DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
Interim Final 2/5/99
RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)
Current Human Exposures Under Control

Facility Name: **Quality Carriers, Inc. (Former Chemical Leaman Facility)**
Facility Address: **Route 25 (1.2 miles west of I-64 Exit 50), Institute, WV 25112**
Facility EPA ID #: **WVR 000 001 719**

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 #6 and enter "IN" (more information needed) status code.

BACKGROUND

Quality Carriers, Inc. (formerly Chemical Leaman Tank Lines) facility is an approximately 8-acre improved portion of the larger 160 acres of property located along Route 25 in Institute, West Virginia. The site is located approximately seven miles northwest of the City of Charleston and approximately one half mile north of the Kanawha River. The property is fenced along Route 25, while steep hills and woods form boundaries on the unfenced sides. A building used for office and maintenance space is located in the center of the improved area with gravel parking lots to the east and west. A Wastewater Treatment Plant (WWTP) is located at the rear of the property, up the hill from the main building and parking areas.

Between 1942 and 1962, the site was owned by Union Carbide, who formerly operated a large chemical manufacturing facility across Route 25. During that time, the site was maintained as an unused, empty lot. Ownership of the site prior to 1942 is unknown. In 1963, ownership was transferred to Chemical Leaman Tank Lines (CLTL) when they moved their operations from St. Albans, WV to Institute, WV. At that point, the existing building and WWTP were constructed for use in their tank cleaning operations.

In 1998, the merger of Chemical Leaman Tank Lines, Inc. and Montgomery Tank Lines, Inc. was finalized. Operations at the Institute site continued under the name Quality Carriers, Inc. (QCI) and Quala Systems, Inc., both indirect subsidiaries of Quality Distribution, Inc. tank wash subsidiary. Currently, the property is owned by QCI, which has no operations at the Institute location. Trucking operations are managed by an affiliate partner under contract to QCI. Tank washing operations were operated by the same affiliate partner until the spring of 2013.

CLTL utilized a mixture of sodium hydroxide, sequestering agents, and defoamers to clean tanker trucks utilized to haul bulk quantities of commercial products and industrial wastes. Cleaning operations at the site generated different waste streams that were treated in the on-site WWTP or drummed for transportation off-site for disposal. In addition to the short-term drum storage, wastes were stored at the facility between 1977 and 1980. Pre-RCRA waste management activities are uncertain for this site.

In response to allegations of on-site burial of drummed waste from facility operations, an investigation and subsequent excavation of drummed waste and associated soil was performed in 1995, in accordance with

an agreement with WVDEP. Subsequent ex-situ treatment of excavated soil was performed under the terms of a Consent Agreement with the WVDEP. As part of the remediation work, a stockpile of treated soil was constructed near the eastern end of the developed portion of the Site and is still present. Additional site characterization and in-situ remediation of groundwater were conducted (August 2003 until October 2005), and a schedule of periodic groundwater sampling was established. The final groundwater monitoring event was conducted in December 2005 and a final report was submitted to the WVDEP in January 2006.

On September 9, 2011, QCI's Voluntary Remediation Program (VRP) Application was accepted and a Voluntary Remediation and Redevelopment Act (VRRA), was executed on February 29, 2012. Site characterization activities under the VRA, pursuant to an approved Site Assessment Work Plan, were performed during the period from August through December 2012. Soil samples were collected from 22 locations in five areas of the Site where releases to soil are known or suspected to have occurred. A total of 59 soil samples were collected and analyzed for selected metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). Selected soil samples were also analyzed for pesticide/herbicide compounds, polychlorinated biphenyls (PCBs), and dioxin/furan compounds. Groundwater samples were collected on two occasions from nine monitoring wells and three temporary sampling points. Groundwater samples were analyzed for selected metals, VOCs, SVOCs, pesticide/herbicide compounds, and PCBs.

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).

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

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 Below
Air (indoors) [2]		X		See Below
Surface Soil (e.g., <2 ft)		X		See Below
Surface Water		X		See Below
Sediment				See Below
Subsurf. Soil (e.g., >2 ft)		X		See Below
Air (outdoors)		X		See 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 - During the 2012 Site Assessment, groundwater samples were collected from nine MW series groundwater monitoring wells and three temporary (TMP series) groundwater sampling points. Two monitoring wells are located hydraulically upgradient from areas of current or previous waste handling and four monitoring wells and three temporary points are located along a line just north of and roughly parallel to the downgradient boundary of the facility. Three monitoring wells and one temporary point are located within or adjacent to known or suspected release areas. The wells and temporary points were sampled twice, once in August and once in September 2012. During each event, samples were analyzed for arsenic, barium, iron, lead, manganese, vanadium, VOCs, and SVOCs. For metals, both field filtered and unfiltered samples were collected. Samples from the August sampling event were also analyzed for pesticide/herbicide compounds and PCBs.

