7.0 Remediation System Equipment & Enclosure

MLE (Maple Leaf Environmental) Equipment built the remedial equipment system and enclosure to the specifications of HWS Consulting Group. The equipment layout and portable building dimensions are illustrated in Figure 2 and photographs of the building and equipment are included in Appendix A.

The support jacks for the mobile equipment building were set on four 2 x 2 foot concrete pads installed beneath the building corners. The jacks were secured to the pads by locking them to mounting pins set in the concrete.

A description of the equipment selected follows:

Soil Vacuum Extraction Unit
Includes: Sutorbiltâ (P Series) 4L Rotary Lobe Blower with 5 HP 230/460V/3P motor

Pre-blower equipment includes:

- VLD-400 55-gallon vapor liquid separator
- ½ inch view glass
- High level alarm switch
- High and Low level pump control switches
- Gould NPE model 1st centrifugal transfer pump with ½ HP 230/460V/3P motor

Air Sparge Compressor Unit
Includes: Sutorbiltâ (P Series) 3M Rotary Lobe Blower with a 7.5 HP 230/460/3P Motor

- Performance rating of 100 SCFM at 8PSI
- Solberg inlet filter/silencer
- Temperature gauge
- Discharge Silencer
- Air pressure gauge
- 2-inch galvanized steel piping

Heat Exchange Unit
Includes: American Industrialâ Heat Transfer Heat Exchanger Model ACA-3242-3 with ¼ HP 230/460V/3P Motor

- Performance rating of 100 SCFM at 8PSI
- Pressure Gauge
- Temperature Gauge
- High Temperature Switch
- Moisture Trap
- Air Bleed Valve Assembly
- VFLOW Venturi style air flow indicator
- Piped to building exterior for additional ventilation

Portable Building
Includes: 8' x 12' Portable Trailer

- Steel frame with aluminum skin
- 6.5' standard interior height
- Barn-style rear doors
- Side man door
- Hazardous CL 1 DIV 2 ventilation fan with thermostat
- Hazardous CL 1 DIV 2 heater with thermostat
- Hazardous CL 1 DIV 2 lighting
- Passive vent louvers with hood
- 2" foam insulation

Control System Unit
Includes: PLC Series Direct Logic PLC – UL Certified NEMA 3R Lockable Panel Enclosure

- Surge and lightning protection for controls and telephone
- Overload protection
- Phase monitor with auto restart capabilities
- MLE model SL-PP direct remote access system with 20 digital inputs/16 digital outputs
- Remote shutdown and restart

The specification sheets for the system components are included in Appendix C.

8.0 Remediation System Equipment & Enclosure

Pre-Start Up Groundwater Sampling
On May 3rd 2007, approximately two weeks before the system was started, groundwater samples were collected from 9 of the site monitoring wells. This was done to establish the baseline dissolved concentrations at the site prior to starting the system. This data will be compared to future results to assess the effectiveness of the SVE and sparge systems in cleaning up the dissolved hydrocarbons. All samples underwent laboratory analysis for BTEX constituents and Total Extractable Hydrocarbons (TEH) as gasoline using Iowa Method OA-1 and OA-2. The detectable benzene concentrations varied from 5 ug/L at MW-1 to 4,780 ug/L at MW-12. The detectable total extractable hydrocarbons varied from 0.4 mg/L at MW-1 to 71.7 mg/L at MW-12. The analytical results are summarized in Table 1 (see As –Built Figures & Table section). The May 3rd results are in bold text. Copies of the analytical laboratory results are included in Appendix D.

On May 11th 2007, while on site completing the system, additional baseline data was collected. The data collected included dissolved oxygen (DO) levels in several wells across the site and water levels. This data, like the analytical results, will be compared to future data in order to better assess the SVE and sparge systems' operation. Groundwater levels near the area that will be treated by the systems varied between 24 and 25 feet below grade. The dissolved oxygen levels varied across