This document gives pertinent information concerning reissuance of the VPDES Permit listed below. This permit is being processed as a **Minor**, **Industrial** permit. The discharge results from the operation of a wood pressure treating facility. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS (effective January 6, 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1.	Facility Name and Mailing Address:	Culpeper Wood Preservers Ruffin Creek P.O. Box 1148 Culpeper, VA 22701	SIC Code :	2491 (Wood Preserving)
	Facility Location:	10299 Tidewater Trail Fredericksburg, VA 22408	County:	Spotsylvania
	Facility Contact Name:	Mr. Joseph Daniel	Telephone Number:	(540) 825-5898
	Facility E-mail Address:	Joe_daniel@culpeperwood.com		
2.	Permit No.:	VA0090468	Expiration Date of previous permit:	10/26/2015
	Other VPDES Permits associated with this facility:		None	
	Other Permits associated with this facility:		Hazardous Waste EPA ID No. VAR0000046698 Air Registration No. 40725	
	E2/E3/E4 Status:	NA		
3.	Owner Name:	Ruffin Creek Properties, LLC		
	Owner Contact/Title:	Mr. Joseph R. Daniel/President	Telephone Number:	(540) 825-5898
	Owner E-mail Address:	Joe_daniel@culpeperwood.com		
4.	Application Complete Date:	1/12/2015		
	Permit Drafted By:	Anna Westernik	Date Drafted:	4/20/2016
	Draft Permit Reviewed By:	Doug Frasier	Date Reviewed:	4/22/2016
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	5/4/2016
	Public Comment Period :	Start Date: 7/12/2016	End Date:	8/11/2016

5. Receiving Waters Information: The receiving water, Ruffin Pond, is considered to have a 7Q10 and 1Q10 of 0.0 MGD because the Virginia Water Quality Standards at 9VAC25-260-20B.4 state that mixing zones are not allowed for lakes and ponds

Receiving Stream Name :	Ruffin Pond	Stream Code:	3-MAP
Drainage Area at Outfall:	37.5 sq. mi.	River Mile:	0.87
Stream Basin:	Rappahannock River	Subbasin:	Lower Rappahannock River
Section:	4	Stream Class:	III
Special Standards:	None	Waterbody ID:	VAN-E20R
7Q10 Low Flow:	0.0 MGD	7Q10 High Flow:	0.0 MGD
1Q10 Low Flow:	0.0 MGD	1Q10 High Flow:	0.0 MGD
30Q10 Low Flow:	0.0 MGD	30Q10 High Flow:	0.0 MGD
Harmonic Mean Flow:	0.0 MGD	30Q5 Flow:	0.0 MGD

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

X	State Water Control Law	**X**	EPA Guidelines
X	Clean Water Act	**X**	Water Quality Standards
X	VPDES Permit Regulation	____	Other
X	EPA NPDES Regulation		

7. Licensed Operator Requirements: NA

8. Reliability Class: NA

9. Permit Characterization:

X	Private	**X**	Effluent Limited	____	Possible Interstate Effect
____	Federal	**X**	Water Quality Limited	____	Compliance Schedule Required
____	State	**X**	Whole Effluent Toxicity Program Required	____	Interim Limits in Permit
____	WTP	____	Pretreatment Program Required	____	Interim Limits in Other Document
____	TMDL	**X**	e-DMR Participant		

10. Wastewater Sources and Treatment Description:

Ruffin Creek Properties, LLC is a treating and storage plant for dimensional lumber using Micronized Copper Azanol (MCA). Hazardous ingredients in MCA include copper carbonate and tebuconazole. MCA replaced the use of ACQ-C^2 (10% copper oxide in aqueous ammonia) and Q-50 solutions in February 2008. Chromated copper arsenate (CCA) has also been used at this site to treat lumber. See **Attachment 1** for the MCA Safety Data Sheets (SDS).

White pine lumber is received at the facility by either truck or rail. The wood is then inspected, sorted, and labeled for processing. Dimensional lumber is treated within a cylinder where the MCA solution is introduced into the wood via pressure. After treatment, the lumber is placed on an elevated drip pad for drying (a 12 to 48 hour period until drippage ceases). The drip pad area has secondary containment with an impermeable plastic liner. Any chemical treatment product that has dripped from the lumber is captured on the pad, filtered and reused. The sump system is periodically cleaned to remove any sediment that has accumulated during the treatment process. All processing occurs within this covered facility.

Approximately 20% of the treated wood is stored under roof and 80% is stored uncovered. Most chemicals used on site are stored within a tank farm. This area has a closed loop system within secondary containment where all loading, mixing and recycling takes place. Permitted discharge from the facility is solely stormwater runoff from the lumber storage site to a stormwater detention pond, rip-rap overland flow, and then Ruffin Pond. Ruffin Pond discharges to the Rappahannock River below the Massaponax WWTP Outfall 001 location.

See **Attachment 2** for the NPDES Permit Rating Worksheet.

A facility schematic/diagram was provided by the facility as part of the application package and can be found as **Attachment 3**.

TABLE 1 – OUTFALL DESCRIPTION

Outfall Number	Discharge Sources	Treatment	Max 30-day Flow	Outfall Latitude/Longitude
001	Industrial Stormwater	See Item 10 above.	Variable Stormwater Flow Maximum Flow for 1st Qtr. 2011 -- 4th Qtr. 2015 is 0.97 MGD	38° 14′ 31″ N 77° 24′ 38″ W
See **Attachment 4** for (Guinea Quad, DEQ #169B) topographic map.				

11. Solids Treatment and Disposal Methods:

The drip pad and tramway is cleaned at least weekly. Cylinder sludge, which consists of an accumulation of dirt, saw dust, wood fibers and small amounts of treating solution, is disposed of as hazardous waste. Material from the drip pad and cylinder is placed in a U.S. Department of Transportation 55-gallon drum with a DOT hazardous materials waste label indicating the accumulation start date, the nature of the drum's contents, and the U. S. Environmental Protection Agency (EPA) generator identification number. Loose debris, such as wood, gravel or strapping, are removed from the storage and travel areas of the drip pad daily. These materials are placed in waste drums for proper disposal.

12. Wastewater Discharges to Waterbody VAN-E20R

TABLE 2 DISCHARGES WITHIN WATERBODY VAN-E20R		
Individual VPDES Discharge Permits		
Permit No.	**Facility Name**	**Receiving Stream**
VA0029785	Lincoln Terminal Company	Deep Run, UT
VA0068934	Glenwood Mobile Home Park	Massaponax Creek, UT
Carwash General Permits		
Permit No.	**Facility Name**	**Receiving Stream**
VAG750242	Enterprise Rent-A-Car	Long Branch, UT
Nonmetallic Mineral Mining General Permits		
Permit No.	**Facility**	**Receiving Stream**
VAG840112	Aggregate Industries MAR-King George Sand and Gravel	Rappahannock River
VAG840217	Aggregate Industries MAR-King George Sand and Gravel	Rappahannock River, UT
VAG840217	Fulks Sand and Gravel Facility	Rappahannock River
VAG840096	Martin Marietta - Carmel Church	Long Creek
VAG840228	Albion Sand and Gravel	Rappahannock River, UT
Stormwater Industrial General Permits		
Permit No.	**Facility Name**	**Receiving Stream**
VAR050987	BFI Fredericksburg Recyclery	Hazel Run
VAR051052	United Parcel Service - Fredericksburg	Deep Run, UT
VAR052065	Pick A Part South LLC	Massaponax Creek, UT
VAR052262	Cellofoam North America Incorporated	Claiborne Run, UT
VAR051918	Tru Tech Doors USA Incorporated	Massaponax Creek, UT
VAR052102	MAPEI Fredericksburg - External Warehouse	Massaponax Creek, UT
VAR051091	Anderson Oil Company - Bulk Storage Terminal	Rappahannock River, UT
VAR051679	Superior Paving Corporation - Bellman Road	Hazel Run
VAR050865	Onduline North America Incorporated	Massaponax Creek, UT
VAR051621	CMC Rebar Fredericksburg	Haislip Pond, UT
VAR052019	M & M Late Model Division	Hazel Run, UT
VAR051885	Crossroad Yard Maintenance Facilities	Haislip Pond, UT
VAR051012	Virginia Paving Co - Fredericksburg - Div of Lane	Massaponax Creek, UT
VAR051832	Summit Recycling	Hazel Run, UT
VAR052007	Fredericksburg Scrap Metal	Massaponax Creek, UT
VAR050991	Cellofoam North America Inc - Fredericksburg	Deep Run
VAR051012	Virginia Paving Co - Fredericksburg - Div of Lane	Massaponax Creek
VAR050897	All Foreign Used Auto Parts Incorporated	Falls Run, UT
VAR052043	MAPEI Americas	Falls Run, UT
VAR050989	Printpack Incorporated	Deep Run, UT

Single Family Home General Permits		
Permit No.	**Facility Name**	**Receiving Stream**
VAG406524	Thompson Building Corp Caroline Village	Massaponax Creek, UT
VAG406523	Ryalls Ashley Residence	Massaponax Creek, UT
Petroleum General Permits		
Permit No.	**Facility Name**	**Receiving Stream**
VAG830474	Dixon Auto Fueling Site	Deep Run, UT
VAG830492	Woodfin Heating - Fredericksburg	Deep Run, UT
Concrete General Permit		
Permit No.	**Facility Name**	**Receiving Stream**
VAG110128	Rowe Concrete LLC - King George Plant	Guitcatic Creek, UT
VAG110095	Aggregate Industries MAR - Falmouth	Rappahannock River, UT
VAG110093	Titan Virginia Ready Mix LLC - Stafford	England Run, UT
VAG110098	Virginia Concrete Plant New Post Plant	Ruffin Pond, UT
VAG110107	Old Castle Precast Incorporated	Massaponax Creek, UT
VAG110328	Essroc Ready Mix Corporation	Massaponax Creek, UT
VAG110098	Virginia Concrete Plant New Post Plant	Ruffin Creek, UT

13. Material Storage:

This facility normally stores approximately 6,000 gallons of MCA concentrate within an 8,000 gallon fiberglass tank located on the drip pad. Additionally, a maximum volume of 45,000 of MCA solution mixed with water is stored in three steel tanks (two 20,000 gallon steel Work Solution Tanks and one 5,000 gallon Mix Tank). See **Attachment 5.**

14. Site Inspection:

Performed by DEQ staff members; Anna Westernik and Martin Robinson on February 26, 2016 (**Attachment 6**).

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data
This facility discharges to Ruffin Pond, which is designated as Massaponax Creek (MAP); it has not been monitored or assessed.

The nearest downstream DEQ station with ambient monitoring data is located on the Rappahannock River, approximately 0.87 miles downstream from Outfall 001. Ambient Monitoring Station 3-RPP098.81 is located near the confluence with Muddy Creek, approximately 6.1 miles downstream from Outfall 001. The following is the water quality summary for this segment of the Rappahannock River, as taken from the 2014 Integrated Report:

Class II, Section 1, Special Standard a

DEQ monitoring stations used for assessing this segment of the Rappahannock River:

- ambient water quality monitoring station 3-RPP098.81, at Buoy 112
- fish tissue/sediment station 3-RPP080.19
- ambient station 3-RPP104.47, one hundred yards below the Massaponax WWTF

The fish consumption use was assessed using DEQ fish tissue/sediment station 3-RPP080.19 (located in downstream segment) and is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory and sufficient excursions above the fish tissue value (TV) for PCBs in fish tissue. Additionally, one excursion above the risk-based tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue was recorded in one species of fish (1 total samples) collected in 2006 at monitoring station 3-RPP080.19 (channel catfish), noted by an observed effect.

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. A Bacteria TMDL for this portion of the Rappahannock River was approved by EPA on May 5, 2008. The shellfishing use was not assessed. The wildlife use is considered fully supporting.

b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 3 – 303(d) LISTED STREAM SEGMENT AND TMDLS

Waterbody Name	Impaired Use	Cause	Distance from Outfall	Year First Listed as Impaired	TMDL Completed	WLA	Basis for WLA
Impairment Information in the 2014 Integrated Report							
Rappahannock River	Recreation	E. Coli	0.87 miles	1998	Tidal Freshwater Rappahannock River Bacteria 05/05/2008	None (not expected to discharge pollutant)	---
	Fish Consumption	PCBs		2004	---	---	---
	Aquatic Life	Dissolved Oxygen		2014	Chesapeake Bay TMDL 12/29/2010	This facility is accounted for in the Chesapeake Bay TMDL. It is included in the NPDES Permit Inventory and is part of an aggregated WLA for Total Nitrogen, Total Phosphorus, and Total Suspended Solids (Appendix Q).	

The aquatic life use is considered not supporting, however a TMDL has been completed for the Chesapeake Bay watershed. Assessment of the thirty day mean dissolved oxygen values during the summer season indicates that the open-water aquatic life subuse is not met. The seven day mean and instantaneous dissolved oxygen levels have not been assessed. The submerged aquatic vegetation data is assessed as fully supporting. Tidal freshwater Rappahannock B-IBI (benthic community) assessed as fully supporting the aquatic life use.

The Chesapeake Bay TDML implementation is currently administered in accordance with the Commonwealth of Virginia's Phase I Watershed Implementation Plan (WIP); approved by EPA on December 29, 2010. The approved WIP recognizes the *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed of Virginia*, 9VAC25-820 et seq., as governing the nutrient allocations for non-significant Chesapeake Bay dischargers. Nutrient WLAs for non-significant industrial facilities were based on estimated TN and TP load levels obtained from Discharge Monitoring Report (DMR) data and typical effluent concentrations established by Standard Industrial Classification (SIC) codes.

The TN, TP and TSS wasteload allocations contained within the WIP are considered aggregate allocations. Per current agency guidance, monitoring of TN, TP and TSS will be required during this permit term to verify these estimated facility nutrient loads and the subsequent aggregate wasteload allocations.

The planning statement is found in **Attachment 7**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Ruffin Pond, is located within Section 4 of the Rappahannock River Basin and is a Class III water.

Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, and a temperature that does not exceed 32° C at all times and maintain a pH of 6.0 – 9.0 standard units (S.U.).

1) Ammonia Criteria:
Ammonia criteria are not being evaluated with this permit reissuance because the facility discontinued use of ACQ-C[2] (10% copper oxide in aqueous ammonia) in 2008.

