

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: Venezia (Formerly Quality Carriers and Chemical Leaman Tank Lines, Inc.)
Facility Address: 3987 East-Nazareth Road, Route 248, Nazareth, PA 18064
Facility EPA ID #: PAD 099427908

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 nonhuman (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Controls" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "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 groundwater 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).

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2. Is groundwater known or reasonably suspected to be "contaminated"¹ above appropriately protective risk-based "levels" (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?

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

 X 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 (for any media)– skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Former UST Areas: Four 90 to 100 foot deep on Site monitoring wells were installed at PADEP's request in 1996 and 1997 to characterize groundwater in the former diesel fuel UST area located in the northeastern portion of the Site. Groundwater samples were collected up to seven times from these wells including the four consecutive quarters in 2000. Samples were analyzed for BTEX, naphthalene, cumene, phenanthrene, and fluorene. Detected concentrations were below the PADEP Residential and Non-Residential Used Aquifer MSCs for all compounds except benzene (MW-1, 12 mg/l on May 23, 1996 and MW-4, 23 ug/l on June 16, 1997) and naphthalene (MW-4, 125 mg/l on March 1, 2000). The groundwater gradient determined from water levels collected from MW-2, MW-3, and MW-4 on January 6, 1998 (MW-1 was dry) indicate flow to the north toward the quarry operations, located across Route 248. Based on recent correspondence between URS and PADEP, Act 2/Act 32 closure of the former diesel fuel UST area has not been granted because PADEP required additional data for proper characterization of the plume. Therefore, Venezia completed additional sampling between December 2009 and September 2010. All results were below PADEP's residential Groundwater Statewide Health Standard (SHS) confirming the historic plume has attenuated.

Former Wastewater Lagoon Area: Two unlined lagoons were used at the Site from December 1965 through November 1973, to collect wastewater generated from the internal cleaning of tank trucks. These lagoons were constructed in the center of the property, approximately 400 feet behind the Terminal building. The lagoons measured 24 by 32 feet and 28 by 34 feet and were 2 and 3 feet deep, respectively. The two lagoons were interconnected by a 4 inch diameter pipe. The wastewater discharged to the lagoons consisted of rinse water from cleaning tank trailers and residual amounts of product which remained on the tank trailer walls. The products typically cleaned were petroleum oils, acids, synthetic latexes, and acrylates. The estimated volume of wastewater received by the lagoons was 200 to 300 gallons per day or three to five trucks per day. The only analysis of the wastewater (analyzed for pH, alkalinity, sulfate, specific conductance, total solids and suspended solids) was conducted in November 1971. The lagoon system was eliminated in November 1973 and was replaced with a poured-in-place concrete holding tank. Following complete construction of the holding tank, the lagoons were decommissioned by backfilling with roadbed-grade aggregate. Roadbed-grade aggregate covers the entire roadway and parking area on the Site. Visible evidence of these lagoons was not observed during an NUS Site reconnaissance on July 24, 1986, or by URS during the Site visit on June 12, 2007. No historic metals or organics sampling of the wastewater was conducted and no sludge or sediment samples were collected from the lagoons. Therefore, Venezia performed a focused site investigation consisting of a surface geophysical investigation and soil sampling to confirm the location and provide current data regarding the regulated substances in the soil. Laboratory results confirmed the presence of Benzene, Carbon Tetrachloride, Trichloroethylene, and cis-1,2-Dichloroethylene slightly exceeding PADEP's soil-to-groundwater (S-GW) SHS limited to the area beneath the former lagoons. The

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).

concentrations ranged from slightly above to 10x the S-GW SHS and primarily decreased with depth. Boring logs from the Former UST area wells displayed a vertical difference to the first water bearing zone is greater than 75 feet from the ground surface. Therefore there is approximately 55 feet of soil between this low level of residual contamination and the groundwater. Based on these facts, EPA does not reasonably suspect groundwater to be contaminated above appropriately protective risk-based levels from the former lagoons.

References:

Final Environmental Indicator Inspection Report, URS, September 2007

Venezia Enterprises-Nazareth Trucking Terminal Act 2 Remedial Investigation/Final Report, Earth Data NE, March 2011

Venezia Enterprises-Nazareth Trucking Terminal Remedial Action Completion Report, Earth Data NE, April 2011

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.

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

Rationale and Reference(s):

N/A

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.

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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):

N/A

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration³ 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)?

- _____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ 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 judgment/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 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 concentrations³ greater than 100 times their appropriate "level(s)," and if 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):

N/A

6. Can the discharge of "contaminated" groundwater into surface water be shown to be "currently

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

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 implemented⁴)?

_____ 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-assessment⁵ 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 a "NO" status, 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):

N/A

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?"

_____ 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):

N/A

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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.


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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.

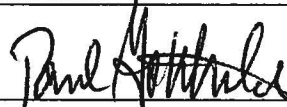
 NO – Unacceptable migration of contaminated groundwater is observed or expected.

 IN – More information is needed to make a determination. *This information is based on information collected by URS from PADEP and USEPA files and discussions with representatives of PADEP familiar with the site.

Completed by: (signature)  Date 5/25/11

(print) Kevin Bilash

(title) RCRA RPM

Supervisor: (signature)  Date 6-1-11

(print) Paul Gotthold

(title) Associate Director, Office Of Pennsylvania Remediation

(EPA Region or State) EPA Region III

Locations where References may be found

A list of all reference documents is appended to the EI Report. Copies of these reference documents can be found at USEPA's Region III office in Philadelphia or PADEP's Northeast Regional office in Wilkes Barre, PA.

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Level

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