DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
Interim Final 2/5/99
RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name:	**Hampton Industrial Plating Site**
Facility Address:	**109 Industry Drive, Tabb, VA 23693**
Facility EPA ID #:	**VAD037426228**

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   __X__ If yes – check here and continue with #2 below.

   _____ If no – re-evaluate existing data, or

   _____ If data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)
Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI
A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies
While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations
EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be "**contaminated**" [1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

   X If yes – continue after identifying key contaminants, citing appropriate "levels", and referencing supporting documentation.

   ____ If no – skip to #8 and enter "YE" status code, after citing appropriate "levels", and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

   _____ If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s):

(1) On April 20, 1989, the Virginia Department of Transportation (VDOT) conducted emergency sampling consisting of four drainage ditch sediment samples and a surface water sample. This sampling and analysis is documented in the December 2000 *Brownfields Site Reconnaissance and Historical Records Review Report* for Hampton Industrial Plating in Section *1.4.1 Drainage Ditch Sampling in 1989.*

(2) EPA Region III On-Scene Coordinator (OSC) preliminary assessment, dated March 21, 1991 and the CERCLA EPA Emergency Removal Action, June 21, 1991 through June 20, 1992.

(3) Brownfields Site Screening Report, dated September 20, 2001, for the Hampton Industrial Plating Site prepared by the Waste Policy Institute (WPI) and the Virginia Polytechnic Institute and State University (Virginia Tech). Brownfields sampling was conducted June 13, 2001.

(4) *Corrective Action Facility Lead Agreement Work Plan (FLA Work Plan)* dated January 2005 and revised March 2005, prepared by Bay Environmental for corrective action in accordance with the Facility Lead Agreement signed September 18, 2004.

(5) *Container Storage Area Closure Report*, dated May 2005 and revised June 2005 with addendum dated August 2005, prepared by Bay Environmental in accordance with the DEQ *Hazardous Waste Management Units Closure Plan for the Industrial Plating Site (Closure Plan)* effective September 11, 1997.

(6) *Alternate Closure Plan for the Vats,* dated July 13, 2005, submitted by Bay Environmental in accordance with the DEQ *Closure Plan* effective September 11, 1997.

(7) *Shop Area Closure Report* dated October 2005 and prepared by Bay Environmental in accordance with the DEQ *Closure Plan* effective September 11, 1997.

(8) Oak Ridge National Laboratory Risk Based Concentration (RBC) and Soil Screening Level (SSL) Table, updated July 7, 2008.

(9) DEQ correspondence and attachments, dated August 4, 2008, regarding the *FLA Work Plan,* dated January 2005 and revised March 2005 and *Container Storage Area Closure Report*, dated May 2005 and revised June 2005.

Footnotes:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

Site Description and Site History:

The Hampton Industrial Plating Corporation operated on the two acre Hampton Industrial Plating Site (HIPS) at 109 Industry Drive, Tabb, Virginia, as a metal electroplating and finishing facility from 1984 to 1989. The property is located between the Industry Drive cul-de-sac and Victory Boulevard (Route 171). The property is flat with drainage ditches that run between the western property boundary and the adjacent J. D. Hammond Masonry Storage building and between the southern property boundary and Victory Boulevard (Route 171). The plating facility faces the Industry Drive Cul-de-Sac to the north. The Living Word Academy and Living Word Academy Recreational/Picnic Area is located to the east.

The property drains to the south to a ditch that borders Victory Boulevard (Route 171). The ditch that borders Route 171 flows westward approximately 200 feet to a small unnamed creek which drains to the south, under Route 171, to the Big Bethel Reservoir which was used until approximately 2004 as a water source for the Army's Big Bethel water plant which served Fort Monroe and Langley Air Force Base. The Big Bethel Reservoir is currently not being used as a water source for drinking water. Groundwater appears to flow in a northwesterly direction to the Poquoson River basin based on a 1986 topographic map. A day care facility, the Living Word Academy, and play area, is located to the east, adjacent to the East Yard where old machinery was stored. A chain link fence separates the Site from the day care facility. According to the DEQ Tidewater Regional Office, groundwater is expected to be shallow ranging from approximately 5 to 10 feet below ground surface (bgs). The direction of groundwater flow is unknown. There are no known private drinking water wells or production wells in the area.

