RCRA RECORDS CENTER
FACILITY Vishay Vitramon Inc
I.D. NO. CTD001186212
FILE LOC. R-13
OTHER # 102768

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: **Vitramon, Inc.**
Facility Address: **10 Main Street, Route 25, Monroe, CT**
Facility EPA ID #: **CTD001186212**

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 #8 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).

RDMS DocID 102768

References:

1. Site History Report and Groundwater Monitoring Program Evaluation, December 1994. (Portions claimed Confidential).
2. Phase I Environmental Site Assessment Report and Phase II Environmental Site Assessment Workplan, June, 2000. (Portions claimed Confidential).
3. Second Quarter Report, Groundwater Monitoring, 40-44 Main Street. July 2000.
4. Phase II Environmental Site Assessment Workplan, November 29, 2000. (Portions claimed Confidential)
5. Groundwater Monitoring Program, May 2002 Sampling Event, 40-44 Main Street. July 2002.
6. Draft EI prepared by Wayne A. Thomas, Handex of Connecticut, September 25, 2003.
7. Vishay Vitramon Project Status Updates dated August 14, 2003.
8. Phase II Environmental Site Assessment, RFI Report, January 20, 2004. (Portions claimed Confidential).
9. Third Quarterly Groundwater Monitoring Report, April 26, 2004.
10. Fourth Quarterly Groundwater Monitoring Report, September 27, 2004.

GENERAL BACKGROUND INFORMATION

The Vitramon site is located on Route 25 (Main Street) in Monroe, CT near the Monroe/Trumbull town line. The facility was constructed in 1960 for the production of ceramic and porcelain chip capacitors for the electronics industry. Vitramon currently produces multi-layered ceramic chip capacitors.

The site consists of two parcels. The southern 9 acre parcel was undeveloped until 1960 when the Vitramon facility was constructed. Vitramon leased the site between 1960 and 1970, and purchased the southern parcel in 1970. The facility transferred ownership from Thomas & Betts to Vishay Intertechnology, Inc. on July 18, 1994. A Form III (Environmental Conditions Assessment Form) was submitted to CTDEP in 1994 and a modified Form III was submitted in 1996. The currently undeveloped northern parcel was acquired in two pieces. The western 2.95 acres bordering Main Street was purchased in 1970 and formerly contained a private residence built around 1930 and demolished in November 1990. The remaining roughly 2 acre lot was acquired in 1985, and was formerly part of a children's camp. A railroad right of way running north/south originally bisected the site. Vitramon reportedly acquired this right of way sometime in the past.

The site is zoned industrial. Surrounding land use is commercial/industrial along the north/south Main Street corridor, and residential east and west of the Main Street corridor. The site is bounded on the west by Main Street, residential homes, and the Curri Artcraft, Inc. furniture showroom. The site is bounded on the north by vacant, wooded land, which formally contained a gas station on the west side abutting Main Street, and a children's camp on the east side. East of the site is undeveloped land and wetlands along the Pequonnock River. South of the site is L&L Evergreen Nursery Distributors and a small commercial building housing a karate studio and

flooring company showroom.

Bedrock geology underlying the site is the Collinsville Formation, a medium to coarse grained schist. Depth to bedrock is generally 15 to 40 feet below ground surface, deepening to the east and south. Surficial deposits consist of stratified drift, mostly sand and gravel. The aquifer is classified as GA/GAA. The nearest surface water feature is a small stream which meanders during wet periods in a north to south direction through the wetlands on the eastern portion of the site, and discharges to the Pequonnock River (classified as B/A) located approximately 300 feet east of the site. The closed Trumbull landfill is located approximately 0.25 mile southeast of the site on the opposite bank of the river.

Site topography drops approximately 54 feet from the northwestern site boundary along Main Street to the eastern site boundary. Most of the southern parcel is paved or covered by buildings. The 50,000 square foot main manufacturing building is located at the southwest corner of the property along Main Street. Two detached warehouses (Warehouses 1 and 2) are located northeast of the main building. Warehouse 1 was constructed in 1970 and is used to store virgin chemicals and hazardous wastes in drums. A solvent distillation unit is located in the building and is used to recycle approximately 60 drums of methylene chloride per year. Warehouse 2 was constructed in 1987 and is used to store dry material goods.