2) Metals Criteria:
The Water Quality Criteria for some metals are dependent on the receiving stream and/or effluent total hardness values (expressed as mg/L calcium carbonate). The critical receiving stream flows are considered to be zero (see Section 5 of this fact sheet); therefore, the effluent data for hardness can be used to determine the metals criteria. The hardness-dependent metals criteria in **Attachment 8** are based on an average effluent hardness value of 32 mg/L derived from effluent monitoring conducted from the first quarter of 2011 to the fourth quarter of 2015 (see **Attachment 9**).

d. Receiving Stream Special Standards
The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Ruffin Pond, is located within Section 4 of the Rappahannock River Basin. This section has not been designated with a special standard.

e. Threatened or Endangered Species
The Virginia DGIF Fish and Wildlife Information System Database was searched on April 15, 2016 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2-mile radius of the discharge: the Red-Cockaded Woodpecker, the Atlantic Sturgeon, the Dwarf Wedgemussel, the Northern Long-Eared Bat, the little Brown Bat, the Tri-Colored Bat, the Loggerhead Shrike, Bachman's Sparrow, the Green Floater, and the Migrant Loggerhead Shrike. The monitoring requirements proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

In June 2010, Ernie Aschenbach of the Virginia Department of Game and Inland Fisheries provided the following comments regarding the permit reissuance for this facility:

> *"We have reviewed the VPDES renewal# VA0090468 for the discharge of stormwater runoff from the Ruffin Creek Properties, LLC (Culpeper Wood Preservers -- Ruffin Creek) near Fredericksburg, Virginia. Discharge is comprised solely of stormwater runoff. All wood preserving takes place under cover and product or treated lumber does not come in contact with stormwater. Changes to the existing permit are not proposed. The receiving stream is Ruffin Pond.*
>
> *According to our records, the State Threatened (ST) green floater (mussel) is known from the area. The Rappahannock River, a designated Threatened and Endangered (T&E) species water for this species, is also within the project area. According to the application, the receiving stream is Ruffin Pond; discharge from this pond into the Rappahannock River is not mentioned.*
>
> *Provided the applicant complies with the effluent limitations of the permit, we do not anticipate the renewal of this permit to result in adverse impact to this T&E water or its associated species. We also recommend contacting the USFWS regarding all federally listed species. "*

Mr. Aschenbach stated in correspondence dated April 16, 2016, *"Provided the discharge volume and effluent characteristics remain the same, we reiterate our existing recommendations, which remain valid."* See **Attachment 10**.

Attachment 8 details all water quality criteria applicable to the receiving stream.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on the critical stream flows, surrounding industrial activity, and downstream impairments noted in Section 15 of this Fact Sheet. It is staff's best professional judgment that such streams are Tier 1 since the proposed permit limits and monitoring requirements are set to maintain the Water Quality Standards. These

permit conditions have been established that will result in attaining and/or maintaining all water quality criteria applicable to the receiving stream, including narrative criteria; providing for the protection and maintenance of all existing uses.

17. Effluent Screening, Action Level Development, and Groundwater Monitoring:

a. Stormwater Monitoring

VA-DEQ Guidance Memo 96-001 recommends that chemical water quality-based limits not be placed on storm water outfalls at this time because the methodology for developing limits and the proper method of sampling is still a concern and under review/reevaluation by EPA. Exceptions would be where a VPDES permit for a storm water discharge has been issued that includes effluent limitations (backsliding must be considered before these limitations can be modified) and where there are reliable data, obtained using sound, scientifically defensible procedures, which provide the justification and defense for an effluent limitation. Therefore, in lieu of limitations, pollutants are assessed against screening criteria developed solely to identify those pollutants that should be given special emphasis during development and assessment of the Storm Water Pollution Prevention Plan (SWPPP).

Stormwater discharges are considered intermittent and as such, the primary concern would be acute water quality impacts. The duration of this discharge is not expected to occur for four or more consecutive days (96 hours). Water Quality Criteria for human health (and chronic toxicity to a lesser degree) are based upon long term, continuous exposure to pollutants from effluents, and stormwater discharges are short term and intermittent. Therefore, it is believed that acute criteria should be used to derive the screening criteria.

Screening (i.e., decision) values expressed as action levels have been established at two times the acute water quality criterion established in the Virginia Water Quality Standards (9VAC25-260 et.seq.). There two primary reasons the action levels are established at two times the criterion. First, the acute criteria is defined as one-half of the final acute value (FAV) for a specific toxic pollutant. The FAV is determined from exposure of the specific toxicant to a variety of aquatic species, and is based on the level of a chemical or mixture of chemicals that does not allow the mortality, or other specified response, of aquatic organisms. These criteria represent maximum pollutant concentration values, which when exceeded, would cause acute effects on aquatic life in a short time period.

Second, if it is raining a sufficient amount to generate a discharge of stormwater, it is assumed that the receiving stream flow will be greater than the critical flows of zero million gallons per day for intermittent streams due to stormwater runoff within the stream's drainage area. In recognition of the FAV and the dilution caused by the rainfall, the action levels were calculated by multiplying the acute Water Quality Criteria by two (2). The acute criterion and action levels established in the permit are presented in **Attachment 8.**

Action level screening values are applied solely to identify those pollutants that should be given special emphasis during development of the Stormwater Pollution Prevention Plan (SWPPP). This permit established a stormwater action level of 9.2 µg/L for dissolved copper (based on an average hardness of 32 mg/L) because copper is currently used on site for wood treatment. This action level was exceeded during the last permit cycle. Therefore, per Part III.D.1.a of the permit, the effectiveness of the SWPPP and Best Management Practices (BMPs) in use shall be reexamined within 90 days of the date of this permit reissuance and modified as necessary to address any deficiencies that caused the exceedances. The revised SWPPP with noted changes shall be submitted to DEQ for review within 120 days of this permit reissuance date. See **Attachment 11** for a summary of the effluent stormwater copper monitoring data from February 2010 to October 2015.

Should stormwater monitoring results for a parameter exceed the given end point during this permit cycle, the permittee shall reexamine the effectiveness of the SWPPP and BMPs in use per Part III.D.j.2 of the permit to address any deficiencies that caused the exceedances.

In order to assess the presence of nutrients within the discharge for the Chesapeake Bay, this facility shall perform semi-semiannual monitoring for TN, TP, and TSS at Outfall 001 for two years per DEQ Guidance Memo No. 14-2011 – *Nutrient Monitoring for "Nonsignificant" Discharges to the Chesapeake Bay Watershed*

All reported stormwater values shall be expressed as daily maximum levels.

b. Effluent Limitations – Federal Effluent Guidelines

40 CFR Part 429, Subparts F-H, establishes Federal Effluent Limitation Guidelines for the Timber Products Processing Point Source Category. This part applies to any timber products processing operation, and any plant producing insulation board with wood as the major raw material that discharges or may discharge process

wastewater pollutants to the waters of the United States or that introduces or may introduce process wastewater pollutants into a publicly owned treatment works. The term "process wastewater" specifically excludes material storage yard runoff (either raw material or processed wood storage). Discharge of process wastewater is not allowed at this facility. Therefore, the requirements of 40 CFR Part 429 do not apply to this permit.

c. Groundwater Monitoring

A review of the annual groundwater monitoring results for 2012, 2013, 2014, and 2015 was conducted. The results show that copper was detected in Monitoring Wells 6 and 8 in September 2015. The values detected in Monitoring Wells 6 and 8, 0.00825 mg/L and 0.0174 mg/L, were well below the copper groundwater standard of 1 mg/L found in the Virginia Statewide Groundwater Standards at 9VAC25-280-40. See **Attachment 12** for the groundwater monitoring summary. Groundwater monitoring shall continue to be conducted annually for the parameters shown in Part I.A.2 of this permit.

d. Effluent Limitations and Monitoring Summary

Stormwater and groundwater monitoring requirements are summarized in the following tables. Stormwater limits for pH and monitoring for flow, total hardness, total copper, TN, TP, TSS, and toxicity is required. Sample Type and frequency are in accordance with the recommendations in the VPDES Permit Manual. Groundwater shall be monitored for static water level, pH, conductivity, and total copper.

18. Antibacksliding:

All limits are as stringent as those in the last permit reissuance. Antibacksliding does not apply to this reissuance.

19. a Effluent Limitations/Monitoring Requirements:

The volume of flow discharged from Outfall 001 is variable. The maximum stormwater runoff from this industrial facility, based on past history, is 0.97 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/3M [a]	Estimate
pH (S.U.)	1, 2	NA	NA	6.0	9.0	1/3M [a]	Grab
Hardness, Total (mg/L as $CaCO_3$)	2	NA	NA	NA	NL	1/3M [a, b]	Grab
Dissolved Copper (µg/L)	1	NA	NA	NA	NL	1/3M [a, b, c, d, g]	Grab
Total Kjeldahl Nitrogen (TKN) (mg/L)	3, 4	NA	NA	NA	NL	1/6M [d, e, i]	Grab
Nitrate+Nitrite, as N (mg/L)	3, 4	NA	NA	NA	NL	1/6M [e, i]	Grab
Total Nitrogen (mg/L)	3, 4	NA	NA	NA	NL	1/6M [e, f, g, i]	Calculated
Total Phosphorus (mg/L)	3, 4	NA	NA	NA	NL	1/6M [e, g, i]	Grab
Total Suspended Solids (mg/L)	3, 4	NA	NA	NA	NL	1/6M [d, e, h, i]	Grab
Acute Toxicity – *C. dubia* (%)	2	NA	NA	NA	NL	1/YR [b, c, j, k]	Grab
Acute Toxicity – *P. promelas* (%)	2	NA	NA	NA	NL	1/YR [b, c. j, k]	Grab

The basis for the limitations codes are:

1. Virginia Water Quality Standards
2. Professional Judgment
3. Chesapeake Bay TMDL/WIP
4. Guidance Memo No. 14-2011 – *Nutrient Monitoring for "Nonsignificant" Discharges to the Chesapeake Bay Watershed*

MGD = Million gallons per day.
NA = Not applicable.
NL No limit; monitor and report.
S.U. = Standard units.

1/3M = Once every three months.
1/6M = Once every six months.
1/YR = Once every year.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

[a] The quarterly monitoring periods shall be January through March, April through June, July through September, and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.
[b] Copper, toxicity, and total hardness monitoring shall be conducted simultaneously.
[c] The following action levels are applicable: Total Dissolved Copper 9.2 µg/L
[d] The following quantification levels are applicable: TSS 1.0 mg/L; TKN 0.50 mg/L; Dissolved Copper 1.8 µg/L.
[e] The semiannual monitoring periods shall be January through June and July through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.
[f] Total Nitrogen = sum of TKN plus Nitrate+Nitrite.
[g] See Part III of the permit for further additional requirements for stormwater discharges
[h] TSS shall be expressed as two significant figures.
[i] Monitoring and reporting are only required during the first two years of the permit term (i.e. four sampling periods).
[j] See Part I.C of the permit.
[k] The annual monitoring periods shall be January 1 through December 31 of each year. The DMR shall be submitted no later than the 10th of January of the year following the monitoring activity.

19. b Groundwater Monitoring Requirements

Monitoring Point: Groundwater monitoring wells MW-4, MW-6, MW-8, MW-10 or those groundwater monitoring wells determined by a revised Groundwater Monitoring Plan.

Effective Dates: During the period beginning with the permit effective date and lasting until the permit expiration date, whichever occurs first.

PARAMETER	BASIS FOR LIMITS	LIMITATIONS	MONITORING REQUIREMENTS	
			Frequency	Sample Type
Static Water Level (ft./in.) (Measured to the Nearest 0.01 ft.)	1	NL	1/YR	Measured
pH (S.U.)	1, 2, 3	NL	1/YR	Grab
Conductivity (µmhos/cm)	1	NL	1/YR	Grab
Total Copper (µg/L)	1, 2, 3	NL	1/YR	Grab

The basis for the limitations codes are:

1. Professional Judgment
2. 9VAC25 280 et seq. (State Water Control Board Groundwater Standards)
3. 40 CFR Part142 (National Primary and Secondary Drinking Water Regulations)

Static Water Level = The static water level shall be measured prior to bailing the well water for sampling. At least three volumes of groundwater shall be withdrawn immediately prior to sampling each monitoring well.

NL = No limit; monitor and report.

S.U. = Standard units.

1/YR = Once every year. The monitoring data shall be submitted by the 10th of January of each year.

20. Other Permit Requirements:

a. Part I.B. of the permit contains quantification levels and compliance reporting instructions.
Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

b. Permit Section Part I.C. details the requirements for Whole Effluent Toxicity Program
Whole Effluent Toxicity (WET) refers to the aggregate toxic effect to aquatic organisms from all pollutants present within a facility's stormwater runoff. This program is one approach to comply with the Clean Water Act's prohibition of the discharge of toxic pollutants in toxic amounts. WET testing allows for the measurement of the stormwater's potential effects on specific test organism's ability to survive, grow, and reproduce.

The VPDES Permit Regulation at 9VAC25-31-220.D.1.a-d requires limitations within permits to provide for and ensure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. Limitations must control all pollutants or pollutant parameters that the Board determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any Virginia water quality standard, including narrative criteria. The determination whether a discharge causes or contributes to an instream excursion above a narrative or numeric criteria shall utilize procedures that account for existing controls on sources of pollution, variability of the pollutant, species sensitivity and dilution of the effluent in the receiving stream. If it is determined that a reasonable potential exists to cause or contribute to an instream excursion of narrative criterion of the water quality standard, the permit must contain effluent limits for whole effluent toxicity. However, limits may not be necessary when it is demonstrated that chemical-specific limits are sufficient to attain and maintain applicable numeric and narrative water quality standards.

A WET Program is imposed for industrial facilities based on the facility's SIC code, instream waste concentration (IWC) and/or those required by the Board based on effluent variability, compliance history, existing treatment processes and/or the receiving stream characteristics. Stormwater runoff from wood preservers has been found to be potentially toxic to aquatic life due to the chemicals utilized in the past and present and previous operations and practices. Stormwater runoff is typically mitigated via onsite standard operating procedures (SOPs) and/or best management practices (BMPs) to minimize the migration of potential pollutants from the property.

Ruffin Creek Properties, LLC is a wood preservers and hence, an industrial discharger with an effluent that may be potentially toxic. Acute toxicity tests conducted during the last permit term are acceptable. The test results indicate that the effluent samples from Outfall 001 exhibit no acute toxicity to the test species (See **Attachment 13** for the WET Testing summary). Annual acute toxicity testing using *C. dubia* and *P. promelas* shall be continued with this reissuance.

21. Other Special Conditions:

a. Operations and Maintenance (O&M) Manual Requirement. Required by the Code of Virginia at §62.1-44.19, the VPDES Permit Regulation at 9VAC25-31-190.E, and 40 CFR 122.41(e). The permittee shall maintain an O&M Manual that reflects current facility operations on site. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

b. Notification Levels
Required by the VPDES Permit Regulation at 9VAC-31-200A for all manufacturing, commercial, mining, and silvacultural discharges. The permittee shall notify the Department as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

   a) One hundred micrograms per liter;

   b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;

c) Five times the maximum concentration value reported for that pollutant in the permit application; or

d) The level established by the Board.

2. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

a) Five hundred micrograms per liter;

b) One milligram per liter for antimony;

c) Ten times the maximum concentration value reported for that pollutant in the permit application; or

d) The level established by the Board.

c. Materials Handling/Storage. 9VAC25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. The Code of Virginia at §62.1-44.16 and §62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

d. Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based effluent limitations, the permit may be modified or alternately revoked and reissued to impose such water quality-based limitations.

e. Chemical Treatment. The permittee shall notify the DEQ Northern Regional Office 90 days prior to use of any new wood treatment chemicals. Upon notification, the Regional Office shall determine if this activity warrants a modification of the permit.

f. Handling and Storage of Treated Lumber. Treated lumber that is stored under roof shall be retained on the drip pad for at least 12 hours after treatment or until it there is no visible drippage. Treated lumber that is to be stored uncovered shall be retained on the drip pad for at least 48 hours after treatment or until there is no visible drippage.

Within one year of this permit reissuance date, the permittee shall prepare and submit for approval, a treated lumber management plan that will serve to prevent or reduce, to the extent practicable, the contact of exposed treated lumber with precipitation. This plan shall include a log of all treated wood storage that includes the process used to treat the wood (including the volumes of chemicals used), the quantity of treated lumber stored, the storage duration, and the storage location. The log summary shall be retained on site for a minimum of three years.

Once approved, this treated lumber management plan shall be incorporated into the O&M Manual and become an enforceable condition of this permit.

g. Process Wastewater Pollutants. There shall be no discharge of process wastewater pollutants. Per 40 CFR Part 429 (Federal Effluent Limitation Guidelines for the Timber Products Processing Point Source Category) process wastewater specifically excludes material storage yard runoff (either raw material or processed wood storage).

h. Groundwater Monitoring. The permittee shall continue sampling and reporting groundwater monitoring in accordance with Part I.A.2 of the permit and Groundwater Monitoring Plan. The purpose of this plan is to determine if the system integrity is being maintained and to indicate if activities at the site are resulting in violations of the Board's Groundwater Standards. The permittee shall review the existing Groundwater Monitoring Plan and revise it in accordance with the requirements of Part I.D.8 of this permit within 90 days of the permit reissuance date. The approved plan is an enforceable part of the permit. Any future changes to the plan must be submitted for approval to DEQ-NRO within 90 days of said changes.

i. Site Characterization Report. Should groundwater data warrant such, DEQ may require submittal of a site characterization report no later than 90 days after being notified by DEQ. The approved site characterization report is an enforceable part of the permit.

j. Corrective Action Plan Requirement. Following review and approval of a site characterization report, the permittee shall

submit a corrective action plan to DEQ within 180 days of being notified of this requirement by DEQ. The approved corrective action plan is an enforceable part of the permit.

k. Closure Plan. Facility closure shall be conducted in accordance with the Closure Plan dated April 22, 2015 or any subsequent approved Closure Plan that supersedes the April 22, 2015 Closure Plan. Any closure shall be coordinated with the DEQ Water Program Division and the DEQ Waste Division. Any changes in the practices and procedures for facility closure shall be documented in the Closure Plan within 90 days of the effective date of the changes.

l. TMDL Reopener This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II. Required by VPDES Regulation 9VAC25-31-190, Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Permit Section Part III. Part III of the permit contains conditions and requirements for stormwater pollution prevention. The permittee will be required to review and modify, as warranted, to ensure that the current facility stormwater pollution prevention plan complies with the requirements as set forth. In addition, specific instructions are included for the nutrient monitoring that is being required for non-significant dischargers located within the Chesapeake Bay watershed as permits are reissued. The reported data will be utilized to verify assumptions made during the development of the watershed implementation plan.

24. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:
   1) A Water Quality Reopener Special Condition has been added.
   2) A Handling and Storage of Lumber Special Condition has been added.
   3) A Site Characterization Report Special Condition has been added.
   4) A Corrective Action Plan Report Special Condition has been added.
   5) The Retention Time of Treated Lumber Special Condition has been removed.

b. Monitoring and Effluent Limitations:
   1) Groundwater monitoring for copper shall be expressed as total copper.
   2) Groundwater monitoring for conductivity has been added.
   3) Stormwater nutrient monitoring has been added.
   4) Stormwater TSS monitoring has been added.
   5) Stormwater monitoring for ammonia has been removed because the facility is no longer using ACQ-C^2.
   6) The acute criteria and hence, the action level for copper has been revised from 9.8 µg/L to 9.2 µg/L.
   7) A requirement to collect copper, hardness, and toxicity testing at the same time has been added.

c. The SWPPP must be submitted to DEQ for review.

25. Variances/Alternate Limits or Conditions: None

26. Public Notice Information:

First Public Notice Date: 7/11/2016 Second Public Notice Date: 8/11/2016

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3837, anna.westernik@deq.virginia.gov. See **Attachment 11** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will

be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

27. Additional Comments:

a. Previous Board Action(s): No actions to date.

b. Staff Comments: No comments received.

c. State/Federal Agency Comments: The Virginia Department of Health and the Virginia Department of Game and Inland Fisheries had no comments or objections to this reissuance. See Section 15.e of this fact sheet for June 2010 and April 2016 comments from the Virginia Department of Game and Inland Fisheries.

d. Public Comments: No comments were received during the public notice.

e. Owner Comments: No comments received.

ATTACHMENTS

Attachment 1	SDS Information for Wood Treatment Chemicals
Attachment 2	NPDES Permit Rating Worksheet
Attachment 3	Facility Schematic
Attachment 4	Guinea Topographic Map (DEQ #169B)
Attachment 5	Schematic of Chemical Storage Area
Attachment 6	February 2016 Site Inspection Summaries
Attachment 7	Planning Statement
Attachment 8	Water Quality Criteria and Wasteload Allocation Analysis
Attachment 9	Average Hardness for the Period of the First Quarter of 2011 to Fourth Quarter of 2015
Attachment 10	Virginia Department of Game and Inland Fisheries Comments
Attachment 11	Copper Data Summary for the Period of February 2010 through October 2015
Attachment 12	Groundwater Monitoring Summary for 2012 -- 2015
Attachment 13	WET Testing Summary
Attachment 14	Public Notice

SAFETY DATA SHEET

1. Identification

Product identifier — **LifeWood Treated Wood**

Other means of identification

SDS number — 254-KPC

Recommended use — Preservative Treated Wood for various exterior applications including above ground, ground contact and freshwater exposure.

Recommended restrictions — None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name — Koppers Performance Chemicals Inc.

Address — 1016 Everee Inn Rd., Griffin, GA 30224

Telephone number — 770-233-4200

Contact person — Regulatory Manager, KPC Inc.

Emergency Telephone Number — CHEMTREC 1-800-424-9300

E-mail — KPCmgrsds@koppers.com

2. Hazard(s) identification

Physical hazards — Not classified.

Health hazards — Carcinogenicity — Category 1A

OSHA defined hazards — Combustible dust

Label elements

Signal word — Danger

Hazard statement — May cause cancer by inhalation. May form combustible dust concentrations in air.

Precautionary statement

Prevention — Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Prevent dust accumulation to minimize explosion hazard. Ground/bond container and receiving equipment. Wear protective gloves/protective clothing/eye protection/face protection.

Response — If exposed or concerned: Get medical advice/attention. In case of fire: Use CO2, foam or water spray for extinction.

Storage — Store locked up.

Disposal — Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) — None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Wood Dust	N/A	> 90

Composition comments — All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
The product contains: Copper carbonate (CAS # 12069-69-1) and Tebuconazole (CAS # 107534-96-3) below reportable limits.
Depending on the additives applied to the treating solution, this wood may also contain <1 % of mold inhibitors, <1% of a non-hazardous wax emulsion, and <% of a colorant.

Attachment 1

4. First-aid measures

Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately. Some species may cause allergic respiratory reactions with asthma-like symptoms in sensitized individuals.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water for several minutes. Prolonged contact with treated wood and/or treated wood dust, especially when freshly treated at the plant, may cause irritation to the skin. Abrasive handling or rubbing of the treated wood may increase skin irritation. Some wood species, regardless of treatment, may cause dermatitis or allergic skin reactions in sensitized individuals. In case of rashes, wounds or other skin disorders: Seek medical attention and bring along these instructions.
Eye contact	Do not rub eye. Immediately flush eye(s) with plenty of water. Remove any contact lenses and open eyelids wide apart. If irritation persists get medical attention.
Ingestion	Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort continues.
Most important symptoms/effects, acute and delayed	Wood dust: May cause nasal dryness, irritation and mucostasis. Coughing, wheezing, sneezing, sinusitis and prolonged colds have also been reported. Depending on wood species may cause respiratory sensitization and/or irritation. Symptoms can include irritation, redness, scratching of the cornea, and tearing. May cause eczema-like skin disorders (dermatitis). Airborne treated or untreated wood dust may cause nose, throat, or lung irritation and other respiratory effects.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Carbon dioxide, regular foam, dry chemical, water spray, or water fog.
Unsuitable extinguishing media	Water jet.
Specific hazards arising from the chemical	Depending on moisture content, and more importantly, particle diameter and airborne concentration, wood dust in a contained area may explode in the presence of an ignition source. Wood dust may similarly deflagrate (combustion without detonation like an explosion) if ignited in an open or loosely contained area. An airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the LEL for wood dusts. Reference NFPA Standards- 654 and 664 for guidance.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire fighting equipment/instructions	Use water spray to cool fire exposed surfaces and to protect personnel.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Avoid generation and spreading of dust. Avoid spread of dust. Avoid inhalation of dust. Provide adequate ventilation. Wear appropriate personal protective equipment (See Section 8).
Methods and materials for containment and cleaning up	Sweep or vacuum up spillage and collect in suitable container for disposal. If not possible, gently moisten dust before it is collected with shovel, broom or the like. Containers must be labeled. For waste disposal, see Section 13 of the SDS.
Environmental precautions	For good industrial practice avoid release to the environment.

7. Handling and storage

Precautions for safe handling	Avoid prolonged or repeated breathing of dust. Avoid prolonged or repeated contact with skin. Wear appropriate personal protective equipment. Do not smoke. Change contaminated clothing. Do not burn preserved wood. Do not use preserved wood as Mulch. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
Conditions for safe storage, including any incompatibilities	Keep away from heat, sparks and open flame. Store in tightly closed original container in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. - OSHA

Components	Type	Value	Form
Wood Dust (CAS N/A)	PEL	5 mg/m3	Respirable dust.
		15 mg/m3	Total fraction.

ACGIH

Components	Type	Value	Form
Wood Dust (CAS N/A)	TWA	1 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Wood Dust (CAS N/A)	TWA	1 mg/m3	Dust.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Provide sufficient general/local exhaust ventilation to maintain inhalation exposures below current exposure limits and areas below explosive dust concentrations.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields or safety goggles when sawing or cutting.

Skin protection

Hand protection When handling wood, wear leather or fabric gloves.

Other Wear normal work clothes and safety shoes.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a NIOSH–approved respirator if there is a potential for exposure to dust exceeding exposure limits (See 29 CRF 1910.134, respiratory protection standard).

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations If wood dust contacts the skin, workers should wash the affected areas with soap and water. Clothing contaminated with wood dust should be removed, and provisions should be made for the safe removal of the chemical from the clothing. Persons laundering the clothes should be informed of the hazardous properties of wood dust. A worker who handles wood dust should thoroughly wash hands, forearms, and face with soap and water before eating, using tobacco products, using toilet facilities, applying cosmetics, or taking medication. Workers should not eat, drink, use tobacco products, apply cosmetics, or take medication in areas where wood dust is handled, or processed. Observe any medical surveillance requirements.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Solid. Chips. Dust.

Color Not available.

Odor No odor.

Odor threshold Not applicable.

pH Not applicable.

Melting point/freezing point Not applicable.

Initial boiling point and boiling range Not applicable.

Flash point Not available.

Evaporation rate Not applicable.

Flammability (solid, gas) Combustible dust.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous reactions do not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Minimize dust generation and accumulation. Avoid contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Reducing agents.
Hazardous decomposition products	During combustion: Carbon oxides. Nitrogen oxides. Aliphatic aldehydes. Polycyclic aromatic hydrocarbons (PAHs).

11. Toxicological information

Information on likely routes of exposure

Inhalation	Wood dust, treated or untreated, is irritating to the nose, throat and lungs. Prolonged or repeated inhalation of wood dusts may cause respiratory irritation, recurrent bronchitis and prolonged colds. Some species may cause allergic respiratory reactions with asthma-like symptoms in sensitized individuals. Prolonged exposure to wood dusts by inhalation has been reported to be associated with nasal and paranasal cancer.
Skin contact	Handling may cause splinters. Prolonged contact with treated wood and/or treated wood dust, especially when freshly treated at the plant, may cause irritation to the skin. Abrasive handling or rubbing of the treated wood may increase skin irritation. Some wood species, regardless of treatment, may cause dermatitis or allergic skin reactions in sensitized individuals.
Eye contact	Dust may irritate the eyes.
Ingestion	Not likely, due to the form of the product. However, ingestion of dusts generated during working operations may cause nausea and vomiting. Certain species of wood and their dusts may contain natural toxins, which can have adverse effects in humans.
Symptoms related to the physical, chemical and toxicological characteristics	Wood dust: May cause nasal dryness, irritation and mucostasis. Coughing, wheezing, sneezing, sinusitis and prolonged colds have also been reported. Depending on wood species may cause respiratory sensitization and/or irritation. Symptoms can include irritation, redness, scratching of the cornea, and tearing. May cause eczema-like skin disorders (dermatitis). Airborne treated or untreated wood dust may cause nose, throat, or lung irritation and other respiratory effects.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Dust may irritate skin.
Serious eye damage/eye irritation	Dust may irritate the eyes.
Respiratory or skin sensitization	
Respiratory sensitization	Exposure to wood dusts can result in hypersensitivity.
Skin sensitization	Exposure to wood dust can result in the development of contact dermatitis. The primary irritant dermatitis resulting from skin contact with wood dusts consist of erythema, blistering, and sometimes erosion and secondary infections occur.

Germ cell mutagenicity	No component of this product present at levels greater than or equal to 0.1% is identified as a mutagen by OSHA.
Carcinogenicity	May cause cancer by inhalation. This classification is based on an increased incidence of nasal and paranasal cancers in people exposed to wood dusts.

IARC Monographs. Overall Evaluation of Carcinogenicity

Wood Dust (CAS N/A) 1 Carcinogenic to humans.

