



**CONESTOGA-ROVERS
& ASSOCIATES**

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November 11, 2009

Reference No. 17338

Mr. Aaron Siegel
Tank Management Branch
Waste Management Section
Delaware Department of Natural Resources and Environmental Control
391 Lukens Drive
New Castle, Delaware 19720-2774

Dear Mr. Siegel:

Re: Tank F Investigation Work Plan
Former GM Wilmington Assembly Plant, Wilmington, Delaware

1.0 INTRODUCTION

This Tank F Investigation Work Plan (Work Plan) has been prepared by Conestoga-Rovers & Associates (CRA), on behalf of Motors Liquidation Company (MLC), in response to your letter dated September 25, 2009, which requested a work plan to further investigate the presence of semi-volatile organic compounds (SVOCs) in soil and groundwater near the Tank F aboveground storage tank (AST) at the former General Motors (GM) Wilmington Assembly Plant in Wilmington, Delaware (Site). Further to our conversation on October 26, 2009 and subsequent correspondence dated October 28, 2009, the Department of Natural Resources and Environmental Control (DNREC) agreed to extend the due date for this Work Plan to November 11, 2009.

Tank F is a 250,000-gallon, vertical AST with a diameter of 40 feet and a height of 27 feet, located within an earthen berm in the tank farm on the western side of the plant. It was installed in 1955 for the storage of No. 6 fuel oil until it was permanently taken out of service on April 18, 2007. Underground piping extends from Tank F to the power house to the east. Tank F was cleaned once it was permanently removed from service and was empty at the time of the October 2009 Facility inspections. The location of Tank F is shown on Figure 1.

The soil and groundwater quality in the vicinity of Tank F was characterized in April 2009 as part of a Site assessment for the closure of four ASTs (i.e., Tanks A, B, C, and F). Assessment activities were conducted in accordance the Delaware Regulations Governing Aboveground Storage Tanks. Soil samples were collected on all four sides of Tank F at the soil interval immediately below the gravel layer (i.e., 6 to 12-inches below ground surface [bgs]) and below the underground piping leading to the pump house. Soil samples were submitted for laboratory analysis of SVOCs, PCBs, and metals. A review of the laboratory analytical results found the soil in the vicinity of Tank F exhibits levels of benzo-a-pyrene arsenic above restricted



Delaware Uniform Risk-Based Standards (URs), however, arsenic was eliminated as a contaminant of concern in the AST closure report, as the concentrations found in the soil were within known background concentrations. In addition, two groundwater grab samples were collected in the vicinity of Tank F for laboratory analysis of SVOCs and metals. A review of the laboratory analytical results found groundwater in the vicinity of Tank F exhibits levels of SVOCs (i.e., benzo-a-anthracene, benzo-a-pyrene, benzo-b-fluoranthene, benzo-k-fluoranthene, bis[2-ethylhexyl]phthalate, and indeno[1,2,3-cd]pyrene) above Delaware URs for groundwater.

This Work Plan has been prepared to present the scope of work (SOW) necessary to further define the vertical and horizontal extent of SVOC impacts in the soil and groundwater.

2.0 SCOPE OF WORK – PROPOSED SOIL AND GROUNDWATER DELINEATION ACTIVITIES

Soil and groundwater investigation activities will further delineate the extent of SVOC impact at the Tank F area. The SOW for soil and groundwater investigations includes the following primary tasks:

- Utility clearance
- Coordination and oversight of drilling subcontractor services
- Advancement of approximately four boreholes to facilitate the collection of soil samples for field screening
- Laboratory analysis of approximately twelve soil samples for base / neutral SVOCs (i.e., three samples per borehole)
- Advancement of two additional boreholes and instrumentation of the boreholes as groundwater monitoring wells
- Laboratory analysis of base / neutral SVOCs in three groundwater samples collected from the two new groundwater monitoring wells and one existing groundwater monitoring well (MW-8)
- Assessment of analytical data with respect to the Delaware URs
- Preparation of a report documenting the field activities and analytical data

2.1 SOIL QUALITY INVESTIGATION

CRA proposes to advance four boreholes to facilitate the inspection and field screening of soils. Soil samples shall be collected from locations GP-21 through GP-24 as shown on Figure 1 at depths of 0.5 and 4.5 feet bgs and analyzed for base / neutral SVOCs. Samples at these locations



will be used to vertically and horizontally delineate the extent of SVOC impact in soil as follows:

- GP-21 – delineate the northeastern extent of SVOC impact
- GP-22 and GP-24 – delineate the extent of SVOC impact beneath underground piping to the east
- GP-23 – delineate the southern extent of impact

The analytical data generated from soil samples will be assessed with respect to the Delaware URs to confirm the extent of SVOC impact, if any. A third sample, at a depth of approximately 6 feet bgs, will be collected at each location and held at the laboratory for analysis of base/neutral SVOCs should shallower samples fail to meet the URs. In total, up to 12 soil samples will be collected for laboratory analysis of base/neutral SVOCs. Additional soil samples may be collected at additional locations and /or depths as necessary to adequately delineate soil impacts.

2.2 GROUNDWATER QUALITY INVESTIGATION

CRA proposes to advance an additional two boreholes to a depth of approximately 25 feet bgs and instrument the boreholes as monitoring wells to facilitate the collection of groundwater samples for laboratory analyses. Proposed monitoring well locations are shown on Figure 1. Upon installation, groundwater levels in the wells will be monitored until the in-well water level reaches equilibrium with the surrounding water table. Once the water levels have reached equilibrium, the depth to groundwater will be recorded and each well will be developed. Development will consist of the removal of groundwater from each well until such time as temperature, pH, turbidity, and conductivity measurements stabilize indicating that the water in the well is representative of the quality of groundwater within the screened hydrogeologic unit.

Groundwater samples will be collected from new monitoring wells MW-20 and MW-21 as well as existing monitoring well MW-8 approximately one week following well installation activities. Monitoring wells will be sampled using low flow groundwater sampling techniques for laboratory analysis of base/neutral SVOCs. The analytical data generated from groundwater samples will be assessed with respect to the Delaware URs to confirm the extent of impact, if any.



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2.3 REPORTING

Upon receipt of the analytical data generated from the soil and groundwater investigations, the results will be assessed with respect to applicable Delaware URs. CRA will summarize the findings of the laboratory analyses and all field activities in a Work Plan Implementation Report. In the event insufficient data are available to fully define the extent of SVOC impact, the report will provide recommendations for additional investigations or remedial actions.

3.0 PROJECT SCHEDULE

Work Plan implementation will be initiated upon receipt of approval of this Work Plan. Completion of this sampling program and subsequent reporting will be completed within 90 days of receipt of Work Plan approval from DNREC.

Should you have any questions on the above, please do not hesitate to contact the undersigned.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Gregory A. Carli, P. E.

JB/jb/2

Encl.

c.c.: Dave Favero, MLC
Henry Alexander, CRA
John Peronti, GM