The site currently maintains an on-site septic system for sanitary wastewater. The site has been serviced by public water since 1974. Public water service is available along Main Street as far north as Vitramon. All other properties located north and west of the site are served by private water supply wells. The nearest active private water supply well is believed to be roughly 200 feet west (upgradient) of the site on a commercial property. No public water supply wells are located within a mile of the site. Groundwater flow at the site is from northwest to southeast. There are no known active water supply wells located downgradient (southeast) of the site.

DOCUMENTED RELEASES

Documented releases.include approximately 15 gallons of methylene chloride spilled in 1990 which ran into a storm drain and discharged to the wetlands off the southeastern edge of the parking lot.

Low levels of PCE were detected in the water supply well serving the former residence on the northern site parcel. A data gap may be groundwater sampling for chlorinated hydrocarbons in existing Petrol Plus wells at the northwestern corner of the Vitramon property.

The neighboring property to the north was formerly a gas station and automobile repair facility, most recently operated by Petrol Plus. Underground storage tanks were found to be leaking diesel fuel and gasoline in 1989. At least 23 monitoring wells have been installed to track the two Petrol Plus plumes, including several wells completed on Vitramon's northern parcel. The gasoline release has impacted groundwater on Vitramon's property near the northwestern property boundary. Groundwater flow direction in this area is to the southeast, toward the Vitramon warehouses. A separate diesel plume is located one hundred feet or more to the

northwest, on the Petrol Plus property. Groundwater flow in this area is to the northeast and not toward the Vitramon property.

EPA reviewed the July 2000 and July 2002 monitoring reports prepared by Fuss & O'Neill. According to the July 2002 Groundwater Monitoring Report prepared by Fuss & O'Neill, operations at the former gas station were discontinued in 1989, and six underground storage tanks were removed from the property between 1989 and 1990. Approximately 2,000 cubic yards of petroleum contaminated soil was removed from the site in 1992, and a pump and treat groundwater system, including a recovery well installed on Vitramon property, operated from 1994 to 1998. The 2002 report states that the contaminated soil "excavation extended to the bedrock surface located approximately ten feet below grade. A pump and treat remediation system ..... operated from 1994 to 1998. By July 1998, the concentration of petroleum hydrocarbons in groundwater had been reduced to the point that continued operation of the system was producing no benefits. The system was shut down and since that time a program of natural attenuation has been ongoing to monitor groundwater quality." The MNA program consists of product thickness monitoring and maintenance of petroleum absorbing wicks installed in the three inactive recovery wells, sampling of 12 monitoring wells for natural attenuation parameters, and sampling of 23 monitoring wells for VOCs.

Table 2 from the 2002 monitoring report lists 26 wells (including three recovery wells) and their construction details. Twenty one are completed within bedrock. Depth to bedrock ranges from 8 feet in the vicinity of the northwest corner of the Vitramon property to 36 feet below grade in downgradient wells found in the central portion of the northern Vitramon parcel. Relatively low levels of BTEX were detected in several wells on the Vitramon property near the gasoline release. The highest concentrations of BTEX were detected in well MW-12, located on Vitramon property adjacent to the former extraction well PW-2. GWPC were not exceeded in any of the wells, although the detection limit for benzene was above the GWPC of 1 ppb. Contamination was not detected in the outlying, downgradient wells MW-13 and 13S, MW-16 and 16S, MW-17 and 17S, MW-18 and 18S. The report concludes that both the diesel and gasoline plumes are adequately defined and stable, that the rate of contaminant attenuation equals or exceeds the rate of plume migration, and that intrinsic biodegradation is occurring within the plumes.

AREAS OF CONCERN

Twenty seven potential AOCs have been identified at the site, including several loading docks, drywells, leachfields, storage areas, storm water and process water outfalls, degreasers, floor drains, and waste piles. No USTs are located on the site. The potential AOCs are listed on page 5-1 of the Phase II ESA/RFI Report.