Industrial Plating Corporation operated as an electroplating facility from 1984 until March 1989. On March 30, 1989, at the request of the Commonwealth of Virginia, the Virginia State Police issued a warrant against Industrial Plating Corporation due to repeated violations of the Virginia Hazardous Waste Management (VHWM) Regulations. On March 31, 1989 Industrial Plating Corporation ceased operation. A follow-up inspection on May 1, 1989 noted continuing violations. The facility was issued a Consent Order on July 19, 1989. The Consent Order was not signed and the owner did not remove chemicals used in the manufacturing process.

On April 20, 1989, the Virginia Department of Transportation (VDOT) conducted emergency sampling consisting of four drainage ditch sediment samples and a surface water sample. The maximum reported sediment sample values cyanide (14 mg/kg), barium (35 mg/kg), cadmium (10.3 mg/kg), and total chromium (46 mg/kg) exceeded the soil background 95 percent Upper Tolerance Levels (UTLs) for the site. The maximum value from four surface water samples (upstream, middle, downstream, and creek) for cyanide (5.2 mg/L), cadmium (0.190 mg/L), total chromium (1.2 mg/L), and lead (0.23 mg/L) did not exceed human health water quality standards. The Big Bethel Reservoir is currently no longer used for public water supply.

Three treatment system tanks (V-51, V-53, and V-54) were located in the Shop Area and contained F-listed hazardous wastes that were used in the metal plating process. Vat V-51 was a metal wastewater treatment tank with dimensions 8 feet high, 4 feet wide, and 10 feet long with a volume of approximately 2,400 gallons. Vat V-53 was a round plastic effluent tank 5 feet in diameter and 7 feet high with a volume of approximately 1,000 gallons. Vat V-54 was a round metal clean solvent tank 4 feet in diameter and 4 feet high with a volume of approximately 375 gallons. All vats have were cleaned, triple rinsed, removed from the facility, and recycled or disposed of.

In June 1989, Industrial Plating Corporation hired Kirtek Engineering to begin site cleanup. A Work Plan was submitted, but the cleanup effort was halted because the site owner, Mr. Jolliffe, could not fund cleanup completion.

On February 26, 1991, the Department of Waste Management, predecessor to DEQ, referred the site to the U. S. Environmental Protection Agency (EPA) for cleanup action. From June 21, 1991 through June 30, 1992, EPA performed a CERCLA emergency hazardous waste removal action for the Shop (40 by 70 feet), Shed (small metal building at the southwest corner of the Shop, used for plating process hazardous waste drum storage), and the fenced Rear Yard (45 by 90 feet) to mitigate any immediate threats to human health and the environment.

The EPA removal action consisted of overpacking leaking drums, removing materials from vats, and mitigating the threat to the public. A total of 212 drums were sent offsite for treatment and disposal on December 19, 1991. In March 1992 the Rear Yard (hazardous waste container storage area) was excavated to from the building to the ditch to a depth of 12 inches and backfilled with 12 inches of clean fill. A total of 156 cubic yards (251.5 tons) of contaminated soil was sent offsite for treatment and disposal. These above EPA cleanup activities did not constitute a final RCRA closure of the unauthorized hazardous waste management units. Records indicate that a 20-mil polyethylene liner with a 50 year life expectancy was placed over portions of the excavated area in the Rear Yard prior to backfilling. It is noted that Rear Yard soil sampling by Bay Environmental in March 2005 performed in conjunction with preparation of the *Container Storage Area Closure Report* did not confirm the presence of this liner. The site was fenced in following the EPA removal action. Signs were posted to warn of possible residual contamination.

On February 28, 1991, Roy F. Weston prepared a soil sampling plan for Hampton Industrial Plating to be conducted following excavation and disposal of the top 12 inches of soil. Sampling was conducted on April 5, 1992.

On April 29, 1992, the EPA informed the Virginia Department of Waste Management (VDWM) that the immediate hazard to human health and the environment had been removed and that no further EPA emergency removal action was deemed necessary.

In July 1992 the owner of the Industrial Plating Corporation was contacted. The owner stated that he was not financially able to perform HWMU closure. In December 1994, it was confirmed that the owner was not able to finance RCRA closure of the site. On June 1, 1995, an inspection revealed that the site was still in violation of the Virginia Hazardous Waste Management Regulations (VHWMR).

On June 1, 1995, a Facility inspection revealed that unauthorized units had not been closed in accordance with the regulations and the site was in violation of the VHWMR.

On September 10, 1995, a Closure Plan was submitted by the facility to the DEQ.

On August 11, 1997, the Closure Plan was advertised in the Daily Press.

On September 11, 1997, the DEQ approved the Closure Plan and declared that the site was abandoned and no longer operated by HIPS. By letter September 11, 1997, the DEQ notified the owner, Mr. Thomas P. Jolliffe, that the site was abandoned. York County subsequently seized the property for failure to pay property taxes and sold the property to a new owner, Sembilan Enterprises, LLC.

