625	10.0	<5.70	G
1,2-Diphenylhydrazine	(4)	(5)	<8.80	G
Fluoranthene	625	10.0	<2.20	G
Fluorene	625	10.0	<3.10	G
Hexachlorobenzene	(4)	(5)	<1.80	G
Hexachlorobutadiene	(4)	(5)	<10.00	G
Hexachlorocyclopentadiene	(4)	(5)	<2.40	G
Hexachloroethane	(4)	(5)	<3.70	G
Indeno(1,2,3-cd)pyrene	625	20.0	<3.70	G
Isophorone	625	10.0	<5.10	G
Nitrobenzene	625	10.0	<4.20	G
N-Nitrosodimethylamine	(4)	(5)	<6.20	G
N-Nitrosodi-n-propylamine	(4)	(5)	<3.60	G
N-Nitrosodiphenylamine	(4)	(5)	<2.70	G

Outfall 005 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Pyrene	625	10.0	<3.80	G
1,2,4-Trichlorobenzene	625	10.0	<7.90	G
VOLATILES				
Acrolein	(4)	(5)	<10.00	G
Acrylonitrile	(4)	(5)	<1.50	G
Benzene	624	10.0	<4.40	G
Bromoform	624	10.0	<4.70	G
Chlorobenzene (monochlorobenzene)	624	50.0	<6.00	G
Chlorodibromomethane	624	10.0	<3.10	G
Chloroform	624	10.0	<1.60	G
Dichloromethane (methylene chloride)	624	20.0	<2.80	G
Dichlorobromomethane	624	10.0	<2.20	G
1,2-Dichloroethane	624	10.0	<2.80	G
1,1-Dichloroethylene	624	10.0	<2.80	G
1,2-trans-dichloroethylene	(4)	(5)	<1.60	G
1,2-Dichloropropane	(4)	(5)	<6.00	G
1,3-Dichloropropene	(4)	(5)	<5.90	G
Ethylbenzene	624	10.0	<7.20	G
Methyl Bromide	(4)	(5)	<1.40	G
1,1,2,2-Tetrachloroethane	(4)	(5)	<6.90	G
Tetrachloroethylene	624	10.0	<4.10	G
Toluene	624	10.0	<6.00	G
1,1,2-Trichloroethane	(4)	(5)	<5.00	G
Trichloroethylene	624	10.0	<1.90	G
RADIONUCLIDES				
Strontium 90 (pCi/L)	(4)	(5)	<0.771	G
Tritium (pCi/L)	(4)	(5)	977	G
Beta Particle & Photon Activity (pCi/L)	(4)	(5)	2.88	G

Outfall 005 Analytical Data for Water Quality Criteria Parameters

CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL[1]	RESULT (ug/L)	SAMPLE TYPE[2]
Gross Alpha Particle Activity (pCi/L)	(4)	(5)	<1.92	G
ACIDS				
2-Chlorophenol	625	10.0	<3.30	G
2,4 Dichlorophenol	625	10.0	<5.60	G
2,4 Dimethylphenol	625	10.0	<5.20	G
2,4-Dinitrophenol	(4)	(5)	<42.00	G
2-Methyl-4,6-Dinitrophenol	(4)	(5)	<24.00	G
Pentachlorophenol	625	50.0	<3.60	G
Phenol	625	10.0	<2.70	G
2,4,6-Trichlorophenol	625	10.0	<2.70	G
MISCELLANEOUS				
Ammonia as NH3-N	350.1	200	10.00	G
Chlorides	(4)	(5)	4,840	G
Chlorine, Total Residual	(4)	100	< 100	G
Cyanide, Total	(4)	10.0	<10.00	G
E. coli / *Enterococcus* (N/CML)	(4)	(5)	<2.00	G
Hydrogen Sulfide	(4)	(5)	<50.00	G
Tributyltin [7]	NBSR 85-3295	(5)	0.030	G

A = Result is for total chromium

(1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour **(PW - Revise as required to require same composite duration as BOD_5)** composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

SC = Special Composite = samples for base/neutral/acid compounds, PCBs, and pesticides must be collected as 4 individual grab samples taken proportional to flow at 6-hour intervals over the course of one day. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period. Grab samples must be analyzed separately and the concentrations averaged. Alternately, grab samples may be collected in the field and composited in the laboratory if the compositing procedure produces results equivalent to results produced by arithmetic averaging of the results of analysis of individual grab samples.

(3) A specific analytical method is not specified; however a target value for each metal has been established. An appropriate method to meet the target value shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

Metal	Analytical Method
Antimony	1638; 1639
Arsenic	206.5; 1632
Chromium[9]	1639
Cadmium	1637; 1638; 1639; 1640
Chromium VI	218.6; 1639
Copper	1638; 1640
Lead	1637; 1638; 1640
Mercury	245.7; 1631
Nickel	1638; 1639; 1640
Selenium	1638; 1639
Silver	1638
Zinc	1638; 1639

(4) Any approved method presented in 40 CFR Part 136.

(5) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.

(6) Testing for phenol requires continuous extraction.

(7) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for Tributyltin may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].

(8) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

(9) The lab may use SW846 Method 8270D provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270D .