NTP Report on Carcinogens

Wood Dust (CAS N/A) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not likely, due to the form of the product.
Chronic effects	Chronic exposure to wood dusts can result in pneumonitis, and coughing, wheezing, fever and the other signs and symptoms associated with chronic bronchitis.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	
Mobility in soil	The product is insoluble in water.
Mobility in general	The product is not volatile but may be spread by dust-raising handling.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Dispose in accordance with applicable federal, state, and local regulations. Do not discharge into drains, water courses or onto the ground.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Wood Dust (CAS N/A)

US. Pennsylvania Worker and Community Right-to-Know Law

Wood Dust (CAS N/A)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Wood Dust (CAS N/A)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	10-March-2015
Revision date	01-June-2015
Version #	02

Further information

HMIS® is a registered trade and service mark of the NPCA.
E - Safety Glasses, Gloves, Dust Respirator

PERCENTAGE OF ACTIVE INGREDIENTS PER RETENTION LEVEL:
0.06 pcf:
Copper carbonate expressed as Elemental Copper 0.15% - 0.25%
Tebuconazole 0.006% - 0.01%
0.15 pcf:
Copper carbonate expressed as Elemental Copper 0.35% - 0.65%
Tebuconazole 0.01% - 0.03%
0.23 pcf:
Copper carbonate expressed as Elemental Copper 0.55% - 0.95%
Tebuconazole 0.02% - 0.05%

HMIS® ratings

Health: 1*
Flammability: 1
Physical hazard: 0
Personal protection: E

NFPA ratings

Disclaimer

Koppers Performance Chemicals Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

NPDES PERMIT RATING WORK SHEET

- [X] Regular Addition
- [ ] Discretionary Addition
- [ ] Score change, but no status Change
- [ ] Deletion

VPDES NO. : VA0090468

Facility Name: Ruffin Creek Properties, LLC
City / County: Spotsylvania County
Receiving Water: Ruffin Pond
Waterbody ID: VAN-E20R

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power Plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rater

[ ] Yes; score is 600 (stop here) [X] NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary Sic Code: 2491 Other Sic Codes: _____ _____ _____

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[X] No process waste streams	0	0	[ ] 3.	3	15	[ ] 7.	7	35
[ ] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: 0
Total Points Factor 1: 0

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)			Code	Points
Type I:	Flow < 5 MGD	[ ]	11	0
	Flow 5 to 10 MGD	[ ]	12	10
	Flow > 10 to 50 MGD	[ ]	13	20
	Flow > 50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[X]	21	10
	Flow 1 to 5 MGD	[ ]	22	20
	Flow > 5 to 10 MGD	[ ]	23	30
	Flow > 10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1 to 5 MGD	[ ]	32	10
	Flow > 5 to 10 MGD	[ ]	33	20
	Flow > 10 MGD	[ ]	34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50%	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to < 50 %	[ ]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: 21
Total Points Factor 2: 10

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)

	Code	Points
☐ < 100 lbs/day	1	0
☐ 100 to 1000 lbs/day	2	5
☐ > 1000 to 3000 lbs/day	3	15
☐ > 3000 lbs/day	4	20

Code Number Checked: NA

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)

	Code	Points
☐ < 100 lbs/day	1	0
☐ 100 to 1000 lbs/day	2	5
☐ > 1000 to 5000 lbs/day	3	15
☐ > 5000 lbs/day	4	20

Code Number Checked: NA

Points Scored: 0

C. Nitrogen Pollutants: (check one) ☐ Ammonia ☐ Other: _____

Permit Limits: (check one)

Nitrogen Equivalent	Code	Points
☐ < 300 lbs/day	1	0
☐ 300 to 1000 lbs/day	2	5
☐ > 1000 to 3000 lbs/day	3	15
☐ > 3000 lbs/day	4	20

Code Number Checked: NA

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☐ YES; (If yes, check toxicity potential number below)

☒ NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☒ No process waste streams	0	0	☐ 3.	3	0	☐ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked: 0

Total Points Factor 4: 0

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been to the discharge*

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
[X]	YES	1	0
[ ]	NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

Code Number Checked: A 2 B 1 C 2

Points Factor 5: A 0 + B 0 + C 0 = **0**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from factor 2) 21

Check appropriate facility HPRI code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[ ]	2	2	0
[ ]	3	3	30
[X]	4	4	0
[ ]	5	5	20

Enter the multiplication factor that corresponds to the flow code: 0.10

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.10 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
[ ]	1	10
[ ]	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

	Code	Points
[ ]	1	10
[ ]	2	0

Code Number Checked: A 4 B NA C NA

Points Factor 6: A 0 + B NA + C NA = **0**

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	0
2	Flows / Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	0
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	**10**

S1. Is the total score equal to or grater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE : 0

OLD SCORE : 10

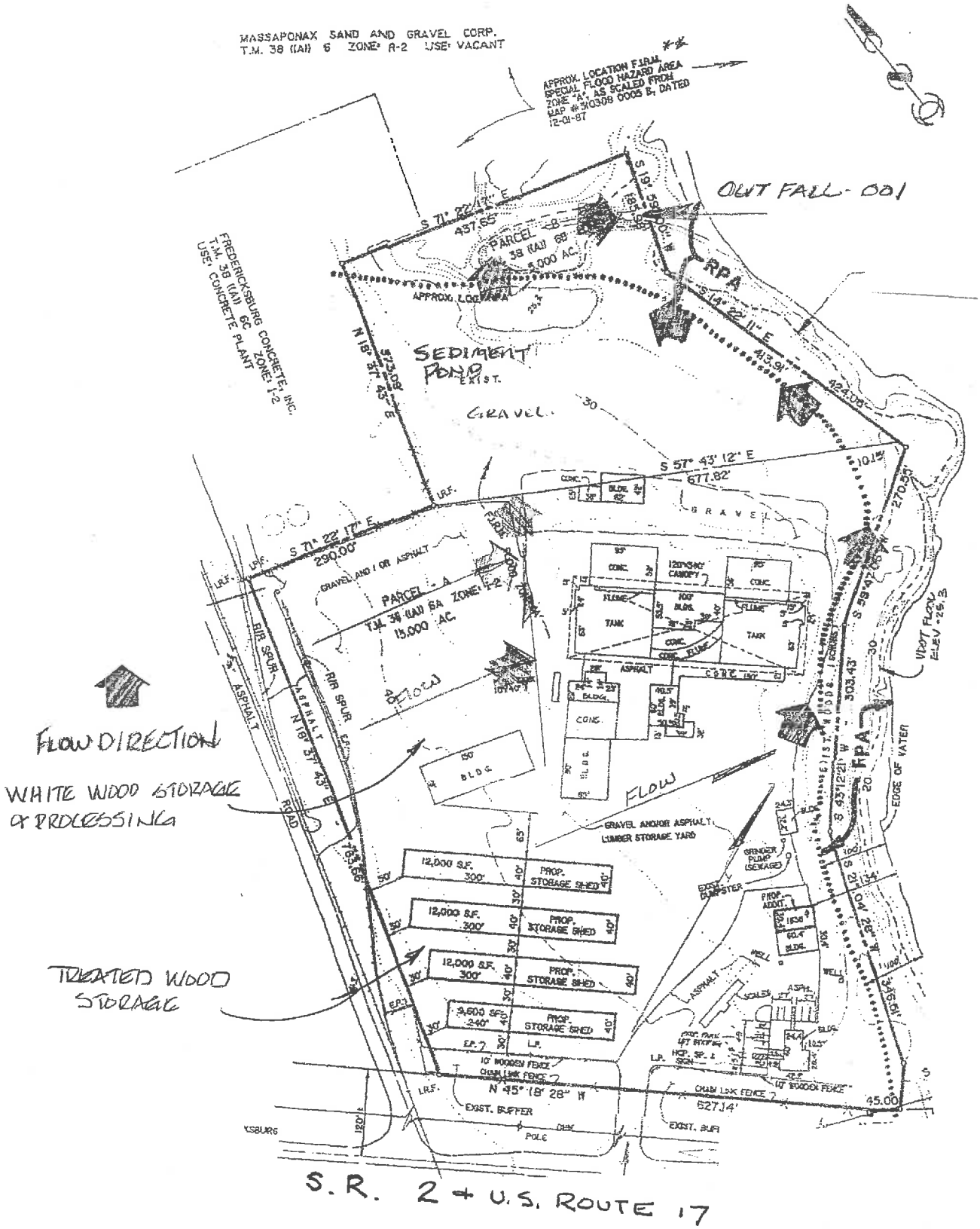
Permit Reviewer's Name : Anna Westernik

Phone Number: (703) 583-3837

Date: April 13, 2016

RUFFIN CREEK PROP. LLC
CULPEPER WOOD PRESERVERS INC.

1" = 196 FT ±



SITE MAP

Attachment 3

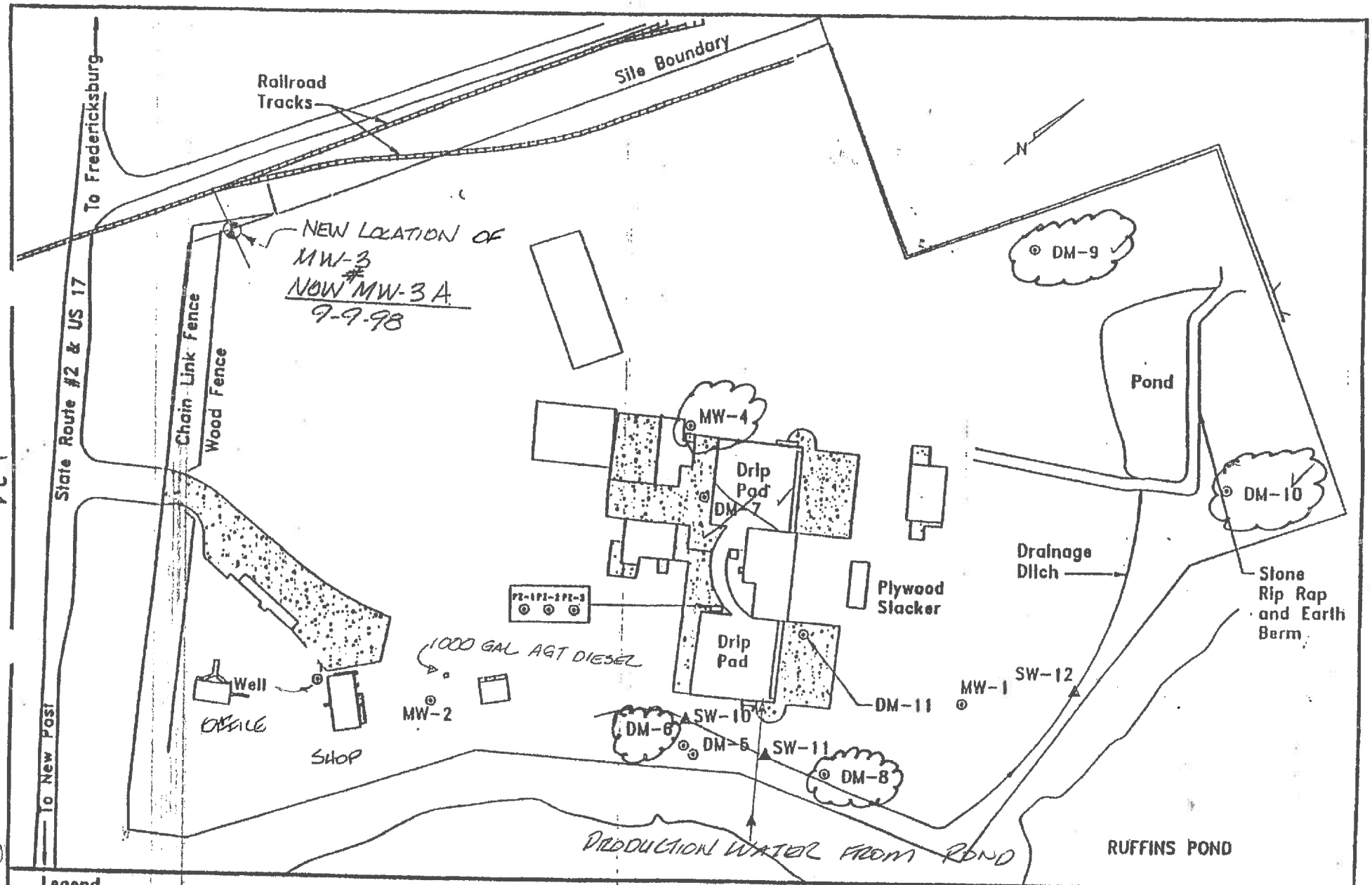
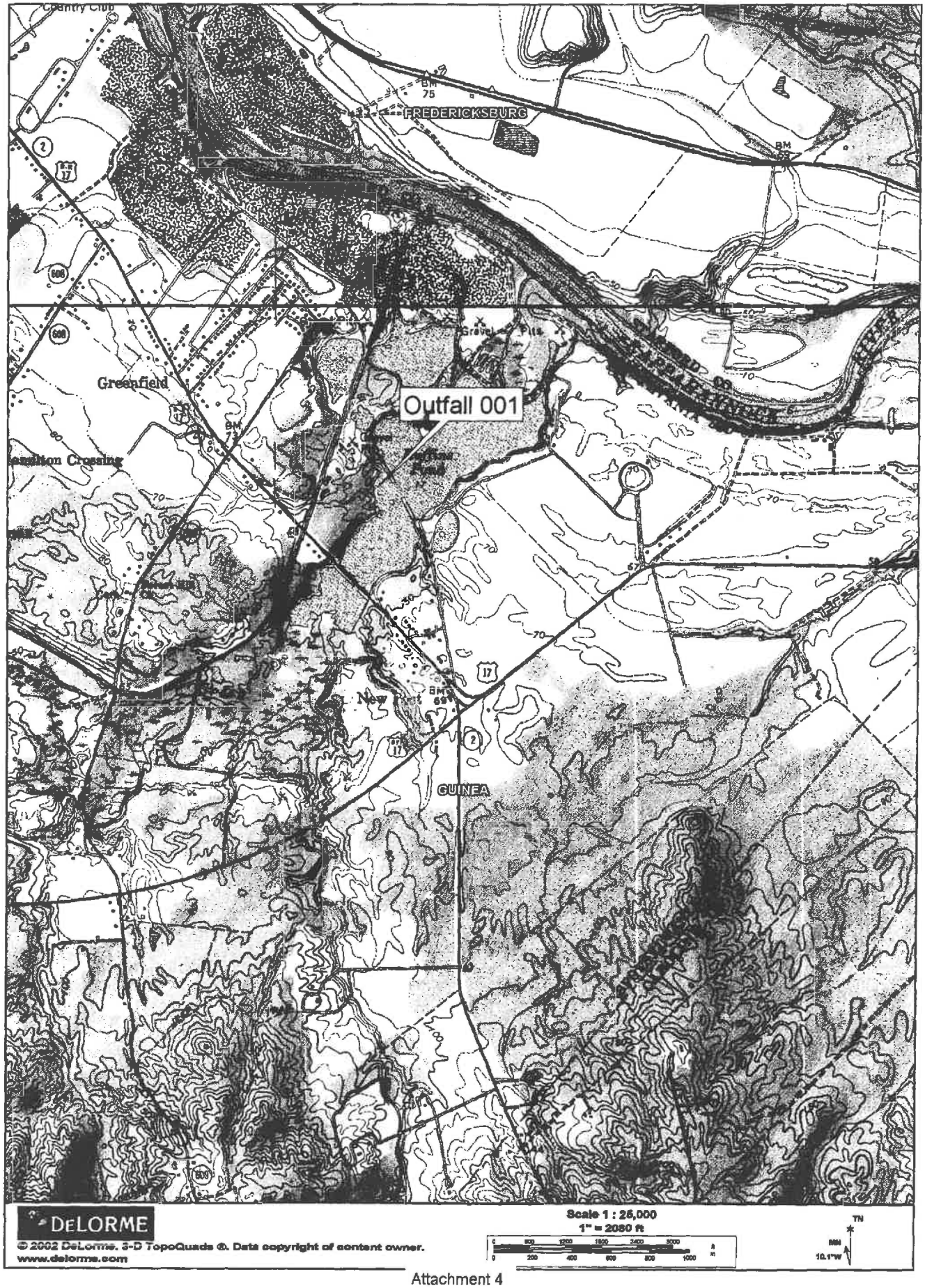
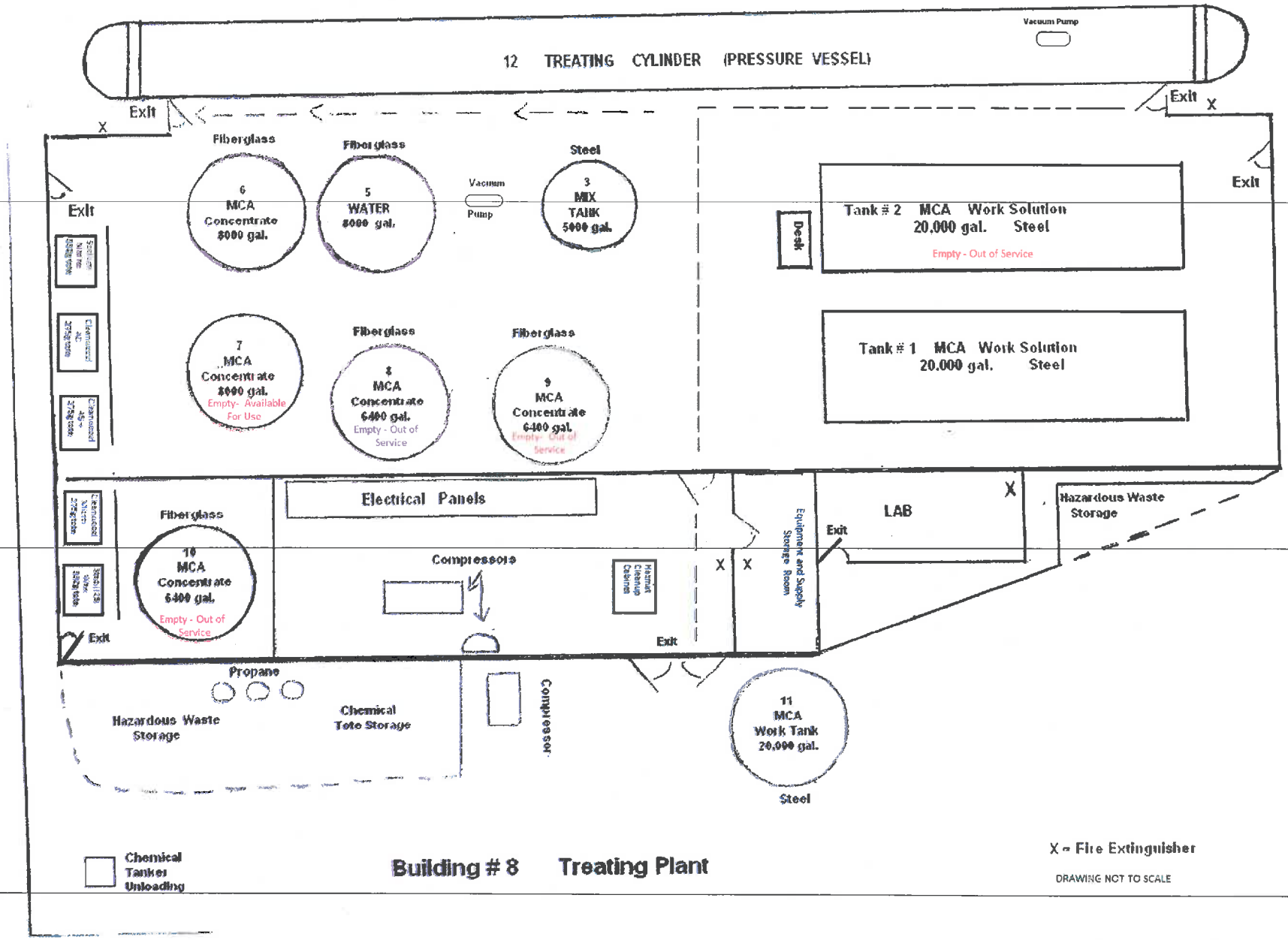


