

299 Cayuga Street

VILLAGE OF UNION SPRINGS, CAYUGA COUNTY, NEW YORK

Subsurface (Phase II) Investigation

AKRF Project Number: 40212

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1.0 INTRODUCTION

On March 19, 2009 AKRF, Inc. (AKRF) conducted a Subsurface (Phase II) Investigation on the property located at 299 Cayuga Street Site in the Village of Union Springs, New York (Site). A site location map is provided as Figure 1. The Phase II investigation was intended to determine whether current or former on- or off-Site activities had adversely affected environmental conditions at the Site. The scope of work was based on the findings of AKRF's Phase I Environmental Site Assessment (ESA), dated April 2009, and a Phase I ESA, dated March 2003, prepared by Environmental Compliance Management Corporation. The proposed Phase II scope included a soil boring and groundwater investigation; however, groundwater was not encountered during field activities. The proposed Phase II scope included the drilling of five soil borings and the collection of soil samples for field screening and laboratory analysis. This report describes methods and results of the Phase II investigation conducted by AKRF.

2.0 SITE BACKGROUND

2.1 Previous Environmental Investigations

299 and 303 Cayuga Street Phase I Environmental Site Assessment, AKRF, Inc., April 2009

A Phase I ESA was conducted at the study site by AKRF in April 2009. Recognized Environmental Conditions identified in this investigation included the following:

- The Property contained a convenience store and gasoline filling station, a car wash, and an asphalt-paved surface parking lot. The current and past use of the Property as a gasoline filling station could potentially have caused a release of petroleum contamination to soil or groundwater. The underground storage tank leak detection system reported in the environmental database for all the tanks currently in use at the Property did not indicate any releases of petroleum. Registration for the current USTs was not up to date with the NYSDEC, and the compliance status should be further evaluated and addressed, as warranted. In addition, there was no documentation found for maintenance, leak detection, fluid measurement records, closure sampling related to the former underground tanks, or activities related to the former site building. Historical or undocumented spills could have contaminated soil and groundwater beneath the site.
- Lakeside Trading/Route 90, the current owner located on the Property, was listed in the Petroleum Bulk Storage database for one 550-gallon kerosene aboveground storage tank (AST) that was closed and removed, three 6,000-gallon gasoline underground storage tanks (USTs) that were closed and removed, three 5,000-gallon gasoline USTs (two of which were unregistered and one was closed and removed), one 5,000-gallon diesel UST that was administratively closed, one 10,000-gallon gasoline UST that was unregistered, and one 3,000-gallon kerosene UST that was unregistered.
- Express Mart at 299 Cayuga Street, a previous owner located on the Property, was listed in the New York Spills Database for three spills. The facility was listed with one closed status spill in June 2000. The release was reported to have been due to a faulty shutoff valve on a fuel line hose on a customer's vehicle. The quantity spilled was listed as 5 gallons. The release was reported to have been cleaned with speedy dry (absorbent) and the spill achieved a closed regulatory status in October 2000. In November 2001, a spill was reported at the facility due to an accidental release of gasoline from a filling nozzle on pavement. The quantity spilled was reported as 8 gallons. Cleanup activities were initiated and the spill was

closed on the same date as notification. The facility was also listed with a closed spill in June 2001. The spill file notes indicated that a faulty fuel tank on a customer's car caused a release of petroleum on black top. The quantity spilled was listed as 10 gallons. The release was reported to have been cleaned with speedy dry (an absorbent) and the case achieved a closed regulatory status in April 2002.

- Union Springs Mobil, Route 326 and Route 90, located approximately 460 feet northeast of the Site, was listed in the New York Spills Database for three spills. The facility was listed with one closed status spill in June of 1989 when gasoline fumes were reported after opening a manhole. The spill was closed on the same day it was reported and no further significant information was given about the incident in the regulatory database. The site was also listed with a closed status spill in March 1991 when approximately 2 gallons of gasoline were released on the surrounding pavement due to an overfilled fuel tank on a customer's car. The release was reported to have caused fumes in the office at the facility. Corrective actions were taken and the spill was closed. A spill was reported in August 1988 in the roadway adjacent to this facility due to a faulty hydraulic hose on a tanker trailer. The quantity released was listed as 30 gallons. Residual soil contamination was noted as a result of the incident that was reported cleaned following the day of the incident and the spill was closed in June 1989.