On May 5, 1999 Commonwealth Environmental Associates, Inc. Midlothian, VA prepared a Risk Assessment analysis Findings Report for the Hampton Industrial site. The maximum cumulative (carcinogenic risk) was found to be 1.2 x 10-7. Based on this finding, the carcinogenic risk associated with hypothetical residential exposure involving all relevant routes of exposure to all constituents of concern at the reported concentrations lies within acceptable risks.

In October 2000, DEQ placed Hampton Industrial Plating in the Virginia DEQ Brownfields Program to promote economic development.

DEQ Closure Plan

The Virginia Department of Environmental Quality (DEQ) prepared a *Hazardous Waste Management Units Closure Plan for the Industrial Plating Site (Closure Plan)* effective September 11, 1997, to address closure. The Closure Plan addresses closure for three units:

1. The shop wastewater treatment system including three vats (V-51, V-53, and V-54).
2. The building interior including the shop concrete floor and the soil underneath the concrete floor.
3. The Rear Yard former Hazardous Waste Container Storage Area.

Risk Assessment Analysis Findings Report

In file searches additional reports were found. Commonwealth Environmental Associates, Inc. prepared a *Risk Assessment Analysis Findings Report*, dated May 5, 1999, for the Hampton Industrial Plating Site.

Brownfields Site Screening Report

Waste Policy Institute (WPI) and the Virginia Polytechnic Institute and State University (Virginia Tech) prepared *Brownfields Site Screening Report*, dated September 20, 2001, for the DEQ under the Brownfields Program, based on a June 13, 2001, site investigation.

Facility Lead Corrective Action Agreement

Sembilan Enterprises, LLC purchased the property. On September 18, 2004, Sembilan Enterprises, LLC, signed the *Facility Lead Corrective Action Agreement* between EPA and Sembilan Enterprises, LLC and accepted an invitation into the Facility Lead Agreement (FLA) Program for cleanup of the site with the condition that a site specific *Work Plan* was to include Corrective Action and Closure and was to be submitted to the DEQ within 90 days.

Groundwater Activities:

No groundwater monitoring wells have been installed on the property containing the Hampton Industrial Plating Site in Tabb, Virginia. The facility will install five (5) groundwater wells to identify groundwater flow direction and elevated concentrations of organic and inorganic constituents in shallow groundwater in the immediate vicinity of the Hampton Industrial Facility. Proposed groundwater well locations are shown on Revised Figure 2: Work Plan Proposed Sample Location Map. There are no known private drinking water wells or production wells in the area. There is no potential for human exposure to groundwater given the absence of surface water discharge of groundwater and the absence of wells in the area. Soil boring data collected at the facility indicates that soil quality, where impacted at or near the ground surface, improves with depths below 2 feet. Therefore, the analytical results from soil samples collected at the shop area were utilized to assess groundwater quality through comparison to EPA Region III Transfer to Groundwater – Soil Screening Levels (SSLs) DAF 1.

The analytical results indicate that the concentrations of several constituents are greater than background and/or the SSLs at several soil sample locations. The maximum concentrations of the constituents of concern and the corresponding sample locations are summarized below (please note that SSL exceedances are not limited to these sample locations).

Constituent of Concern	DAF 1 (µg/kg)	Background* (µg /kg)	Max. Concentration (µg/kg)	Sample ID
Cadmium	1360	1128	734000	Pad SS-16
Chromium VI	2120	18900	2490000	Pad SS-16
Nickel	47700	4069	898000	Pad SS-16
Lead	400000	21550	1260000	Pad SS-16
Silver	1550	-	92900	Pad SS-16
Carbazole	77	-	63 (J)	SS-3 18" bgs
Benzo(a)anthracene	14	-	240 (J)	SS-3 18" bgs
Benzo(b)fluoranthene	47	-	250	SS-3 18" bgs
Benzo(a)pyrene	4.6	-	220 (J)	SS-3 18" bgs
Dibenz(a,h)anthracene	23	-	59 (J)	SS-3 18" bgs

**Note: Background Calculations* performed using data collected as part of the Brownfields sampling in 6/01.

evaluation is appropriate. See below references for more detailed site investigation and information.

References: **(See References noted under Item No. 2.)**

Attachments:

1. Revised Figure 2: Work Plan Proposed Sample Location Map
2. Table 1: Soil Sampling Results Container Storage Area March – June 2005
3. Figure 10: Site Map with Final Sample (Brownfields) Locations
4. Table 2: Brownfields Soil Sampling Results
5. Table 3: Soil Quality Data Summary

Footnotes:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

____ If yes – continue after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) – skip to #8 and enter "NO" status code, after providing an explanation.