Figure 2-1
Monitoring Well Locations

P00016


Country Club
FREDERICKSBURG
Greenfield
Outfall 001
Hamilton Crossing
New
GUINEA
DeLORME
Scale 1 : 25,000
1" = 2080 ft
© 2002 DeLorme. 3-D TopoQuads ®. Data copyright of content owner.
www.delorme.com

EVACUATION ROUTES



Attachment 5

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

MEMORANDUM

Northern Regional Office

TO: File

FROM: Anna Westernik, Water Permit Writer

DATE: March 7, 2016

SUBJECT: February 26, 2016 Site Visit to Culpeper Wood Preservers--Ruffin Creek (VA0090468)

I visited Culpeper Wood Preservers--Ruffin Creek with Martin Robinson from DEQ on February 26, 2016. Industry representatives present were Tom Houston, consultant, and Scott Homer, Operations Manager, from Culpeper Wood Preservers--Ruffin Creek. The visit was conducted to view facility operations prior to permit reissuance. The DEQ Northern Region inspector, Martin Robinson, also conducted a Recon Inspection. The Culpeper Wood Preservers--Ruffin Creek plant, located at 10299 Tidewater Trail in Spotsylvania County, consists of untreated and treated wood storage areas, a chemical wood treatment unit located on a drip pad, and a chemical storage area. Discharge is to Ruffin Pond, which empties to the Rappahannock River at Rivermile 103.77 (below the discharge of the Rappahannock Majors to the river).

Culpeper Wood Preservers--Ruffin Creek is a facility that primarily treats white pine lumber using a 1% solution of Micronized Copper Azanol (MCA). The active ingredients in MCA are copper carbonate and tebuconazole. Discharge from the facility is comprised of industrial stormwater only.

White pine lumber is received at the facility by either truck or rail. The wood is then inspected, sorted, and labeled for processing. Dimensional lumber is treated in a cylinder where the MCA is introduced into the wood via pressure.

After treatment, the lumber is placed on an elevated covered drip pad for drying until drippage ceases (a 12 to 48 hour period). The drip pad has secondary containment with impermeable plastic liner. Any chemical that may have dripped from the lumber is captured on the pad, filtered, and reused in the manufacturing process. The sump system is periodically cleaned to remove any sediment that has accumulated during the treatment process. Approximately 20% of the treated wood is stored under roof and 80% is stored uncovered. Most chemicals used on site are stored within a tank farm. This area has a closed loop system within secondary containment where all loading, mixing and recycling takes place.

Permitted discharge from the facility is solely stormwater runoff from the lumber storage site to a stormwater detention pond, rip-rap overland flow, and then Ruffin Pond. There was an extremely heavy rain event two days prior to the site visit. No aquatic life was observed in the discharge area.

On the day of this visit, it was uncertain as to where monitoring for Outfall 001 was conducted because the area was not clearly designated. The permit reissuance will require the Stormwater Pollution Prevention Plan to designate the monitoring location using geographical coordinates.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

March 28, 2016

Mr. Joseph R. Daniel
President
P.O. Box 1148
Ruffin Creek Properties, LLC
Culpeper, VA 22701

Re: Culpeper Wood Preservers – Ruffin Creek Properties, LLC; Permit: VA0090468

Dear Mr. Daniel:

Attached is a copy of the Inspection Report generated from the Recon Inspection conducted at the Culpeper Wood Preservers – Ruffin Creek Properties, LLC on February 26, 2016. This letter is not intended as a case decision under the Virginia Administrative Process Act, VA Code §2.2-4000 *et seq.* (APA). The DEQ-NRO staff would like to thank Mr. Tom Houston and Mr. Scott Homer for their assistance during the inspection.

No response is required for this report. If you choose to respond, your response may be sent either via the US Postal Service or electronically, via E – mail. DEQ recommends sending electronic responses as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office at 703-583-3851 or martin.robinson@deq.virginia.gov.

Respectfully,

Martin S. Robinson, Jr.
Environmental Specialist II

Electronic copy sent:
Permits/DMR File, Compliance Manager, Compliance Auditor – DEQ

Virginia Department of Environmental Quality

RECON INSPECTION REPORT

FACILITY NAME: Culpeper Wood Preservers – Ruffin Creek		**INSPECTION DATE:** 02/26/2016	
		INSPECTOR Martin S. Robinson, Jr.	
PERMIT No.: VA0090468		**REPORT DATE:** 03/17/2016	
TYPE OF FACILITY: ☐ Municipal ☐ Major ☑ Industrial ☑ Minor ☐ Federal ☐ Small Minor ☐ HP ☐ LP		**TIME OF INSPECTION:**	Arrival 1330 / Departure 1430
		TOTAL TIME SPENT	8hrs.
PHOTOGRAPHS: ☑ Yes ☐ No		**UNANNOUNCED INSPECTION?** ☐ Yes ☑ No	
REVIEWED BY / Date: 3/25/16			
PRESENT DURING INSPECTION:	Anna Westernik – DEQ Tom Houston – T.A. Houston & Associates Scott Homer – Culpeper Wood Preservers		

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

Weather conditions: Clear sunny with temperatures in lower 40s.

Mr. Martin Robinson and Ms. Anna Westernik, DEQ-NRO staff, arrived at Culpeper Wood Preservers – Ruffin Creek facility at 1330 on 02/26/2016.

The Culpeper Wood Preservers - Ruffin Creek facility is located at 10299 Tidewater Trail in Spotsylvania County. The facility is a treating and storage plant for dimensional lumber using a one percent solution of Micronized Copper Azanol (MCA). The active ingredients in MCA are copper carbonate and tebuconazole.

DEQ staff met with Mr. Tom Houston, T.A. Houston & Associates, and Mr. Scott Homer, Culpeper Wood Preservers, to conduct recon and permit reissuance inspections.

Mr. Robinson reviewed the operation and maintenance manual and the storm water pollution prevention plan (SWPPP) which were on-site and readily available. Along with reviewing the SWPPP Mr. Robinson also reviewed the quarterly visual examinations of storm water quality, comprehensive site compliance evaluations, routine facility inspections and other documentation related to compliance with the facility's permit. All documentation reviewed had dates ranging from 2010 to 2015.

Mr. Houston and Mr. Homer provided DEQ staff with a tour of the facility.

The facility consists of untreated and treated wood storage, a chemical wood treatment unit located on a drip pad, a chemical storage area and storm water detention pond. Discharge from the facility is comprised of industrial storm water only.

Mr. Houston and Mr. Homer stated that the raw lumber is received at the facility by either truck or rail and finished lumber is shipped out by truck. The raw lumber is then inspected, sorted, and labeled for processing. Dimensional lumber is treated in a cylinder where the MCA is introduced into the lumber via pressure. After treatment, the lumber is placed on an elevated sloped covered drip pad for drying. Mr. Homer stated that drying is indicated by the cessation of chemical dripping from the lumber. This drying period can take from 12 to 48 hours, but Mr. Homer said that the lumber is left on the drying pad for a minimum of the 48 hours. The drip pad has secondary containment with an impermeable plastic liner (***Photo #7***). The chemicals that drip from the lumber are captured on the pad, drain to a sump system ***(Photo #6)***, filtered and reused in the manufacturing process. Mr. Houston stated that the sump system is periodically cleaned to remove any sediment that has accumulated during the treatment process. Mr. Houston said this waste is treated as has hazardous waste and carried off-site by an environmental contractor for proper disposal.

The chemicals used on site are stored in an area on the drip pad. This area has a closed loop system within secondary containment where all loading, mixing and recycling takes place.

Mr. Homer said that approximately 20% of the treated wood is stored under roof and 80% is stored uncovered. Mr. Homer stated that the yard is swept on an as need basis with a sweeper truck or by temporary hires.

DEQ staff concluded the inspection and departed at 1430.

VA DEQ Recon Inspection Report

Permit #	VA0090468

EFFLUENT FIELD DATA:

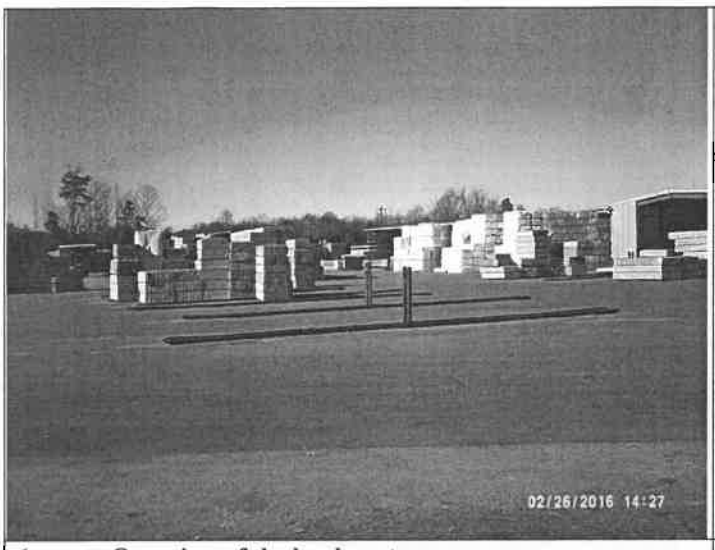
Flow	MGD	**Dissolved Oxygen**	mg/L	**TRC (Contact Tank)**	mg/L
pH	S.U.	**Temperature**	°C	**TRC (Final Effluent)**	mg/L