A Phase II investigation was recommended to determine whether the current or historical uses of the study site and the surrounding properties have affected on-site environmental conditions.

299 and 303 Cayuga Street Phase I Environmental Site Assessment, Environmental Compliance Management Corporation, September 2003

In March 2003, Environmental Compliance Management Corporation (ECMC) conducted a Phase I Environmental Site Assessment at the Site. According to ECMC, the Site consisted of two steel and concrete one-story buildings that housed a gasoline station/convenience store and carwash, covered gasoline, diesel, and kerosene delivery pumps, small grass areas, clean fill areas, and gravel parking areas. ECMC reported that the site was listed in the New York Department of Environmental Conservation (NYSDEC) leaking tanks database for three documented spills. Spill# 0060020 occurred at the site on June 8, 2000 due to a gasoline fill valve malfunction and was closed on October 24, 2000. Spill# 0102901 occurred at the site on June 15, 2001 from a faulty fuel tank on a customer's car that leaked approximately 10 gallons of gasoline. The spill was reported to have been cleaned up with speedy-dry and the spill closed in April 2002. Spill# 0107937 occurred at the site on November 3, 2001 due to human error which spilled approximately 8 gallons of gasoline and the spill was cleaned up with speedy-dry. ECMC noted that while the gasoline station and carwash uses at the site could result in potential contamination, there was an underground storage tank leak detection system and the most recent tank test reported no failures. No environmental contamination was identified and no further studies were recommended by ECMC at the Site.

3.0 FIELD ACTIVITIES

3.1 Soil Borings

On March 19, 2009, Paragon Environmental Construction, Inc. of Brewerton, New York advanced five soil borings at the Site, as shown on Figure 2. The soil borings were advanced using a truck-mounted Geoprobe® direct push probe (DPP) unit to depths ranging from 4 to 16 feet below grade. The borings were located adjacent to areas identified in the Phase I

investigation as having a potential to have released contamination to the surrounding media, which included the USTs, dispenser lines, and pumps. Soil samples were collected using four-foot long, two-inch diameter, macrocore piston rod samplers fitted with acetate liners. The soil borings were advanced to depths ranging from 4 to 16 feet below grade. Refusal was encountered at all locations at a depth above groundwater. When shallow refusal was encountered, if feasible, the drilling rig was moved a few feet and a new boring was drilled with a goal of reaching a depth below the adjacent structure (i.e., USTs). The cause of refusal was evaluated as being due to soil conditions (see Section 4.1), as such, boring efforts at each location were abandoned when refusal was encountered at the dense till layer. The maximum depth was 16 feet below grade at refusal. Soil boring logs are provided in Appendix A.

Each sample was split lengthwise and logged by AKRF field personnel. Logging consisted of: describing the soil according to the modified Burmister Classification System; describing any evidence of contamination (e.g., staining, sheens, odors); and screening the soil for organic vapors using a photoionization detector (PID) in one-foot intervals. One soil sample from each boring was selected for laboratory analysis based on PID response and visual indications of contamination and the site setting. Groundwater was not encountered.

Soil samples designated for laboratory analysis were collected using dedicated sampling equipment, placed into laboratory-supplied containers and a chilled cooler, and submitted via courier to Alpha Analytical located in Westborough, New Jersey, a New York State-certified laboratory. Each soil sample was analyzed for volatile organic compounds (VOCs) by EPA Method 8260. In addition, soil samples from SB-3, SB-4, and SB-5 that were drilled around USTs or dispensers that contained diesel fuel or kerosene were also analyzed for semivolatile organic compounds (SVOCs) by EPA Method 8270.

