Contaminated soil generated during construction was disposed of at the Norfolk Landfill. Soil disposal analytical results are provided in Appendix G.

7.0 REMEDIATION SYSTEM EQUIPMENT AND ENCLOSURE

MLEE (Maple Leaf Environmental Equipment) built the remediation system and enclosure to the specifications of HWS Consulting Group Inc. The enclosure is a trailer with dimensions of 18' long x 7' 10" wide x 8' tall. Remediation figures are provided in Appendix B. Operation and maintenance manuals are provided in Appendix H.

Vacuum Extraction Manifold

One 3" vacuum extraction manifold with five 2" legs. Each leg contains a gate valve and vacuum gauge.

90 Gallon Vapor Liquid Separator

MLEE® 90 gallon Vapor Liquid separator with 1 HP 230/460/3P Moyno Model 356 Progressive Cavity Transfer Pump.

- High level alarm switch
- High and low level pump control switches
- 6" clean out on bottom with steel plug
- Pressure gauge
- Sample port

Rotary Claw MPE Vacuum Pump

Busch (Model MM 1322 AV) rotary claw vacuum pump with 15 HP 230/460/3P motor.

- Performance at inlet of blower = 190 ACFM @ 20 "Hg
- Solberg inline filter/silencer
- Pressure, flow, and temperature gauges
- Solberg dilution line filter/silencer
- Sample ports
- Discharge silencer
- MLEE PLOW pitot tube type flow indicator

Oil Water Separator

MLEE (Model OWS-8) 15 GPM oil water separator designed for oil with specific gravity less than 0.88.

- Dimensions - 76"L x 30"H x 28"W
- 25 micron removal size
- Carbon steel construction with sacrificial anode to prevent corrosion of tank
- 46 gallon water effluent chamber
- High level alarm switch
- High and low level pump switches

Transfer Pump (from Oil Water Separator to Air Stripper)

Gould's NPO (Model 1SN1F5B4W9) open face centrifugal pump with 1.5 HP 230/460/3P motor.

- Performance = 15 GPM @ 50' TDH
- Totalizing water flow meter

Air Stripper

QED (Model EZ Stacker 4.4P) plastic air stripper package with New York Blower with 3 HP 230/460/3P motor.

- Operational flow rate: 10 GPM
- Max water flow rate: 25 GPM
- Air flowrate: 280 SCFM
- Sight tube
- Differential pressure gauge
- High level alarm switch
- Pump control switch

Air Stripper Discharge

Gould's NPO (Model 1SN1H5H4) open face centrifugal pump with 3 HP 230/460/3P motor.

- Performance = 15 GPM @ 80' TDH
- Sample port

Control System

PLC based control panel. UL certification with NEMA 4 lockable panel enclosure.

- Primary circuit protection using fused main disconnect
- Surge and lightning protection for control system
- 120V/1P power transformer
- Motor starter with overload protection
- 24 VDC IS power supply

Telemetry

MLEE (Model SL-WP) wireless remote access system for PLC based control system.

- P&ID user interface will display status of all inputs, outputs, and alarms
- P&ID user interface will allow HOA control of all motors, valves or other auxiliary outputs
- Remote reset of alarms
- Remote shutdown and restart
- Accessible from any PC with access to the internet
- Data logging capabilities

Remediation Enclosure

Built to NEC Class I Div 2 standards, all wire intrinsically safe and all equipment pre-piped factory tested and mounted in enclosure.

- 20' x 8' x 8' enclosed cargo trailer
- Tandem 6,000 lbs axles
- 7,500 lbs payload capacity
- 42" tongue length
- Aluminum siding
- Interior painted plywood
- Insulated walls and ceiling
- Barn style rear double door
- One man door located on passenger side of trailer
- Control panel mounted on exterior

8.0 SYSTEM STARTUP

The remediation system enclosure was delivered to the site on June 30, 2010. HWS technicians were on site during the months of July to make the necessary connection and to plumb the remedial system. A local electrical contractor was contracted to wire in all of the required electrical connections on July 15, 2010 in preparation of hooking up the remedial system to the Elkhorn Rural Public Power District's (ERPPD's) 3-phase electric line. HWS is presently working with the site owner and the ERPPD to bring power to the remedial system and to install a meter to track the electrical charges associated with the remediation.

Once the electrical hookup is completed, HWS will startup the remedial system. Initially, only high vacuum wells HV-12 and HV-13 together with soil vapor extraction wells SVE-3 and SVE-6