Results for barium and lead were below RSL values in all groundwater samples collected during both sampling events. Arsenic was reported above RSL values in two monitoring wells, MW-104 and MW-105, located adjacent to the Drum Burial Area that ranged from 25 µg/L to 60 µg/L. Iron was reported above RSL values in samples from the same wells, MW-104 and MW-105. Nine VOCs were reported at concentrations above their respective RSL. Almost all of these reported VOC detections are for samples from monitoring wells MW-104, MW-105, and MW-106, which are adjacent to or immediately downgradient from the former Drum Burial Area. One VOC, 1,2-dichloroporopane , was detected in monitoring well MW-102. No other detections of VOCs exceeding DMV or RSL values were reported for sampling locations along the downgradient boundary.

Eleven SVOCs were reported at concentrations above their respective RSL. 1,4-dioxane was reported in all samples from monitoring wells MW-104, MW-105, and MW-106, which are all adjacent to or immediately downgradient from the Drum Burial Area. Hexachlorobutadiene was above its RSL (0.26 µg/L) in the August samples from MW-104 (0.39 µg/L) and MW-105 (0.30 µg/L); but below detection during groundwater sampling in September. 1,1'-Biphenyl was reported above the RSL only at monitoring well MW-104 (1.1 µg/L and 1.7 µg/L); nominally above the RSL (0.83 µg/L). Naphthalene also was reported above the RSL only in samples from MW-104, the closest well to the former Drum Burial Area. With regard to monitoring wells along or near the downgradient boundary, detections of SVOCs above RSL values were few and sporadic.

Pesticide/herbicide results were below detection or below RSL values. The only PCB result that was above detection was PCB Aroclor 1260 in the sample from MW-102 (0.16 µg/L), which exceeds the value of 0.034 µg/L.

Indoor/Outdoor Air - The former Chemical Leaman facility is located approximately 7 miles northwest of Charleston, in a predominantly industrial area. The site is bordered to the south by a large industrial complex once operated by Union Carbide and currently occupied by Bayer CropScience. To the north of the site is a ridge. To the east is an area of small industry, such as garages, and to the west is undeveloped land. During QCI's use of the site, an air stripper was utilized for treatment of vapors vented from the tanker trucks. There was no evidence of air emission releases or odor complaints found in USEPA or WVDEP files. No air emissions treatment was employed specific to remediation of the Drum Burial Area. Existing facility buildings do not directly overly and are not immediately adjacent to any of the locations where VOCs were detected in soil samples. As such, the potential for volatilization and intrusion of VOCs into existing buildings is regarded to be negligible.

Surface/Subsurface Soil - The only solid waste management unit (SWMU) utilized was the Drum Burial Area, where buried drums and contaminated soil were removed nearly 15 years ago. A portion of the soil was treated on-site and incorporated into the treated soil stockpile area. This area is currently maintained through inspections and mowing, in accordance with the post-closure permit.

During the Site Assessment, conducted between August through December 2012, soil samples were collected at seven locations at the Drum Burial Area, nine locations in the Treated Soil Stockpile, two locations approximate location of the Polymer Spill Area (PSA), two locations in this area of the Wastewater Treatment Tank, two locations within the WWTP area believed to correspond to the reported disposal pit area, just north-northeast of the wastewater treatment area. All soil samples from the DBA were analyzed for RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), vanadium, volatile organic compounds (VOCs), and semi volatile organic compounds (SVOCs) (including polynuclear aromatic hydrocarbons [PAHs] compounds). Based on the results of the field PID screening, five soil samples from the Drum Disposal Area were selected for additional analyses, including pesticides, herbicides, PCBs, dioxins, and furans. Additionally, based on the results of the initial sampling analyses, one soil sample near the Waste Water Tank seepage area and two samples from WWTP from the were also analyzed for pesticides/herbicides, PCBs, and dioxins/furans.

A total of 59 soil samples (including duplicate samples) were collected during the 2012 Site Assessment from various depths at 22 locations and five areas where contaminants are known or suspected to have been released to soil. Arsenic was the only metal reported at concentrations above a risk-based criterion (RSL). All of the results for arsenic and barium are within or below natural background concentrations, certain lead results marginally exceeded the reported natural background range, but are not regarded to represent impacts to soil. No VOCs were reported in soil samples from the Wastewater Treatment Plant seepage area, and only low-level detections of a few VOCs were reported for samples from the Polymer Spill Area, with no results exceeding their RSL values. Naphthalene exceeded the LDR in two samples and ethylbenzene exceeded the LDR in one sample from the Treated Soil Stockpile area. No SVOCs exceeded risk-based RSL values, and none of the results for samples from the Treated Soil Stockpile area exceed applicable LDRs. None of the results were above risk-based RSL values; additionally, none of the pesticide/herbicide compounds results for the Treated Soil Stockpile area exceeded LDR values. PCBs were below detection in all soil samples analyzed. Dioxin/furan results were converted to TCDD toxicity equivalents using applicable TEFs for dioxins and dioxin-like compounds. The resulting values for all samples analyzed for dioxin/furan compounds were below RSL values. Results for individual dioxin/furan compounds in the sample from the Treated Soil Stockpile were below LDR values.