Wastewater from the facility is segregated into process wastewater, sanitary wastewater, and non-contact cooling water. Prior to 1972, process wastewater was discharged directly to the wetlands on the eastern portion of the site. In 1972, an in ground settling tank and leach field were installed under the southeastern parking lot to handle process wastewater. In 1994, Vitramon entered into a consent order with the CTDEP which required Vitramon to install a wastewater

treatment system and to submit quarterly wastewater and groundwater monitoring reports. A process wastewater treatment system was installed in 1994 to remove metals, organic compounds, and cyanide before discharge to the settling tank and leach field. The consent order was modified in April 2003 to specify that on or before December 31, 2003, Vitramon would cease all process wastewater discharges. Vitramon ceased discharging wastewater to the process wastewater leach field on December 11, 2003. Currently, approximately 1,200 gallons per day of treated wastewater is pumped to newly installed holding tanks from which it is periodically hauled off-site.

Sanitary wastewater is generated from employee facilities and the cafeteria, and is discharged to a sanitary wastewater septic tank and leach field.

Parking lot storm water drainage flows east across the pavement to the wetlands. Most of the roof drainage is piped underground to an outfall located on the southeastern portion of the site. This drain line also discharges storm water flow from a catch basin. At one time, this drain line also discharged approximately 50,000 gallons per day of non-contact cooling water, although this discharge ceased in 1997 when a closed loop system was installed. Storm water from northern portions of the facility discharge to a catch basin and drywell. Vitramon currently maintains a general permit for storm water discharge and a Title V Air Permit and eight New Source Review Air Permits for various roof exhaust vents.

The main building is fitted with floor drains (which have been sealed off since 1993), which may at one time have drained to the wetlands to the east, and/or the on-site leaching fields.

HISTORICAL INVESTIGATIONS

Under a Pollution Abatement Order issued by CTDEP in 1981, the facility was ordered to install proper facilities for treatment and/or disposal of all waste generated at the site and to install groundwater monitoring wells. Seven groundwater monitoring wells (MW-01 through MW-07) were installed in August 1986. Groundwater samples were collected in August 1986 and April 1988 and analyzed for VOCs and metals. Analytical results of groundwater samples collected in 1986 and 1988 from the seven wells indicated the presence of several VOCs at relatively low levels, although TCE and PCE were detected at concentrations slightly above GWPC.

In 1989, NUS performed a "Final Screening Site Inspection" of the facility. NUS collected 8 shallow soil samples from potential groundwater contamination source areas. Samples were analyzed for VOCs, SVOCs, metals, and cyanide. The most significant results were that a variety of PAHs were found, primarily in samples collected downgradient of major storm water runoff points east of the employee parking lot.

Vitramon has been conducting quarterly groundwater monitoring at wells MW-1, MW-2, and MW-3 and annual monitoring at MW-4 since 1994. Samples are analyzed for inorganics and VOCs. Analytical results have detected the presence of several metals (barium, cadmium, lead, nickel, and silver) above the GWPC.

RECENT INVESTIGATIONS

Vitramon began conducting the Phase II ESA/RFI field work in February 2003. This investigation included the collection and analysis of soil samples, installation and sampling of 6 temporary and 2 permanent monitoring wells, sampling of existing monitoring wells, and remedial excavation and confirmatory sampling of four known release areas (process stone stockpile area, frit furnace drywell, TCA spill area, and the compressor condensate drywell).

The January 2004 Phase II ESA/RFI Report details the results of analyses of soil and groundwater samples and compares them to the CTDEP RSRs. Confirmatory sampling results from all four post-excavation areas indicated compliance with the RSRs. Soil sampling results from various AOCs exceeded the residential Direct Exposure Criteria (DEC) and/or the GA Pollutant Mobility Critiera (PMC) for PAHs, ETPH, VOCs, and lead. Analysis of groundwater samples resulted in the detection of VOCs, PAHs, ETPH, and metals above the GA Groundwater Protection Criteria (GWPC). Surface water and sediment were not sampled. The Report concludes that additional investigation at the site is warranted.

