DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)
Current Human Exposures Under Control

Facility Name: Venezia (Formerly Quality Carriers and Chemical Leaman Tank Lines, Inc.)
Facility Address: 3987 Easton-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 soil, groundwater, surface water/sediments, and air, 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?

☒ 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 "Current Human Exposures Under Control" 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 "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

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. Are groundwater, soil, surface water, sediments, or air **media** 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 (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale/Key Contaminants
Groundwater		X		See rationale below.
Air (indoors)[1]		X		See rationale below.
Surface Soil (e.g., <2 ft)		X		See rationale below.
Surface Water		X		See rationale below.
Sediment		X		See rationale below.
Subsurface Soil (e.g., >2 ft)	X			See rationale below.
Air (outdoors)		X		See rationale below.

☐ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

☒ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

☐ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Groundwater:

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 (SWHS) 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

[1] 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.

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, presented in the August 2010 Venezia Trucking Terminal Site Investigation Report (SIR), confirmed the presence of Benzene, Carbon Tetrachloride, Trichloroethylene (TCE), and cis-1,2-Dichloroethylene (DCE) slightly exceeding PADEP's soil-to-groundwater (S-GW) SWHS limited to the area beneath the former lagoons. The concentrations ranged from slightly above to 10x the S-GW SWHS and primarily decreased with depth. Boring logs from the Former UST area wells displayed a vertical difference to the first water bearing zone 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.

Wastewater Tank:

A water sample was obtained from the former wastewater holding tank on February 2, 2010 using a clean, dedicated bailer. The laboratory analytical results for the aqueous sample were compared to the PADEP SWHS for groundwater and volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and Metals results from the samples were all below the applicable standards.

Indoor Air:

Former Wastewater Lagoon Area: Comparing the results of the SIR to the PADEP Vapor Intrusion Technical Guidance Manual reveals several identified constituents (Benzene, Carbon Tetrachloride, Chloroform, TCE, and DCE) above USEPA-PA default soil screening levels for protection of indoor air for industrial settings.

Former UST Areas: Seven USTs were removed from the Site in September and October 1995. The tanks consisted of two 6,000 gallon heating oil tanks, two used waste oil tanks (550 gallon and 1000 gallons each), and three 4,000 gallon diesel fuel tanks. Soil samples were collected as part of the tank removal process and were analyzed TPH and lead. Elevated TPH values resulted in overexcavtion at the majority of the tank locations. Effectiveness of the overexcavation was verified via additional TPH sampling at all locations except the diesel fuel UST area. Approximately 300 cubic yards of excavated soil were reused on Site as backfill in the diesel fuel UST excavation following acceptable TPH results of an untreated stockpile (TPH less than 500 mg/kg for a release greater than one year old, based on the limit prescribed in PADEP's 1993 Tank Closure Requirements Document). An additional 855 cubic yards was biotreated on Site in 1996 and were shown to have post-treatment TPH results less than 500 mg/kg, at which time the soils were "redistributed" on Site. While the actual redistribution area is unknown, given the nature of the contaminants (highly degradable fuel constituents under aerobic conditions), EPA does not reasonably suspect this has caused surface soils be contaminated above appropriately protective risk-based levels nor be a concern for indoor air.

To evaluate potential risks to indoor air quality from this area of the Site, Venezia compared the SIR groundwater sample results to current PADEP Vapor Intrusion Technical Guidance Manual USEPA-PA default residential volatilization to indoor air screening values. Comparison of the available diesel fuel area groundwater data indicates no exceedances of the default residential volatilization to indoor air screening values.

Surface Soils (0-2 feet) & Subsurface Soil (>2 feet):

For the purposes of this EI, surface soils and subsurface soils are being discussed as one to conform with PADEP's Residential Direct Contact SWHS's which evaluates the 0-15 foot soil column as one continuous unit.