On duplicate sample (analyzed for VOCs and SVOCs) and one trip blank (analyzed for VOCs only) accompanied the sample shipment for quality assurance/quality control (QA/QC) purposes.

4.0 INVESTIGATION RESULTS

4.1 Field Observations

Soil encountered during this investigation consisted of glacial till that contained varying amounts of clay, sand, and gravel. Asphalt and crushed rock were also present in the upper sections of the soil column, indicating that the fill material was present in the upper five feet across the site. At each boring location, refusal was encountered between 4 and 16 feet below grade, above the groundwater table, mostly due to the density of the glacial till layer and encountering expanding clay and sand. Although additional boring locations were attempted, soil conditions were such that groundwater was not encountered during the investigation.

Recovered soil at each boring was transferred from the sampler into sealable plastic bags. The headspace of each sample was screened for VOCs by placing the probe of a Model 580B PID inside the plastic bags. No odors, staining or other evidence of contamination were noted on the screened soil. Based on the field screening results and no groundwater encountered, soil samples designated for laboratory analysis were collected from the bottom interval of each soil boring. Soil descriptions, observations, and PID readings were recorded on the soil boring logs provided in Appendix A.

4.2 Soil Analytical Results

Five discrete soil samples, one from each of five borings (SB-1(3-4), SB-2(5.5-6.5), SB-3(13-14), SB-4(11-12), and SB-5 (15-16)), were collected for laboratory analysis as part of this investigation. Soil sample analytical results were compared to the New York State Department of Environmental Conservation (NYSDEC) Part 375 Soil Cleanup Objectives (SCOs) for Unrestricted Use which represents the lowest value of residential, protection of groundwater, and protection of ecological resources for VOCs and SVOCs. A complete laboratory analytical report is included in Appendix B.

Soil analytical results for VOCs are presented in Table 1. VOCs were detected in one of the five soil samples. SB-2(5.5-6.5'), which was located adjacent to the pump island, contained 1,2,4,5-tetramethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,4-diethylbenzene, 4-ethyltoluene, benzene, ethylbenzene, isopropylbenzene, methyl tert-butyl ether (MTBE), naphthalene, n-butylbenzene, n-propylbenzene, xylenes, and sec-butylbenzene at concentrations ranging from 0.0032 mg/kg to 0.32 mg/kg. The detected concentrations were well below their respective soil cleanup objectives, if available. Acetone was detected at 0.24 mg/kg in SB-2(5.5-6.5'), above its respective SCO of 0.05 mg/kg. The detected level of acetone was at a concentration not typically reflective of an adverse environmental condition; furthermore, acetone was not known to be used in current or past on-Site operations.

Soil analytical results for SVOCs are presented in Table 2. To accurately quantify the SVOCs for comparison with the established SCOs, the polycyclic aromatic hydrocarbons (PAHs) portion of the SVOCs were re-analyzed in the laboratory at lower detection limits. No SVOCs were detected in the soil samples from this investigation.

5.0 CONCLUSIONS AND RECOMMENDATIONS

On March 19, 2009, AKRF completed a Phase II Subsurface Investigation at the property located at 299 Cayuga Street, Village of Union Springs, New York. The investigation consisted of drilling five soil borings to depths ranging from 4 to 16 feet below grade, collection of continuous soil samples from each boring, field screening each soil sample for evidence of contamination, and laboratory analysis of a selected soil sample from each boring. In general, soil samples were localized in and around known areas of petroleum use (i.e. underground tanks and the dispenser pump islands).

Soil encountered during this investigation consisted of glacial till that contained varying amounts of clay, sand, and gravel. Asphalt and crushed rock were also present in the upper five feet, indicating the presence of fill material. Soil conditions (discussed in Section 4.1) were such that groundwater was not encountered during the investigation. Soil boring logs are provided in Appendix A. Based on topography, groundwater most likely flows to the west toward Cayuga Lake, located approximately ½-mile west of the Site, and estimated to be encountered approximately 20 to 30 feet below grade.