Quarterly sampling of eleven on-site monitoring wells has recently been conducted. The first and second quarterly sampling events were presented in the Phase II ESA/RFI report. Vitramon submitted the Third and Fourth Quarterly Groundwater Monitoring Reports in April and September 2004. Results were that VOCs were not generally detected at levels exceeding RSRs, several PAH compounds typically associated with motor oil, asphalt and wood preservatives were detected in wells MW-2 and MW-3 at concentrations above RSRs, Arsenic, cadmium and/or zinc was detected at concentrations above the SWPC, and ETPH exceeded GWPC in wells MW-2, MW-3, and MW-13S.

BASIS FOR CA 750 ENVIRONMENTAL INDICATOR DETERMINATION

Groundwater is classified as GA/GAA. There are no nearby public water supply wells in the area. Private water supply wells are not located hydrologically downgradient of the site. EPA compared groundwater data to CT RSR Groundwater Protection Criteria (GWPC) and Surface Water Protection Criteria (SWPC).

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):

From the Phase II ESA/RFI and 3rd and 4th quarter monitoring reports, exceedences of the GWPC and SWPC (for wells BLD-2, OF-4, MW-8, and W1LD-1 located near wetlands) include:

SVOCs/PAHs

Benzo(a)anthracene, Chrysene, and other PAHs were detected above the GWPC in MW-2. Benzo(a)anthracene and other PAHs at concentrations at least 2 orders of magnitude above the GWPC in MW-3. Benzo(a)anthracene detected in MW-5 above the GWPC. Phenanthrene and a few other PAHs were detected at levels slightly above to 3 times the SWPC in temporary well W1LD-1. Benzo(a)anthracene and benzo(b) fluoranthene were detected at levels slightly above the GWPC in temporary well BLD-2.

Metals:

Cadmium was detected in wells MW-1 and MW-3 above the GWPC. Lead was detected in wells MW-3, MW-5, MW-6, and MW-8 above the GWPC. Other metals detected above the GWPC included arsenic, silver, vanadium, beryllium, and chromium. Zinc was detected in downgradient wells BLD-2, MW-8, and W1LD-1 above the SWPC of 123 ppb. The SWPC for arsenic, beryllium, chromium, copper, lead, vanadium, and zinc was exceeded in MW-8.

VOCs:

Only two exceedences of the GWPC for VOCs were detected: 43 ppb of methylene chloride in well W1LD-1, and 11 ppb TCE in well OF-4.

ETPH

ETPH was detected above the GWPC of 100 ppb in wells MW-1, MW-2, MW-3, MW-13S, and TW-1.

[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)?

__X__ 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.

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

Rationale and Reference(s):

Groundwater flow beneath the facility is from northwest to southeast. The nearest surface water feature is a small stream located downgradient of developed portions of the site which flows north to south through the wetlands on the eastern portion of the site and discharges to the Pequonnock River located approximately 300 feet east of the site. The river likely acts as a groundwater flow divide which isolates properties on the eastern side of the river from groundwater flowing off the Vitramon property.

Groundwater monitoring results from the Petrol Plus reports indicate that the BTEX contaminant plume is not migrating. BTEX contamination has not recently been detected in the on-site Vitramon wells downgradient of this area, which verifies this assumption. Wells on the downgradient edge of the Vitramon property near the wetlands are contaminated with metals, PAHs, TPH, and VOCs at concentrations moderately above the GWPC and/or SWPC. It is presumed that contaminated groundwater in this area discharges to the nearby stream/wetlands and/or the Pequonnock River. Vitramon has removed continuing sources including the process wastewater discharge and several areas with contaminated soil. Although EPA believes additional wells should be installed to verify the extent of the groundwater plume, EPA expects the plume to remain within the existing area of contaminated groundwater for the following reasons: 1) the likely high organic carbon content of the wetland soils would tend to retard contaminant migration; 2) if the plume has migrated to the stream, it is likely to discharge to the stream/wetland area, which likely acts as a barrier to further contaminant migration.

[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?