__X__ If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s):

ISSUES, DISCUSSIONS and DECISSIONS:

No groundwater monitoring wells have been installed to-date, therefore concentrations of potential contaminants of concern and groundwater flow direction are unknown. Groundwater and engineer staff reviewed the work plan and discussed the groundwater monitoring issues. The decisions and requirements are following.

(1) Five (5) monitoring wells instead of the previous four (4) monitoring wells should be relocated. The five (5) new monitoring well locations are shown in Figure 2 of APPENDIX 1;

(2) Hexavalent chromium should be analyzed by EPA SW846 Method 3060A/7196. This method provides a 30-day holding time if samples are preserved at 4° C;

(3) Groundwater Sample Collection as follows:
Monitoring well sampling will progress from the well that is the least contaminated to the well that is the most contaminated, to minimize the potential for cross-contamination of samples that may result from inadequate decontamination of sampling equipment. Samples will be collected and containerized according to the volatility of the target analytes. The preferred collection order for some of the more common groundwater analytes is as follows:

- Volatile organics and total organic halogens
- Semi-Volatile Organics
- Metals and cyanide

STRATEGY TO COMPLETE CLOSURE AND CA INVESTIGATIONS AT THE SITE:

In addition to groundwater monitoring at the site, the DEQ recommends that the facility submit a single Hampton Industrial Plating *Closure and Corrective Action Report* to address: 1) Removal action for soil in the Shop Area, 2) Removal action for soil in the Container Storage Area, and 3) Corrective action for soil in the West Yard, East Yard, and drainage ditches. The above Report will be used to document and certify completion of closure of the Shop Area and Rear Yard Container Storage Area in accordance with the *Hazardous Waste Management Unit Closure Plan,* dated September 11, 1997. The above Report will also be used to supplement information in the *Shop Area Closure Report*, dated October 5, 2005, the *Container Storage Area Closure Report*, dated May 2005 and revised June 2005, and the *Closure Certification for the Vats*, dated October 5, 2006. This Report will also be used to document and certify corrective action work performed in accordance with the Facility Lead Agreement which was accepted by letter dated September 18, 2004. (See HHEI dated September 2008.)

References: (See References noted under Item No. 2.)

Footnotes:

[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

_____ If yes – continue after identifying potentially affected surface water bodies

_____ If no – skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies

_____If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s):

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

   YES If yes – skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

   ____ If no – (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

   ____ If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Surface Water –

RATIONALE: Groundwater does not discharge to surface water. On April 20, 1989, the Virginia Department of Transportation (VDOT) conducted emergency sampling consisting of four drainage ditch sediment samples and a surface water sample. The maximum value from four surface water samples (upstream, middle, downstream, and creek) for cyanide (5.2 mg/L), cadmium (0.190 mg/L), total chromium (1.2 mg/L), and lead (0.23 mg/L) did not exceed human health water quality standards. The Big Bethel Reservoir is currently no longer used for public water supply. Consequently, surface water quality is not an issue at this facility.

REFERENCE: (See References noted under Item No. 2.)

Footnotes:

[3]- As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

_____ If yes – continue after either:

(1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and ecosystems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR

(2) providing or referencing an interim-assessment[5], appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination..

_____ If no – (the discharge of "contaminated" groundwater into surface water is potentially significant) continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of <u>each</u> contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Footnotes:

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

   YES If yes – continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

   _____ If no – enter "NO" status code in #8. skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies

   _____ If unknown – skip to #8 and enter "IN" status code.

Rationale and Reference(s):

YES – See discussion under Item No. 3.

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

_____ YE – Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Hampton Industrial Plating facility, EPA ID # VAD037426228, located in 109 Industry Drive, Tabb, VA. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO – Unacceptable migration of contaminated groundwater is observed or expected.

__X__ IN – More information is needed to make a determination.

Completed by		Fuxing Zhou	Date	9/16/2008
	(Print)	Fuxing Zhou		
	(Title)	Environmental Specialist II		

Supervisor		Leslie A Romanchik	Date	9/18/08
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Locations where References may be found:
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Attachments:

1. Revised Figure 2: Work Plan Proposed Sample Location Map;
2. Table 1: Soil Sampling Results Container Storage Area March – June 2005;
3. Figure 10: Site Map with Final Sample (Brownfields) Locations;
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