Field screening results indicated petroleum staining was not observed and VOCs were not detected with the PID. Laboratory analysis indicated that low levels of petroleum-related VOCs were detected in SB-2(5.5-6.5'), which was located adjacent to the pump island, at concentrations below the NYSDEC Part 375 Soil Cleanup Objectives (SCOs) for Unrestricted Use which represents the lowest value of residential, protection of groundwater, and protection of ecological resources. Acetone was detected at a concentration above the Part 375 SCO for Unrestricted Use,

but the concentration was not typically reflective of an adverse environmental condition and was not known to be used in current or past on-Site operations. The nature and levels of VOCs detected in the samples appear to be attributable to the use of the site as a gas station and do not indicate a significant release of petroleum in soil. The status of groundwater remains unknown. Overall, the investigation data did not identify any areas that have been adversely affected by current or former on-site operations.

Despite the lack of significant environmental impacts identified by this study, concentrations of certain VOCs were detected in the soil samples analyzed. The elevated levels are likely reflective of small amounts of petroleum spilled during usage. If such material is excavated as part of any future site development activities at the site, it should be managed in accordance with all applicable state and federal regulations. Soil intended for off-site disposal should be tested in accordance with the requirements of the receiving facility. Transportation of material leaving the site for off-site disposal should be in accordance with federal, state and local requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc.

6.0 LIMITATIONS

The findings set forth in this report are strictly limited in scope and time to the date of the evaluation described herein. The conclusions and recommendations presented in the report are based solely on the services and any limitations described in this report.

This report may contain conclusions that are based on the analysis of data collected at the time and locations noted in the report through intrusive or non-intrusive sampling. However, further investigation might reveal additional data or variations of the current data, which may differ from our understanding of the conditions presented in this report and require the enclosed recommendations to be reevaluated or modified.

Chemical analyses may have been performed for specific parameters during the course of this investigation, as summarized in the text and tables. It should be noted that additional chemical constituents, not searched for during this investigation, may be present at the site. Due to the nature of the investigation and the limited data available, no warranty, expressed or implied, shall be construed with respect to undiscovered liabilities. The presence of biological hazards, radioactive materials, lead-based paint and asbestos-containing materials was not investigated, unless specified in the report.

Interpretations of the data, including comparison to regulatory standards, guidelines or background values, are not opinions that these comparisons are legally applicable. Furthermore, any conclusions or recommendations should not be construed as legal advice. For such advice, the client is recommended to seek appropriate legal counsel. Disturbance, handling, transportation, storage and disposal of known or potentially contaminated materials is subject to all applicable laws, which may or may not be fully described as part of this report.

The analytical data, conclusions, and/or recommendations provided in this report should not be construed in any way as a classification of waste that may be generated during future disturbance of the project site. Waste(s) generated at the site including excess fill may be considered regulated solid waste and potentially hazardous waste. Requirements for intended disposal facilities should be determined beforehand as the data provided in this report may be insufficient and could vary following additional sampling.

This report may be based solely or partially on data collected, conducted, and provided by, AKRF and/or others. No warranty is expressed or implied by usage of such data. Such data may be included in other investigation reports or documentation. In addition, these reports may have been based upon available previous reports, historical records, documentation from federal, state and local government agencies, personal interviews, and geological mapping. This report is subject, at a minimum, to the limitations of the previous reports, historical documents, availability and accuracy of collected documentation, and personal recollection of those persons interviewed. In certain instances, AKRF has been required to assume that the information provided is accurate with limited or no corroboratory evidence.

This report is intended for the use solely by Cayuga Indian Nation. Reliance by third parties on the information and opinions contained herein is strictly prohibited and requires the written consent of AKRF. AKRF accepts no responsibility for damages incurred by third parties for any decisions or actions taken based on this report. This report must be used, interpreted, and presented in its entirety.

TABLES

FIGURES

APPENDIX A
SOIL BORING LOGS

APPENDIX B
LABORATORY ANALYTICAL DATA SHEETS