Was a Sampling Inspection conducted? ☐ Yes (see Sampling Inspection Report) ☑ No

CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

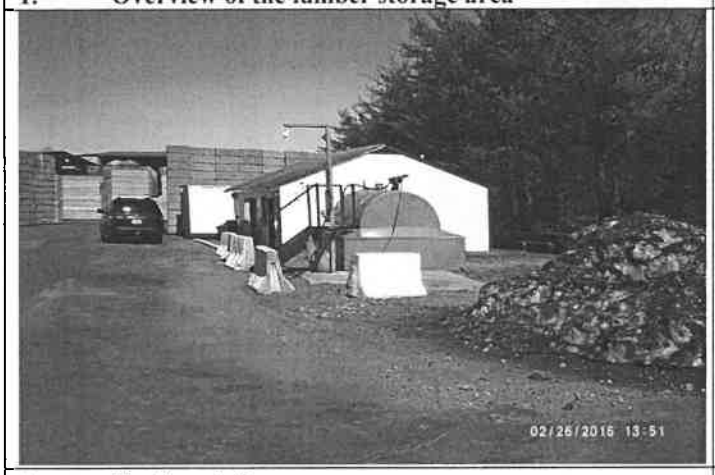
1. Type of outfall: ☑ Shore based ☐ Submerged Diffuser? ☐ Yes ☑ No
2. Are the outfall and supporting structures in good condition? ☑ Yes ☐ No
3. Final Effluent (evidence of following problems): ☐ Sludge bar ☐ Grease
   ☐ Turbid effluent ☐ Visible foam ☐ Unusual color ☐ Oil sheen
4. Is there a visible effluent plume in the receiving stream? ☐ Yes ☑ No
5. Receiving stream: ☑ No observed problems ☐ Indication of problems (explain below)

   Comments:



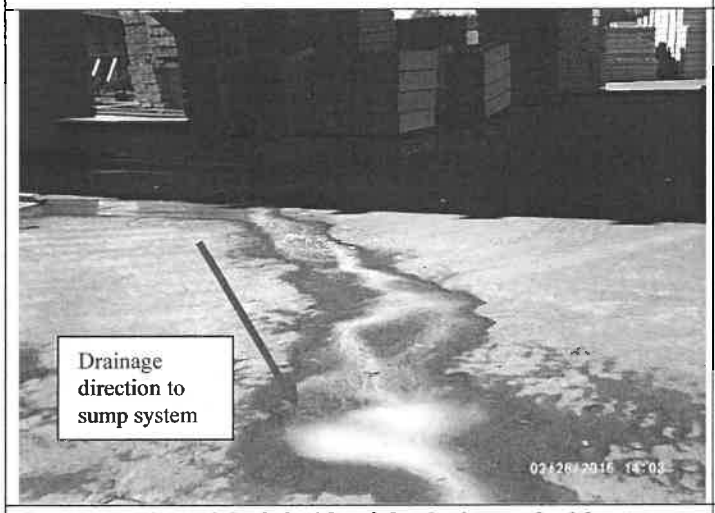
1. **Overview of the lumber storage area**

2. **View of the storm drain in the lumber storage yard.**



3. **Fueling station**

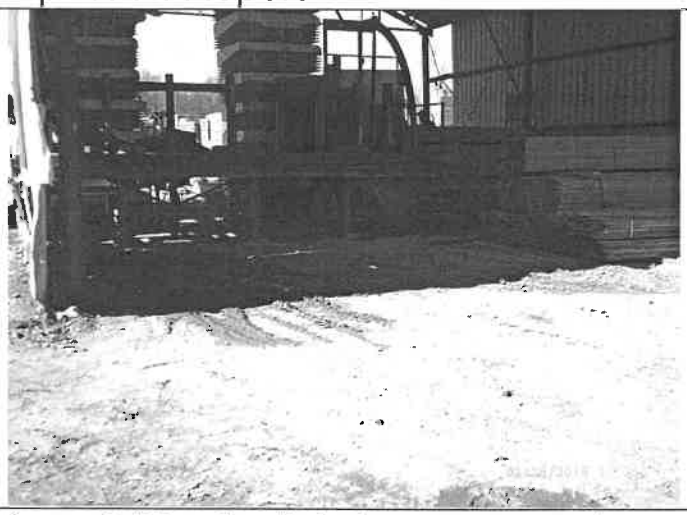
4. **A view of right side of the drying pad with chemically treated lumber.**



5. **A view of the left side of the drying pad with chemically treated lumber.**

6. **A view of the sump system collection area.**

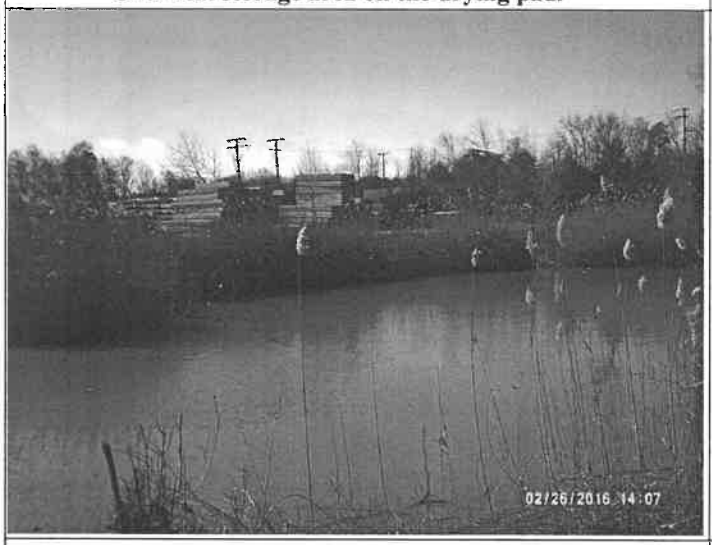
7. A view of the impermeable plastic liner.



8. Building where the lumber is prepared prior to chemical treatment.

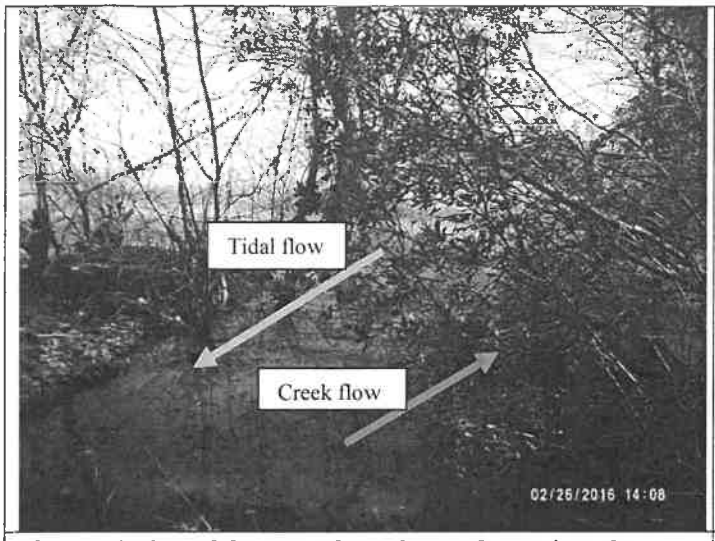
9. Chemical storage area on the drying pad.

10. A photo of a ground water monitoring well.



11. View of lumber storage yard from the storm water pond.

12. Another view of the storm water pond.



13. **A view of the area where the creek goes into the Ruffins Pond near the permit sample collection point. Area was experiencing tidal flow during inspection.**

14. **View of Ruffins Pond**

Facility name: Culpeper Wood Preservers – Ruffin Creek **VPDES Permit No. VA0090468**
Site Inspection Date: 02/26/2016 **Photos & Layout by: Martin S. Robinson, Jr.**

To:	Anna Westernik
From:	Rebecca Shoemaker
Date:	July 11, 2016 (updates related to completion of 2014IR)
Subject:	Planning Statement for Culpeper Wood Preservers – Ruffin Creek
Permit Number:	VA0090468

Information for Outfall 001:

Discharge Type: Industrial (Storm Water)
Discharge Flow: Variable
Receiving Stream: Ruffin Pond
Latitude / Longitude: 38° 14' 31" / -77° 24' 38"
Rivermile: 0.87
Streamcode: 3-MAP
Waterbody: VAN-E20R
Water Quality Standards: Class III, Section 4, no special standards
Drainage Area: 37.5 square miles

1. **Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.**

This facility discharges to Ruffin Pond, which is designated as Massaponax Creek (MAP); it has not been monitored or assessed.

The nearest downstream DEQ station with ambient monitoring data is located on the Rappahannock River, which is located approximately 0.87 miles downstream from Outfall 001. Ambient monitoring station 3-RPP098.81 is located near the confluence with Muddy Creek, approximately 6.1 miles downstream from Outfall 001. The following is the water quality summary for this segment of the Rappahannock River, as taken from the 2014 Integrated Report:

Class II, Section 1, special standard a

DEQ monitoring stations used for assessing this segment of the Rappahannock River:

- *ambient water quality monitoring station 3-RPP098.81, at Buoy 112*
- *fish tissue/sediment station 3-RPP080.19*
- *ambient station 3-RPP104.47, one hundred yards below the Massaponax Wastewater Treatment Facility*

The fish consumption use was assessed using DEQ fish tissue/sediment station 3-RPP080.19 (located in downstream segment) and is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory and sufficient excursions above the fish tissue value (TV) for PCBs in fish tissue. Additionally, one excursion above the risk-based tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue was recorded in one species of fish (1 total samples) collected in 2006 at monitoring station 3-RPP080.19 (channel catfish), noted by an observed effect.

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. A bacteria TMDL for this portion of the Rappahannock River was approved by EPA on 05/05/2008. The wildlife use is considered fully supporting.

The aquatic life use is considered not supporting, however a TMDL has been completed for the Chesapeake Bay watershed. Assessment of the thirty day mean dissolved oxygen values during the summer season indicates that the open-water aquatic life subuse is not met. The seven day mean and instantaneous dissolved oxygen levels have not been assessed. The submerged aquatic vegetation data is assessed as fully supporting. Tidal freshwater Rappahannock B-IBI (benthic community) assessed as fully supporting the aquatic life use.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

   No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

Table B. Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfall	Year First Listed as Impaired	TMDL completed	WLA	Basis for WLA
Impairment Information in the 2014 Integrated Report							
Rappahannock River	Recreation	*E. Coli*	0.87 miles	1998	Tidal Freshwater Rappahannock River Bacteria 05/05/2008	None (not expected to discharge pollutant)	---
	Fish Consumption	PCBs		2004	---	---	---
	Aquatic Life	Dissolved Oxygen		2014	Chesapeake Bay TMDL 12/29/2010	This facility is accounted for in the Chesapeake Bay TMDL. It is included in the NPDES Permit Inventory and is part of an aggregated WLA for Total Nitrogen, Total Phosphorus, and Total Suspended Solids (Appendix Q).	

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

   The tidal Rappahannock River, which is located approximately 0.87 miles downstream of this facility, is listed with a PCB impairment. In support for PCB TMDL development for the tidal Rappahannock River, this facility is a candidate for low-level PCB monitoring, based upon its designation as a minor municipal discharger. Low-level PCB analysis uses EPA Method 1668, which is capable of detecting low-level concentrations for all 209 PCB congeners. DEQ staff has concluded that low-level PCB monitoring is not warranted for this facility as this facility is not expected to be a source of or discharge PCBs. Based upon this information, this facility will not be requested to monitor for low-level PCBs.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

   There are no public water supply intakes located within five miles of this discharge.

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Culpeper Wood Preservers --Ruffin Creek Permit No.: VA0090468

Receiving Stream: Ruffin Pond

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =		mg/L
90% Temperature (Annual) =		deg C
90% Temperature (Wet season) =		deg C
90% Maximum pH =		SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	0	MGD
7Q10 (Annual) =	0	MGD
30Q10 (Annual) =	0	MGD
1Q10 (Wet season) =	0	MGD
30Q10 (Wet season)	0	MGD
30Q5 =	0	MGD
Harmonic Mean =	0	MGD

Mixing Information

Annual - 1Q10 Mix =	100	%
- 7Q10 Mix =	100	%
- 30Q10 Mix =	100	%
Wet Season - 1Q10 Mix =	100	%
- 30Q10 Mix =	100	%

Effluent Information

Mean Hardness (as CaCO3) =	32	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	8	SU
10% Maximum pH =		SU
Discharge Flow =	0.97	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	8.41E+00	1.24E+00	na	--	8.41E+00	1.24E+00	na	--	--	--	--	--	--	--	--	--	8.41E+00	1.24E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.36E+00	na	--	8.41E+00	2.36E+00	na	--	--	--	--	--	--	--	--	--	8.41E+00	2.36E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	o	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether[C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	1.1E+00	4.6E-01	na	--	1.1E+00	4.6E-01	na	--	--	--	--	--	--	--	--	--	1.1E+00	4.6E-01	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	2.2E+02	2.9E+01	na	--	2.2E+02	2.9E+01	na	--	--	--	--	--	--	--	--	--	2.2E+02	2.9E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene[C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	4.6E+00	3.4E+00	na	--	4.6E+00	3.4E+00	na	--	--	--	--	--	--	--	--	--	4.6E+00	3.4E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD[C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE[C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT[C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene[C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane[C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane[C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene[C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin[C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene[C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	2.8E+01	3.2E+00	na	--	2.8E+01	3.2E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	3.2E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	7.0E+01	7.7E+00	na	4.6E+03	7.0E+01	7.7E+00	na	4.6E+03	--	--	--	--	--	--	--	--	7.0E+01	7.7E+00	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	4.9E-01	--	na	--	4.9E-01	--	na	--	--	--	--	--	--	--	--	--	**4.9E-01**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+01**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	4.5E+01	4.5E+01	na	2.6E+04	4.5E+01	4.5E+01	na	2.6E+04	--	--	--	--	--	--	--	--	**4.5E+01**	**4.5E+01**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered **above** under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	2.8E-01
Chromium III	1.7E+01
Chromium VI	6.4E+00
Copper	1.8E+00
Iron	na
Lead	1.9E+00
Manganese	na
Mercury	4.6E-01
Nickel	4.6E+00
Selenium	3.0E+00
Silver	1.9E-01
Zinc	1.8E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Culpeper Wood Preservers, Ruffin Creek Properties
VA0090468
Hardness Data 1st Qtr 2011 to 4th Qtr 2015

DMR Due Date	CONC MAX (mg/L)
10-Apr-2011	39
10-Jul-2011	29.3
10-Oct-2011	27.3
10-Jan-2012	27.6
10-Apr-2012	22.1
10-Jul-2012	27.9
10-Oct-2012	24.8
10-Jan-2013	32.6
10-Apr-2013	38.9
10-Jul-2013	32.6
10-Oct-2013	45.4
10-Jan-2014	32.6
10-Apr-2014	30.2
10-Jul-2014	23.2
10-Oct-2014	31.8
10-Jan-2015	32.6
10-Apr-2015	35.9
10-Jul-2015	26.4
10-Oct-2015	31.8
10-Jan-2016	40.6
10-Apr-2016	34.3

Average Hardness	**32**

Westernik, Anna (DEQ)

From: Aschenbach, Ernie (DGIF)
Sent: Thursday, April 14, 2016 9:16 AM
To: Westernik, Anna (DEQ)
Cc: ProjectReview (DGIF)
Subject: RE: ESSLog# 30835; DEQ VPDES VA0090468; Ruffin Creek Properties, LLC (Culpeper Wood Preservers -- Ruffin Creek) near Fredericksburg, Virginia

Provided the discharge volume and effluent characteristics remain the same, we reiterate our existing recommendations which remain valid.