__X__ 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):

Groundwater sampling data from downgradient wells indicate that several metals, SVOCs, VOCs, and TPH are likely discharging to the unnamed stream and/or wetlands on the eastern edge of the site.

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)?

__X__ 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 - enter "IN" status code in #8.

Rationale and Reference(s):

The following are maximum concentrations of contaminants found in downgradient monitoring wells located near the wetlands (MW-1, MW-2, BLD-2, OF-4, MW-8, W1LD-1).

Cadmium: detected at a max concentration of 16.1 ppb. GWPC = 5 ppb, SWPC = 6 ppb.
Zinc: detected at a max concentration of 290 ppb. GWPC = 5,000 ppb, SWPC = 123 ppb.
Chromium: detected at a max concentration of 74 ppb. GWPC = 50 ppb.
Arsenic: detected at a max concentration of 21 ppb. GWPC = 50 ppb, SWPC = 4 ppb.
Lead: detected at a max concentration of 41.8 ppb. GWPC = 15 ppb, SWPC = 13 ppb.
Vanadium: detected at a max concentration of 172 ppb. GWPC = 50 ppb.
ETPH: detected at a max concentration of 1,100 ppb. GWPC = 500 ppb.
TCE: detected at a max concentration of 11ppb. GWPC = 5 ppb.
Methylene chloride detected at a max concentration of 44 ppb. GWPC = 5 ppb.
Benzo(a)anthracene: max concentration of 0.8 ppb, duplicate was 0.6 ppb. GWPC =0.06 ppb, SWPC = 0.3 ppb.
Benzo(b)fluoranthene: max concentration of 1 ppb. GWPC =0.08 ppb, SWPC = 0.3 ppb.
Benzo(k)fluoranthene: max concentration of 1 ppb, duplicate was 0.7 ppb. GWPC =0.5 ppb, SWPC = 0.3 ppb.
Benzo(a)pyrene: max concentration of 1 ppb, duplicate was 0.8 ppb. GWPC = 0.2 ppb, SWPC = 0.3 ppb.
Indeno(1,2,3-cd)pyrene: max concentration of 0.9 ppb, duplicate was 0.7 ppb. GWPC = 0.5 ppb.

In summary, the maximum concentrations of metals, ETPH, VOCs, and three of the five PAHs detected above criteria were generally within 3 times the lowest of the GWPC or SWPC. Two of the five PAHs were detected at maximum concentrations slightly exceeding one order of magnitude above the GWPC (exceedences of the SWPC for these two PAH compounds were about 3 times). There is no evidence to suggest that concentrations are increasing. Vitramon has recently removed several continuing sources of contamination to groundwater including the process wastewater discharge and several areas with contaminated soil. Therefore, EPA expects that groundwater concentrations are likely to decrease over time. The discharge of contaminated groundwater to the wetlands is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system because of the following factors: 1) the maximum exceedences are limited to about 3 times the SWPC, while the average concentrations are likely below criteria; and 2) the small stream/wetland area on the eastern portion of the property discharges to the Pequonnock River, which is classified as B/A (probably due to regional impacts, including the closed Trumbull landfill which is located approximately 0.25 mile southeast of the site). **In the Phase II ESA, Vitramon has identified the lack of surface water and sediment sampling data in this area as a data gap which should be filled during the next phase of investigation.**

[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 eco-systems), 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 can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

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

Rationale and Reference(s):

[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?"

__X__ 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.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

Groundwater, surface water, and sediment sampling will be conducted as part of the future performance of a Phase III ESA and post remediation monitoring required under the CTRSRs.

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).

__X__ 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 Vitramon, Inc. facility , EPA ID # CTD001186212, located at 10 Main Street, Route 25, in Monroe, CT. 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.

_____ IN - More information is needed to make a determination.

Completed by (signature) Robert W. Brackett Date 8/9/05
(print) Robert W. Brackett
(title) RCRA Facility Manager

Supervisor (signature) _____ Date 9/9/05
(print) Matthew R. Hoagland
(title) Chief, RCRA Corrective Action Section
(EPA Region or State) EPA New England

Locations where References may be found:

Files can be found in the site file in the Records Center at One Congress Street, Boston.

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