Former Wastewater Lagoon Area:

An NUS report (August 22, 1986), referred to in the 2007 URS Environmental Indicator Report (EIR), indicated that the lagoons were not properly closed (i.e: there was no sludge removed and the lagoon walls and floor were not sampled). The former lagoons were backfilled with crushed stone in November 1973. The impact these structures may have (past or present) on Site environmental media, including soils, was unknown. Consequently, surface and subsurface soil sampling of the former lagoons located within the center of the property was the main reason and focus of the SIR. A total of 5 soil borings were completed within the area of the former lagoons. Samples were analyzed for target compound list ("TCL") VOCs, SVOCs, PCBs, and target analyte list ("TAL") metals. Laboratory analytical results were compared to the PADEP Act 2 SWHS for residential and non-residential used aquifers. Laboratory results confirmed there were no exceedances of the residential or non-residential direct contact exposure pathway in the soil boring samples.

Former Truck Washing Bay and associated wastewater conveyance piping:

A total of 5 soil borings were completed within the area of the former truck washing bay and piping to determine if there were any impacts as a result of the cleaning of the interior of trucks and transfer of wastewater through underground piping. Three samples were taken from the southern, western, and northern edges of the truck bay at 3, 2 and 16 feet deep, respectively. Two samples were taken along the piping at ~ 4 feet NE of Manhole-2 (MH-2) and ~ 1/2 dist. between MH-2 and the Wastewater tank at 19 and 9 feet deep, respectively. Laboratory analytical results were compared to the PADEP Act 2 SWHS for residential and non-residential used aquifers. Laboratory results confirmed there were no exceedances of the residential or non-residential direct contact exposure or S-GW pathway in any of these soil boring samples.

Wastewater Tank area:

The 2007 EIR identified a discharge hose connected to the wastewater tank draining to the local area around the tank. Therefore, the SIR work plan also provided for the collection of samples from this area. A total of 4 soil borings were completed on the NE and SW corners of the wastewater tank and in a swale along east property line to determine if there were any impacts as a result of this hose. These samples were taken at 15 feet deep from the NE corner and 2 feet deep from the remaining locations. Laboratory analytical results were compared to the PADEP Act 2 SWHS for residential and non-residential used aquifers. Laboratory results confirmed there were no exceedances of the residential or non-residential direct contact or S-GW exposure pathway in any of these soil boring samples.

Former UST Areas:

Seven former USTs were removed from the Site in 1995. Collection of soil samples during the UST closure activities occurred. These samples were collected from depths ranging from 2 to 21 feet below ground surface (bgs). Key findings of the UST removal include the following:

- No evidence of impact at heating oil from UST 007;
- Limited impact in the fill port area of heating oil UST 006, which was subsequently overexcavated and re-sampled to demonstrate acceptable levels of Total Petroleum Hydrocarbons (TPH) (below 500 mg/kg);
- Impact noted in the fill port area of the former waste oil USTs (Tanks 004 and 005) and further impact at the initial base of the UST 004 excavation, which was subsequently overexcavated and re-sampled to demonstrate acceptable levels of TPH (below 500 mg/kg);
- Extensive impact in the former diesel fuel UST area (Tanks 001, 002, and 003) localized around 14 feet deep and ranging from 1,300-6,800 mg/kg TPH which required overexcavation and subsequent groundwater characterization. Samples collected at 18 and 21 feet deep demonstrated TPH levels below 500 mg/kg.

All of the above tank excavation activities relied on, at the most, excavation samples for TPH and lead. All detections of lead in the post-excavation samples meet the current PADEP Residential Direct Contact and Soil-to-Groundwater Pathway SWHS's.

As discussed previously, approximately 1155 cubic yards of UST-excavated soils were reused on Site as backfill in the diesel fuel UST excavation or biotreated on Site, shown to have TPH results less than 500 mg/kg, and "redistributed" on Site. The "redistribution" area and depths are unknown. While the actual redistribution area is unknown, given the nature of the contaminants (highly degradable fuel constituents under aerobic conditions), EPA does not reasonably suspect this has caused soils be contaminated above appropriately protective risk-based levels nor be a human health or ecological concern.