Thanks.

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
Phone: (804) 367-2733
Email: Ernie.Aschenbach@dgif.virginia.gov

We moved! Our new address is:

Physical
7870 Villa Park Dr, Suite 400
Henrico, VA 23228

Mailing
P O Box 90778
Henrico, VA 23228

From: Westernik, Anna (DEQ)
Sent: Wednesday, April 13, 2016 8:56 AM
To: Aschenbach, Ernie (DGIF)
Subject: RE: ESSLog# 30835; DEQ VPDES VA0090468; Ruffin Creek Properties, LLC (Culpeper Wood Preservers -- Ruffin Creek) near Fredericksburg, Virginia

They will be similar, if not more stringent.

From: Aschenbach, Ernie (DGIF)
Sent: Wednesday, April 13, 2016 8:49 AM
To: Westernik, Anna (DEQ)
Cc: ProjectReview (DGIF)
Subject: RE: ESSLog# 30835; DEQ VPDES VA0090468; Ruffin Creek Properties, LLC (Culpeper Wood Preservers -- Ruffin Creek) near Fredericksburg, Virginia

Has anything changed? Are the effluent characteristics the same?

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
Phone: (804) 367-2733
Email: Ernie.Aschenbach@dgif.virginia.gov

We moved! Our new address is:

Physical
7870 Villa Park Dr, Suite 400
Henrico, VA 23228

Attachment 10

Mailing
P O Box 90778
Henrico, VA 23228

From: Westernik, Anna (DEQ)
Sent: Tuesday, April 12, 2016 5:01 PM
To: Aschenbach, Ernie (DGIF)
Subject: RE: ESSLog# 30835; DEQ VPDES VA0090468; Ruffin Creek Properties, LLC (Culpeper Wood Preservers -- Ruffin Creek) near Fredericksburg, Virginia

Good Afternoon,

I noticed this facility is on the review list again for DGIF. Do you need to see the application and draft permit?

Anna Westernik

From: Aschenbach, Ernie (DGIF)
Sent: Friday, June 11, 2010 10:24 AM
To: Mackert, Susan (DEQ); Daub, Elleanore (DEQ); Watson, Brian (DGIF)
Cc: ProjectReview (DGIF)
Subject: RE: ESSLog# 30835; DEQ VPDES VA0090468; Ruffin Creek Properties, LLC (Culpeper Wood Preservers -- Ruffin Creek) near Fredericksburg, Virginia

We have reviewed the VPDES renewal# VA0090468 for the discharge of stormwater runoff from the Ruffin Creek Properties, LLC (Culpeper Wood Preservers -- Ruffin Creek) near Fredericksburg, Virginia. Discharge is comprised solely of stormwater runoff. All wood preserving takes place under cover and product or treated lumber does not come in contact with stormwater. Changes to the existing permit are not proposed. The receiving stream is Ruffin Pond.

According to our records, the state Threatened (ST) green floater (mussel) is known from the area. The Rappahannock River, a designated Threatened and Endangered (T&E) species water for this species, is also within the project area. According to the application, the receiving stream is Ruffin Pond; discharge from this pond into the Rappahannock River is not mentioned.

Provided the applicant complies with the effluent limitations of the permit, we do not anticipate the renewal of this permit to result in adverse impact to this T&E water or its associated species. We also recommend contacting the USFWS regarding all federally listed species.

Thank you for the opportunity to provide updated comments.

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23230
Phone: (804) 367-2733
FAX: (804) 367-2427
Email: Ernie.Aschenbach@dgif.virginia.gov

Culpepeper Wood Preservers Ruffin Creek (VA0090468) Copper Monitoring of Stormwater (Feb 2010 -- Oct 2015)		
Sample Date	mg/L	ug/L
2/23/2010	0.010	10
4/21/2010	0.010	10
7/12/2010	0.082	82
9/30/2010	<0.005	<5
10/12/2011	<0.005	<5
8/10/2012	0.005	5
10/2/2012	<0.0500	<50
4/12/2013	<0.0500	<50
7/12/2013	<0.0500	<50
10/7/2013	0.0083	8.3
2/3/2014	0.0976	97.6
4/28/2014	0.00677	6.77
7/15/2014	0.0119	11.9
10/10/2014	0.0193	19.3
2/2/2015	<0.00500	<5
4/14/2015	0.00572	5.72
8/7/2015	0.00944	9.44
10/28/2015	0.00868	8.68

Copper Monitoring Endpoint = 9.8 µg/L
QL for Copper in the 2010 Permit Reissuance (SSTV Value)=1.9 µg/L

Monitoring QL used exceeded the 2010 SSTV Value.
Monitoring values exceeds the permitted 2010 monitoring endpoint.

Of the 11 valid monitoring samples collected between February 2010--October 2015, 55% exceed the copper monitoring endpoint.
The BMPs and SWPPP must be re-examined.

Attachment 11

ESS
Environmental Systems Service, Ltd.

Analytical Report

Culpeper Wood Preservers
P. O. Box 1148
Culpeper, VA 22701

Report Date: 09/26/2012
Job #: 0000640
Customer #: 0001962
Customer PO #:
Collected By: ESS Employee
Sample Location: Ruffin Creek Annual MWs

Sample ID#: 0006844 **Sample Source:** Well 3-A
Sample Date/Time: 09/13/2012 / 13:10 **Date Received:** 09/13/2012

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	09/19/2012	16:41	574
Ammonia, as N	0.12	mg/l	0.10	SM 19 4500NH3D	09/21/2012	12:30	BW

Sample ID#: 0006845 **Sample Source:** Well 4
Sample Date/Time: 09/13/2012 / 10:30 **Date Received:** 09/13/2012

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	09/19/2012	16:41	574
Ammonia, as N	0.96	mg/l	0.10	SM 19 4500NH3D	09/21/2012	12:30	BW

Sample ID#: 0006846 **Sample Source:** Well 6
Sample Date/Time: 09/13/2012 / 12:35 **Date Received:** 09/13/2012

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	09/19/2012	16:41	574
Ammonia, as N	1.22	mg/l	0.10	SM 19 4500NH3D	09/21/2012	12:30	BW

Sample ID#: 0006847 **Sample Source:** Well 8
Sample Date/Time: 09/13/2012 / 12:20 **Date Received:** 09/13/2012

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	09/19/2012	16:41	574
Ammonia, as N	<0.10	mg/l	0.10	SM 19 4500NH3D	09/21/2012	12:30	BW

Sample ID#: 0006848 **Sample Source:** Well 10
Sample Date/Time: 09/13/2012 / 11:10 **Date Received:** 09/13/2012

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	09/19/2012	16:41	574
Ammonia, as N	<0.10	mg/l	0.10	SM 19 4500NH3D	09/21/2012	12:30	BW

574 Samples subcontracted to VELAP ID# 460160

ESS
Environmental Systems Service, Ltd.

Analytical Report

Culpeper Wood Preservers
P. O. Box 1148
Culpeper, VA 22701

Report Date: 09/05/2013
Job #: 0002058
Customer #: 0001962
Customer PO #:
Collected By: ESS Employee
Sample Location: Ruffin Creek - Annual M.W.

Sample ID#: 0022105 **Sample Source:** Well 3-A
Sample Date/Time: 08/26/2013 / 13:10 **Date Received:** 08/26/2013

arameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	08/29/2013	07:56	574
mmonia, as N	<0.10	mg/l	0.10	SM 19 4500NH3D	09/01/2013	11:00	BW

Sample ID#: 0022106 **Sample Source:** Well 4
Sample Date/Time: 08/26/2013 / 12:14 **Date Received:** 08/26/2013

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	08/29/2013	07:56	574
mmonia, as N	0.54	mg/l	0.10	SM 19 4500NH3D	09/01/2013	11:00	BW

Sample ID#: 0022107 **Sample Source:** Well 6
Sample Date/Time: 08/26/2013 / 10:08 **Date Received:** 08/26/2013

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	08/29/2013	07:56	574
Ammonia, as N	1.04	mg/l	0.10	SM 19 4500NH3D	09/01/2013	11:00	BW

Sample ID#: 0022108 **Sample Source:** Well 8
Sample Date/Time: 08/26/2013 / 10:40 **Date Received:** 08/26/2013

arameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	08/29/2013	07:56	574
Ammonia, as N	<0.10	mg/l	0.10	SM 19 4500NH3D	09/01/2013	11:00	BW

Sample ID#: 0022109 **Sample Source:** Well 10
Sample Date/Time: 08/26/2013 / 11:22 **Date Received:** 08/26/2013

arameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	08/29/2013	07:56	574
mmonia, as N	<0.10	mg/l	0.10	SM 19 4500NH3D	09/01/2013	11:00	BW

574 Samples subcontracted to VELAP ID# 460160

ESS
Environmental Systems Service, Ltd.

Analytical Report

Culpeper Wood Preservers
P. O. Box 1148
Culpeper, VA 22701

Report Date: 08/05/2014
Job #: 0003409
Customer #: 0001962
Customer PO #:
Collected By: ESS Employee
Sample Location: Ruffin Creek - Annual MWs

Sample ID#: 0037859 **Sample Source:** Well 3-A
Sample Date/Time: 07/23/2014 / 10:05 **Date Received:** 07/23/2014

arameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	07/28/2014	08:20	574
mmonia, as N	<0.10	mg/l	0.10	SM 4500-NH3D-2011	08/02/2014	09:55	BW

Sample ID#: 0037860 **Sample Source:** Well 4
Sample Date/Time: 07/23/2014 / 10:43 **Date Received:** 07/23/2014

arameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
opper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	07/28/2014	08:20	574
mmonia, as N	0.73	mg/l	0.10	SM 4500-NH3D-2011	08/02/2014	09:55	BW

Sample ID#: 0037861 **Sample Source:** Well 6
Sample Date/Time: 07/23/2014 / 11:35 **Date Received:** 07/23/2014

arameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
opper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	07/28/2014	08:20	574
mmonia, as N	1.12	mg/l	0.10	SM 4500-NH3D-2011	08/02/2014	09:55	BW

Sample ID#: 0037862 **Sample Source:** Well 8
Sample Date/Time: 07/23/2014 / 12:05 **Date Received:** 07/23/2014

arameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
opper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	07/28/2014	08:20	574
mmonia, as N	<0.10	mg/l	0.10	SM 4500-NH3D-2011	08/02/2014	09:55	BW

Sample ID#: 0037863 **Sample Source:** Well 10
Sample Date/Time: 07/23/2014 / 12:50 **Date Received:** 07/23/2014

arameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
opper, Dissolved	<0.0500	mg/l	0.0500	EPA 200.7	07/28/2014	08:20	574
mmonia, as N	<0.10	mg/l	0.10	SM 4500-NH3D-2011	08/02/2014	09:55	BW

574 Samples subcontracted to VELAP ID# 460160

Environmental Systems Service, Ltd.

Analytical Report

Culpeper Wood Preservers
P. O. Box 1148
Culpeper, VA 22701

Report Date: 09/08/2015
Report #: 4774
Job #: 0004519
Customer #: 0001962
Customer PO #:
Collected By: ESS Employee
Sample Location: Ruffin Creek - Annual MWs

Sample ID#: 0056065 **Sample Source:** Well 4
Sample Date/Time: 08/20/2015 / 11:48 **Date Received:** 08/20/2015

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	< 0.00500	mg/l	0.00500	EPA 200.8	08/28/2015	06:40	574
Ammonia, as N	0.73	mg/l	0.10	SM 4500-NH3D-2011	08/23/2015	09:20	BW

Sample ID#: 0056067 **Sample Source:** Well 6
Sample Date/Time: 08/20/2015 / 12:25 **Date Received:** 08/20/2015

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	0.00825	mg/l	0.00500	EPA 200.8	08/28/2015	06:40	574
Ammonia, as N	0.93	mg/l	0.10	SM 4500-NH3D-2011	08/23/2015	09:20	BW

Sample ID#: 0056073 **Sample Source:** Well 8
Sample Date/Time: 08/20/2015 / 12:45 **Date Received:** 08/20/2015

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	0.0174	mg/l	0.0050	EPA 200.8	08/28/2015	06:40	574
Ammonia, as N	< 0.10	mg/l	0.10	SM 4500-NH3D-2011	08/23/2015	09:20	BW

Sample ID#: 0056074 **Sample Source:** Well 10
Sample Date/Time: 08/20/2015 / 13:10 **Date Received:** 08/20/2015

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Copper, Dissolved	< 0.00500	mg/l	0.00500	EPA 200.8	08/28/2015	06:40	574
Ammonia, as N	< 0.10	mg/l	0.10	SM 4500-NH3D-2011	08/23/2015	09:20	BW

574 Samples subcontracted to VELAP ID# 460160

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Northern Regional Office
13901 Crown Court **Woodbridge, VA 22193** **(703) 583-3800**

SUBJECT: TOXICS MANAGEMENT PROGRAM (TMP) DATA REVIEW
Culpeper Wood Preservers of Fredericksburg – Ruffins Creek Property (VA0090468)
REVIEWER: Douglas Frasier
DATE: 29 March 2016

PREVIOUS REVIEW: 31 March 2015

DATA REVIEWED:

This review covers the acute toxicity test conducted in February 2016 at Outfall 001.

DISCUSSION:

The results of the acute toxicity test along with the results of all previous toxicity tests conducted on the effluent samples collected from Outfall 001 are summarized in Table 1.

The acute toxicity of the effluent samples was determined with a 48-hour static acute toxicity test using *C. dubia* and *P. promelas*. These tests were performed using grab samples of stormwater.

CONCLUSION:

The acute toxicity tests are valid and the test results acceptable. The test results indicate that the effluent samples from Outfall 001 exhibit no acute toxicity to the test species.