Surface water/sediment - Current operations are conducted indoors with limited potential for release of non-hazardous materials to nearby surface water. QCI historically used the gravel areas for the staging of trucks prior to and following cleaning. QSI continues to utilize these gravel areas. They are inspected routinely for signs of leaks.

Absorbent is utilized in addressing minor spills in this area. Minor staining was observed beneath some trucks during the October 2009 RCRA Site Visit. The facility was notified of the observations during the visit. Chemical Leaman historically operated under NPDES Permit No. WV0002372. Treated wastewater and stormwater was discharged through an outfall to an unnamed tributary of the Kanawha River. At the time of the October 2009 Site Visit, QSI operated this same outfall as part of their truck washing operations. Stormwater from the gravel area is drained to this outfall.

The source for the local public drinking water supply in the vicinity of the former Chemical Leaman facility is reported to be surface water. According to a 1986 Preliminary Assessment, water is provided by both the West Virginia American Water Company (WVAWC) and the St. Albans Water Company. Both the WVAWC and the St. Albans Water Company have intakes on tributaries of the Kanawha River. The WVAWC also utilizes an intake on the Elk River, approximately nine miles upstream of the site. The St. Albans Water Company utilizes intakes on the Coal River, which is approximately three miles downstream of the former Chemical Leaman facility.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

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	Yes	No	Yes	No	No	No
~~Air (indoors)~~							
Soil (surface, e.g., <2 ft)	No	Yes	No	Yes	No	No	No
~~Surface Water~~							
~~Sediment~~							
Soil (subsurface e.g., >2 ft)	No	Yes	No	Yes	No	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):

Soil (Surface and Subsurface)

The QCI facility is an industrial facility. The foreseeable use of the portion of the facility where releases have occurred will continue to be industrial. This developed portion of the facility and the area around the main facility building are covered by gravel and used as parking for tractor trailer trucks. Exposure to potentially impacted soil will most likely by day-to-day workers or by visitors. Exposure to surface and sub-surface soil by excavation workers could also occur, in the event of a construction project, utility repair, or other activity that requires excavation.

Groundwater:

Groundwater at the facility is not used as a potable water resource. There is a potential for excavation workers involved in an excavation project to be exposed to groundwater by direct contact, incidental ingestion, and inhalation of vapors. However, proactive measures such as a Health and Safety Plan (HASP) and site health and safety practices are followed by workers and construction workers. These controls greatly reduce the possibility of direct dermal or inhalation exposure to impacted groundwater.

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

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

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):

Soil (Surface and Subsurface)

The foreseeable use of the portion of the facility where releases have occurred will continue to be industrial. This developed portion of the facility and the area around the main facility building are covered by gravel and used as parking for tractor trailer trucks. All areas of impacted soil have ground covers that minimize day-to-day worker and excavation worker exposure to the impacted soils. Ground covers include vegetation (i.e., grass), gravel, asphalt, concrete, and soil covers. Site policy prohibits disturbance of impacted soil areas without appropriate health and safety measures that control exposure.

Groundwater:

Groundwater at the facility is not used as a potable water resource. Day to-day workers and excavation workers can be potentially exposed to constituents in groundwater during in the event of a construction project, utility repair, or other activity that requires excavation. Although some VOCs, SVOCs, metals exceed RSLs for groundwater, the limited duration and frequency of exposure result in the potential exposure being considered insignificant. Proactive measures such as a Health and Safety Plan (HASP) and site health and safety practices adhered to by day-to-day workers and excavation workers would greatly reduce the possibility of exposure to impacted groundwater.

[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.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

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):

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

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 Former Chemical Leaman Facility facility, EPA ID # WVR 000 001 719, located at Route 25 (1.2 miles west of I-64 Exit 50), Institute, WV 25112. Specifically, this determination indicates that the migration of "contaminated" groundwater is under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

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

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

Completed by (signature) -s- Date _____
(print) _____
(title) _____

Supervisor (signature) -s- Date _____
(print) _____
(title) _____
(EPA Region or State) _____

Locations where References may be found:

Contact telephone and e-mail numbers
(name) _____
(phone #) _____
(e-mail) _____