Sediment:

Sediment samples (specifically meaning naturally occurring in surface water bodies) were not collected as part of any former or current Site investigations. EPA has no reason to suspect this media has/had been affected by operations conducted at the Site.

However, as part of the SIR, "sediment" samples were collected from 2 manholes that previously connected a former wash pad used in interior truck cleaning operations with the former lagoons or concrete holding tank. Laboratory analytical results for the sediment samples were compared to the PADEP Act 2 SWHS for soil in a non-residential, used aquifer setting. VOCs, SVOCs, PCBs, and Metals results from the samples were all below the applicable standards.

The work plan also provided for the collection of a "sediment" sample from the floor of the concrete tank, if present. However, probing the bottom of the tank did not reveal any "sediment."

Surface Water:

The nearest surface water body is northeast of the Venezia facility, located adjacent to the quarry operations. In addition, two small lakes/large ponds were identified southeast of the Site. These lakes/ponds appear to be fed by a stream south of the facility. Venezia holds no NPDES permits and thus there is no known direct discharge to the surface water. Wastewater generated on Site is collected in a holding tank at the rear of each of the buildings, is pumped periodically, and is transported to a treatment facility. On Site storm water is allowed to drain via infiltration and runoff. EPA has no reason to suspect this media has/had been affected by current or former operations conducted at the Site.

Outdoor Air:

The Venezia facility has been a trucking Terminal and truck maintenance location since its inception in 1960. No stack construction or air emissions have ever been documented for this property. Therefore, there is no exposure pathway or potential for release to outdoor air from this facility.

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

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.

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3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	No	No	No	No			No
Air (indoors)	No	No	No				
~~Soil (surface, e.g., <2 ft)~~							
~~Surface Water~~							
~~Sediment~~							
Soil (subsurface e.g., >2 ft)				No			No
~~Air (outdoors)~~							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

☒ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

☐ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

☐ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Groundwater & Subsurface Soil (>2 feet):

There are no direct contact concerns from subsurface soils related to the former operations at the facility. Sampling results from the SIR only indicated concentrations of constituents above the S-GW SWHS's. Therefore, the only hypothetical complete pathway to be considered would be via groundwater from soil leaching. As described in the rationale section for question 2, groundwater is not, or not expected to be, contaminated above appropriately protective risk-based levels from the subsurface soils. However, as a precaution and to be conservative, as part of the Act 2 closure Venezia executed an

environmental covenant pursuant to the Pennsylvania Uniform Environmental Covenants Act of 2007. The covenant subjects the property to an activity and use limitation such that use of onsite groundwater for potable purposes is prohibited. This additional level of protection removes the possibility of a complete drinking water pathway.

Indoor Air:

Former Wastewater Lagoon Area: The results of the SIR revealed several identified constituents (Benzene, Carbon Tetrachloride, Chloroform, Trichloroethylene, and cis-1,2-Dichloroethylene) above the PADEP Vapor Intrusion Technical Guidance Manual USEPA-PA default soil screening levels for protection of indoor air for industrial settings. However, the former lagoons are located in the central part of the facility and there are no inhabited buildings within the 100 feet of this source area. Therefore, this pathway is not of concern.

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

☐ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

☐ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

☐ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

N/A

[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

☐ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

☐ If no - (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

☐ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code.

Rationale and Reference(s):

N/A

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI (event code CA725), 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, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Venezia facility, EPA ID # PAD 099427908, located at 3987 Easton-Nazareth Road (Route 248), Nazareth, PA 18064 under current and reasonably expected conditions.

☐ NO - "Current Human Exposures" are NOT "Under Control."

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

Completed by (signature) _____ Date 5/27/11
(print) Kevin Bilash
(title) RCRA RPM

Supervisor (signature) Paul Gotthold 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:

US EPA Region III
Waste & Chemicals Management Division
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Facility Name: Venezia
EPA ID #: PAD099427908
Location: 3987 Easton-Nazareth Road (Route 248), Nazareth, PA 18064

CURRENT HUMAN EXPOSURES UNDER CONTROL (CA 725)