



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

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August 26, 2016

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Mr. Joseph Buffone
JBRL Development Corporation
PO Box 55
Yatesboro, PA 16263

Re: Site Characterization Report /Remedial Action Plan - Addendum
Storage Tank System Release April 8, 2014
Facility ID No. 03-06500
Valley Village
10243 State Route 85
Kittanning, Armstrong County

Dear Mr. Buffone:

The Department of Environmental Protection (Department) has reviewed the document titled "Site Characterization Report/Remedial Action Plan – Addendum" (SCR/RAP Addendum), received July 29, 2016, for the release referenced above. The document was prepared by Insite Group, Inc. and submitted as a Site Characterization Report (SCR) and Remedial Action Plan (RAP) as required by 25 Pa. Code § 245.310 and § 245.311, respectively. You selected the residential Statewide Health Standard (SHS) as the remediation standard for soil, groundwater and soil gas.

The property has operated as a retail gasoline sales facility and convenience store since 1985. Fuel sales are supported by an Underground Storage Tank (UST) system comprised of two 6,000-gallon regular unleaded gas tanks and one 4,000-gallon premium unleaded gas tank that serve two dispenser islands. Site appurtenances include a canopy over the dispenser islands and a one-story building (with a basement) that houses the convenience store. The site is variously covered by concrete, asphalt, gravel and grassy areas. Public water and sewer service the site. The surrounding area is mixed open land, residential and commercial. Some strip mining has occurred in the vicinity.

Site characterization was started in March 2014 in response to the detection of strong petroleum odors and separate-phase liquids in the Tank 003 sump area during an upgrade of the tank system. Investigations included soil borings, installation of groundwater monitoring wells, laboratory analysis of soil and groundwater samples, sampling of soil gas, aquifer characterization, exposure pathway analysis, data interpretation remedial alternatives screening and report preparation. The results of the initial site characterization were provided in an SCR and were used to develop the remedial approach proposed in a RAP both of which were submitted in March 2015. The Department approved the original SCR/RAP (with modifications) in a letter dated July 6, 2015.

Additional site characterization and remedial action evaluation has been performed since the approval of the original SCR/RAP. This additional work was done in response to comments developed by the Underground Storage Tank Indemnification Fund (USTIF) third party reviewer. The additional work, the results of which are reported on in the SCR/RAP Addendum, involved the drilling of soil borings to delineate soil contamination areas, installation of three additional groundwater monitoring wells, the installation of two piezometers in the deeper groundwater zone, and the installation of an additional soil vapor sampling point near the site building. Also included in the site work was the performance of various pilot tests (e.g., bench scale testing of surfactants, testing of drain interconnection with the tank cavity, vacuum extraction from the tank cavity to determine possible yields, and dye trace tests to demonstrate interconnectivity between the tank cavity and the surrounding monitoring wells) to ascertain the applicability of a number of potential remedial approaches.

Site characterization has indicated the following conditions:

- There are no exceedences of the Direct Contact Standards (DCS) in any of the soil samples.
- Site soil samples indicate the exceedences of residential, used-aquifer, soil-to-groundwater, Statewide Health Standards (SHS) primarily in the area of, and downgradient from, the tank cavity. Benzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene exceeded the standards in borings.
- The site monitoring wells have been sampled on numerous quarterly intervals. Groundwater monitoring in the shallow aquifer detected levels of benzene, ethylbenzene, MTBE, naphthalene, toluene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene above SHS (residential, used-aquifer) in downgradient wells during the groundwater sampling events. The contaminant plume extends some distance offsite.
- Three soil vapor sampling points were installed in areas near the contaminated soils and groundwater and in a location along a possible preferential pathway (utility corridor) to the building. There were no exceedences of the applicable screening criteria detected in the soil vapor samples. An additional vapor sampling point has been established along a possible preferential pathway and this will be sampled in the future after intrusive remedial activities.

The original RAP proposed the following remedial activities:

- Excavation of impacted soils above the water table in the area impacted near the tank cavity. Excavation was to include some soils from below the water table in an effort to remove as much of the smear zone source material as possible.
- PersulfOX[®], a chemical compound that releases oxygen to enhance biodegradation of petroleum hydrocarbons, was to be placed in the open excavation after confirmatory soil sampling was performed.
- A slurry of approximately 600 pounds of RegenOX[®], a chemical compound designed to enhance biodegradation of hydrocarbons in a less acidic (strongly basic) environment, was to be injected into the dewatered tank cavity.
- PlumeStop[®] Colloidal Biomatrix and ORC[®] was to be placed at the downgradient end of the excavation. This material is designed to stop movement of contaminants

downgradient by binding them in place and to then provide an oxygen source for the enhanced biodegradation of the hydrocarbons.

- After remedial activities were completed, four quarters of groundwater monitoring was planned to assess the effectiveness of the remedial efforts.

The SCR/RAP Addendum modifies some of the original remedial approach by the following:

- The horizontal and vertical extent of the soils excavation has been increased to capture contaminant source soils above and below the water table. There will be no need for the use of PersulfOX[®] in the excavation since the prior target zone will now be removed.
- The size and location of the clay barrier wall to be placed post-excavation has been modified because of the new areal and vertical extent of the excavation.
- The Plumestop[®] barrier will now extend to 17 feet in depth (the depth of the soils excavation) instead of the originally planned five feet.
- Possible use of ORC[®] to address the remnant dissolved contaminant plume after soils excavation should the need continue to be present.

The proposed remediation includes excavation of impacted soil above the water table, excavation of adsorbed phase mass below the water table, in situ chemical oxidation adsorbed phase and dissolved phase mass in the UST cavity, and installation of a chemical barrier to eliminate offsite migration of the remaining dissolved phase plume. The remedial approach is expected to achieve attainment of the selected standards for soil, soil vapor, and groundwater.

The Department approves the SCR/RAP Addendum in accordance with 25 Pa. Code § 245.311(b)(1).

25 Pa. Code § 245.312(a) specifies that remedial action shall be implemented upon approval of the RAP according to the schedule contained in the RAP. Remedial action should, therefore, commence immediately upon receipt of this letter and proceed in accordance with the schedule in the RAP until the selected remediation standard is attained.

Remedial Action Progress Reports must be submitted to the Department in accordance with Section 245.312(b-d) by the 30th day of the month following the end of each quarter (April 30, July 30, October 30, and January 30). The final RAPR is submitted as part of the Remedial Action Completion Report. Your first RAPR should be submitted no later than January 30, 2017.

Failure to implement remedial action or submit complete progress reports in accordance with the schedule outlined above may result in enforcement action by the Department. If you wish to modify any part of this RAP or select a new remediation standard, you must prepare and submit a new or modified RAP to the Department in accordance with Section 245.312(e).

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals

must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have questions, please contact Thomas C. Fuller, P.G. of my staff 412.442.4121 or by email to thomfuller@pa.gov.

Sincerely,



Michael G. Forbeck, P.E.
Acting Environmental Program Manager
Environmental Cleanup & Brownfields

cc: Shane Marion – ICF International, Inc. (USTIF)
Sara Giordano–Insite Group, Inc. Ph.D