BIOMONITORING RESULTS
Culpeper Wood Preservers (VA0090468)

Table 1
Summary of Toxicity Test Results for Outfall 001

TEST DATE	TEST TYPE/ORGANISM	LC_{50} (%)	% SURV	TU_A	LAB	REMARKS
05/22/01	Acute *C. dubia*	>100	100		CBI	1st semiannual
05/22/01	Acute *P. promelas*	>100	100		CBI	
07/27/01	Acute *C. dubia*	>100	100		CBI	2nd semiannual
07/27/01	Acute *P. promelas*	>100	100		CBI	
07/27/02	Acute *C. dubia*	>100	100		CBI	3rd semiannual
07/27/02	Acute *P. promelas*	>100	100		CBI	
10/12/02	Acute *C. dubia*	>100	100		CBI	4th semiannual
10/12/02	Acute *P. promelas*	>100	100		CBI	
06/18/03	Acute *C. dubia*	>100	100		CBI	1st annual
06/18/03	Acute *P. promelas*	>100	100		CBI	
07/27/04	Acute *C. dubia*	>100	100		CBI	2nd annual
07/27/04	Acute *P. promelas*	>100	100		CBI	
05/21/05	Acute *C. dubia*	>100	100		CBI	3rd annual
05/21/05	Acute *P. promelas*	>100	100		CBI	
Permit reissuance 27 October 2005						
04/18/06	Acute *P. promelas*	>100	100		CBI	1st annual
05/19/07	Acute *C. dubia*	>100	100		CBI	2nd annual
2/14/08	Acute *P. promelas*	93.6	45		CBI	3rd annual
05/14/09	Acute *C. dubia*	>100	100		CBI	4th annual
Permit reissuance 27 October 2010						
07/20/10	Acute *C. dubia*	63.7	0	2	CBI	Extra test
07/20/10	Acute *P. promelas*	>100	90	1		
02/26/11	Acute *C. dubia*	>100	100	1	CBI	1st annual
02/26/11	Acute *P. promelas*	>100	95	1		
04/19/12	Acute *C. dubia*	>100	100	1	CBI	2nd annual
04/19/12	Acute *P. promelas*	>100	100	1		
01/17/13	Acute *C. dubia*	>100	100	1	CBI	3rd annual
01/17/13	Acute *P. promelas*	>100	95	1		
02/04/14	Acute *C. dubia*	27.7	0	8	CBI	4th annual
02/04/14	Acute *P. promelas*	55.4	0	2		
02/03/15	Acute *C. dubia*	>100	100	1	CBI	Extra test
02/03/15	Acute *P. promelas*	>100	100	1		
02/04/16	Acute *C. dubia*	>100	100	1	CBI	Extra test
02/04/16	Acute *P. promelas*	>100	100	1		

FOOTNOTES:
A **bold** faced LC_{50} or NOEC value indicates that the test failed the criteria.
LC50 based on observations at the end of 48 hours.

ABBREVIATIONS:
S – Survival; G – Growth; R – Reproduction
% SURV – Percent survival in 100% effluent
INV – Invalid
CBI – Coastal Bioanalysts Incorporated

2/8/2016 10:04:34 AM

Facility = Culpeper Wood - Ruffin Creek
Chemical = C. Dubia
Chronic averaging period = 4
WLAa = 3
WLAc =
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 8
Expected Value = 2
Variance = 1.44
C.V. = 0.6
97th percentile daily values = 4.86683
97th percentile 4 day average = 3.32758
97th percentile 30 day average= 2.41210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 0
Average Weekly limit = 0
Average Monthly LImit = 0

The data are:

2
1
1
1
8
1
1
1

2/8/2016 10:05:15 AM

Facility = Culpeper Wood - Ruffin Creek
Chemical = P. promelas
Chronic averaging period = 4
WLAa = 3
WLAc =
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 8
Expected Value = 1.125
Variance = .455625
C.V. = 0.6
97th percentile daily values = 2.73759
97th percentile 4 day average = 1.87176
97th percentile 30 day average= 1.35680
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 0
Average Weekly limit = 0
Average Monthly LImit = 0

The data are:

1
1
1
1
1
1
2
1

Spreadsheet for determination of WET test endpoints or WET limits

	Excel 97			Acute Endpoint/Permit Limit			Use as LC_{50} in Special Condition, as TUa on DMR						
	Revision Date: 12/13/13												
	File: WETLIM10.xls			ACUTE	100% =	NOAEC	LC_{50} =	NA	% Use as	NA	TUa		
	(MIX.EXE required also)												
				ACUTE WLAa		0.3	Note: Inform the permittee that if the mean of the data exceeds						
							this TUa:	1.0	a limit may result using STATS.EXE				
				Chronic Endpoint/Permit Limit			Use as NOEC in Special Condition, as TUc on DMR						
				CHRONIC	1.46257468	TU_c	NOEC =	69	% Use as	1.44	TU_c		
				BOTH*	3.00000007	TU_c	NOEC =	34	% Use as	2.94	TU_c		
	Enter data in the cells with blue type:			AML	1.46257468	TU_c	NOEC =	69	% Use as	1.44	TU_c		
	Entry Date:	02/08/16		ACUTE WLAa,c		3		Note: Inform the permittee that if the mean					
	Facility Name:	Culpeper Wood - Ruffin C		CHRONIC WLAc		1		of the data exceeds this TUc:			1.0		
	VPDES Number:	VA0090468		* Both means acute expressed as chronic				a limit may result using STATS.EXE					
	Outfall Number:	1											
				% Flow to be used from MIX.EXE				Diffuser /modeling study?					
	Plant Flow:	0.8	MGD					Enter Y/N	n				
	Acute 1Q10:	0	MGD	100	%			Acute	1	:1			
	Chronic 7Q10:	0	MGD	100	%			Chronic	1	:1			
	Are data available to calculate CV? (Y/N)			N	(Minimum of 10 data points, same species, needed)						Go to Page 2		
	Are data available to calculate ACR? (Y/N)			N	(NOEC<LC50, do not use greater/less than data)						Go to Page 3		
	IWC_a	100	%	Plant flow/plant flow + 1Q10			NOTE: If the IWCa is >33%, specify the						
	IWC_c	100	%	Plant flow/plant flow + 7Q10			NOAEC = 100% test/endpoint for use						
	Dilution, acute	1		100/IWCa									
	Dilution, chronic	1		100/IWCc									
	WLA_a	0.3	Instream criterion (0.3 TUa) X's Dilution, acute										
	WLA_c	1	Instream criterion (1.0 TUc) X's Dilution, chronic										
	$WLA_{a,c}$	3	ACR X's WLA_a - converts acute WLA to chronic units										
	ACR -acute/chronic ratio	10	LC50/NOEC (Default is 10 - if data are available, use tables Page 3)										
	CV-Coefficient of variatior	0.6	Default of 0.6 - if data are available, use tables Page 2)										
	Constants eA	0.4109447	Default = 0.41										
	eB	0.6010373	Default = 0.60										
	eC	2.4334175	Default = 2.43										
	eD	2.4334175	Default = 2.43 (1 samp)	No. of sample		1	**The Maximum Daily Limit is calculated from the lowest						
							LTA, X's eC. The LTAa,c and MDL using it are driven by the ACR.						
	$LTA_{a,c}$	1.2328341	WLAa,c X's eA										
	LTA_c	0.6010373	WLAc X's eB							Rounded NOEC's		%	
	MDL** with $LTA_{a,c}$	3.000000074	TU_c	NOEC =	33.333333	(Protects from acute/chronic toxicity)				NOEC =	34	%	
	MDL** with LTA_c	1.462574684	TU_c	NOEC =	68.372577	(Protects from chronic toxicity)				NOEC =	69	%	
	AML with lowest LTA	1.462574684	TU_c	NOEC =	68.372577	Lowest LTA X's eD				NOEC =	69		
	IF ONLY ACUTE ENDPOINT/LIMIT IS NEEDED, CONVERT MDL FROM TU_c to TU_a												
										Rounded LC50's		%	
	MDL with $LTA_{a,c}$	0.300000007	TU_a	LC50 =	333.333325	%	Use NOAEC=100%			LC50 =	NA	%	
	MDL with LTA_c	0.146257468	TU_a	LC50 =	683.725769	%	Use NOAEC=100%			LC50 =	NA		

Page 2 - Follow the directions to develop a site specific CV (coefficient of variation)

IF YOU HAVE AT LEAST 10 DATA POINTS THAT ARE QUANTIFIABLE (NOT "<" OR ">") FOR A SPECIES, ENTER THE DATA IN EITHER COLUMN "G" (VERTEBRATE) OR COLUMN "J" (INVERTEBRATE). THE 'CV' WILL BE PICKED UP FOR THE CALCULATIONS BELOW. THE DEFAULT VALUES FOR eA, eB, AND eC WILL CHANGE IF THE 'CV' IS ANYTHING OTHER THAN 0.6.

	Vertebrate		Invertebrate	
	IC_{25} Data		IC_{25} Data	
	or		or	
	LC_{50} Data	LN of data	LC_{50} Data	LN of data
	**********		**********	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Coefficient of Variation for effluent tests

CV = 0.6 (Default 0.6)

δ^2 = 0.3074847

δ = 0.554513029

Using the log variance to develop eA

(P. 100, step 2a of TSD)

Z = 1.881 (97% probability stat from table

A = -0.88929666

eA = 0.410944686

Using the log variance to develop eB

(P. 100, step 2b of TSD)

δ_4^2 = 0.086177696

δ_4 = 0.293560379

B = -0.50909823

eB = 0.601037335

St Dev	NEED DATA	NEED DATA	St Dev	NEED DATA	NEED DATA
Mean	0	0	Mean	0	0
Variance	0	0.000000	Variance	0	0.000000
CV	0		CV	0	

Using the log variance to develop eC

(P. 100, step 4a of TSD)

δ^2 = 0.3074847

δ = 0.554513029

C = 0.889296658

eC = 2.433417525

Using the log variance to develop eD

(P. 100, step 4b of TSD)

n = 1 This number will most likely stay as "1", for 1 sample/month.

δ_n^2 = 0.3074847

δ_n = 0.554513029

D = 0.889296658

eD = 2.433417525

Page 3 - Follow directions to develop a site specific ACR (Acute to Chronic Ratio)

To determine Acute/Chronic Ratio (ACR), insert usable data below. Usable data is defined as valid paired test results, acute and chronic, tested at the same temperature, same species. The chronic NOEC must be less than the acute LC_{50}, since the ACR divides the LC_{50} by the NOEC. LC_{50}'s >100% should not be used.

Table 1. ACR using Vertebrate data

Set #	LC_{50}	NOEC	Test ACR	Logarithm	Geomean	Antilog	ACR to Use
1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
10	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
				ACR for vertebrate data:			0

Table 1. Result:	Vertebrate ACR	0
Table 2. Result:	Invertebrate ACR	0
	Lowest ACR	Default to 10

Table 2. ACR using Invertebrate data

Set #	LC_{50}	NOEC	Test ACR	Logarithm	Geomean	Antilog	ACR to Use
1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
10	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	NO DATA
				ACR for vertebrate data:			0

Convert LC_{50}'s and NOEC's to Chronic TU's

Table 3.

for use in WLA.EXE

ACR used: 10

	Enter LC_{50}	TUc	Enter NOEC	TUc
1		NO DATA		NO DATA
2		NO DATA		NO DATA
3		NO DATA		NO DATA
4		NO DATA		NO DATA
5		NO DATA		NO DATA
6		NO DATA		NO DATA
7		NO DATA		NO DATA
8		NO DATA		NO DATA
9		NO DATA		NO DATA
10		NO DATA		NO DATA
11		NO DATA		NO DATA
12		NO DATA		NO DATA
13		NO DATA		NO DATA
14		NO DATA		NO DATA
15		NO DATA		NO DATA
16		NO DATA		NO DATA
17		NO DATA		NO DATA
18		NO DATA		NO DATA
19		NO DATA		NO DATA
20		NO DATA		NO DATA

If WLA.EXE determines that an acute limit is needed, you need to convert the TUc answer you get to TUa and then an LC50, enter it here:

NO DATA	$\%LC_{50}$
NO DATA	TUa

DILUTION SERIES TO RECOMMEND

Table 4.

	Monitoring % Effluent	Monitoring TUc	Limit % Effluent	Limit TUc
Dilution series based on data mean	100	1.0		
Dilution series to use for limit			69	1.4492754
Dilution factor to recommend:	0.5		0.8306624	
Dilution series to recommend:	100.0	1.00	100.0	1.00
	50.0	2.00	83.1	1.20
	25.0	4.00	69.0	1.45
	12.5	8.00	57.3	1.74
	6.25	16.00	47.6	2.10
Extra dilutions if needed	3.12	32.05	39.5	2.53
	1.56	64.10	32.9	3.04

Cell: I9
Comment:
This is assuming that the data are Type 2 data (none of the data in the data set are censored - "<" or ">").

Cell: K18
Comment: This is assuming that the data are Type 2 data (none of the data in the data set are censored - "<" or ">").

Cell: J22
Comment: Remember to change the "N" to "Y" if you have ratios entered, otherwise, they won't be used in the calculations.

Cell: C40
Comment:
If you have entered data to calculate an ACR on page 3, and this is still defaulted to "10", make sure you have selected "Y" in cell E21

Cell: C41
Comment: If you have entered data to calculate an effluent specific CV on page 2, and this is still defaulted to "0.6", make sure you have selected "Y" in cell E20

Cell: L48
Comment:
See Row 151 for the appropriate dilution series to use for these NOEC's

Cell: G62
Comment:
Vertebrates are:
Pimephales promelas
Oncorhynchus mykiss
Cyprinodon variegatus

Cell: J62
Comment:
Invertebrates are:
Ceriodaphnia dubia
Mysidopsis bahia

Cell: C117
Comment: Vertebrates are:

Pimephales promelas
Cyprinodon variegatus

Cell: M119
Comment: The ACR has been picked up from cell C34 on Page 1. If you have paired data to calculate an ACR, enter it in the tables to the left, and make sure you have a "Y" in cell E21 on Page 1. Otherwise, the default of 10 will be used to convert your acute data.

Cell: M121
Comment: If you are only concerned with acute data, you can enter it in the NOEC column for conversion and the number calculated will be equivalent to the TUa. The calculation is the same: 100/NOEC = TUc or 100/LC50 = TUa.

Cell: C138
Comment: Invertebrates are:

Ceriodaphnia dubia
Mysidopsis bahia

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of stormwater associated with industrial activity into a waterbody in Spotsylvania County, Virginia.

PUBLIC COMMENT PERIOD: July 12, 2016 to August 11, 2016

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Stormwater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Ruffin Creek Properties, LLC, P.O. Box 1148, Culpeper, VA 22701, VA0090468

NAME AND ADDRESS OF FACILITY: Culpeper Wood Preservers -- Ruffin Creek, 10299 Tidewater Trail, Fredericksburg, VA 22408

PROJECT DESCRIPTION: Ruffin Creek Properties, LLC has applied for a reissuance of a permit for the private Culpeper Wood Preservers – Ruffin Creek. The applicant proposes to release industrial storm water from a wood treatment facility at a variable rate per rain event into a waterbody. The facility proposes to release the stormwater associated with industrial activity into Ruffin Pond in Spotsylvania County in the Rappahannock River Watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the pH concentration in stormwater to amounts that protect water quality. The permit will monitor the following pollutants in the stormwater to protect water quality: flow, dissolved copper, total hardness, total Kjeldahl nitrogen, nitrate+nitrite as nitrogen, total nitrogen, total phosphorus, suspended solids, and toxicity. Additionally, the permit will monitor the following groundwater constituents at the site: static water level, pH, conductivity, and total copper.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, e-mail, or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.
Name: Anna T. Westernik
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3837 E-mail: anna.westernik@deq.virginia.gov

Attachment 14