

**CORRECTIVE ACTION PLAN
C-4 TOP STOP
15 SOUTH MAIN STREET
GUNNISON, UTAH
UST FACILITY NO. 2000220, RELEASE SITE EMHB
WEI PROJECT NO. 1241-026A**

September 30, 2008

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Project No.: 1241-026A

SUBJECT: Corrective Action Plan
C-4 Top Stop
15 South Main Street
Gunnison, Utah
UST Facility No. 2000220
Release Site EMHB

1.0 INTRODUCTION

This Corrective Action Plan identifies the current status and presents additional details pertaining to the implementation of a corrective action, which is being conducted at the former C-4 Top Stop facility in Gunnison, Utah. Results from treatment system operations, soil/groundwater/indoor air sampling, and other data collection are submitted in monthly reports and are therefore only summarized briefly herein. This Corrective Action Plan was prepared by Wasatch Environmental, Inc. (Wasatch) for Wind River Petroleum, and is supplemental to the May 9, 2008, "Corrective Action Plan Summary Letter." This document was completed in general accordance with the *Leaking Underground Storage Tank (LUST) Corrective Action Plan Report Guide*.

The Top Stop facility is located at the southeast intersection of Main and Center Streets in Gunnison, Utah. On August 8, 2007, gasoline vapors were reported in businesses near the Top Stop facility. The release has impacted both the east and west sides of Main Street, and a good portion of the residential area between Main Street and 100 West Street, and between Center Street and 300 South Streets (the Site or impacted area). Many of the homes and businesses have basements. Underground utilities include culinary water, sewers, and storm drains.

Between August 2007 and September 2008, Wasatch Environmental, Inc., conducted subsurface investigation of the impacted area. A total of 307 direct push borings and 38 groundwater monitoring wells have been installed at approximate locations depicted on Figure 1. The groundwater gradient is generally toward the southwest across the impacted area. Groundwater has been encountered in borings and monitoring wells at depths ranging from 10 feet to 14 feet below ground surface (bgs). The released gasoline migrated rapidly southwest from the Top Stop facility to the residence at 255 South 100 West a distance of approximately 1,300 feet in approximately 90 days.

Previous reports submitted to Utah DERR have included:

- "Underground Storage Tank Permanent Closure Notice" submitted on September 25, 2007.
- "Emergency Response and Vapor Abatement Report" submitted on December 10, 2007.
- "Additional Emergency Response and Subsurface Investigation Report" submitted on December 24, 2007.
- "Subsurface Investigation Report" submitted on February 12, 2008.
- "Corrective Action Plan Summary Letter" submitted on May 9, 2008.

- “Schedule for Residential and Business Indoor Air Analysis” submitted on July 7, 2008.
- Monthly reports submitted for the months of June, July, and August 2008.
- “Modified Schedule for Residential and Business Indoor Air Analysis” submitted on September 15, 2008.

2.0 CORRECTIVE ACTION AND ABATEMENT MEASURES

2.1 Soil Vapor Extraction (SVE) Systems

Due to the emergency nature of the project's development, the volatility of the petroleum product, the relatively high permeability of the soils, the high rate of plume migration, large plume dimensions, and the number of structures overlying the plume, the use of soil vapor extraction (SVE) was chosen as the primary corrective action and was approved during the Emergency Response activities. It has been successful in removing vapors from buildings and in removing a relatively large amount of petroleum product from the subsurface.

SVE trenches were excavated approximately 12 to 15 feet deep. The SVE trenches were constructed by placing approximately 3 feet of crushed gravel in the bottom of the trench; a horizontal 4-inch diameter, slotted PVC well screen was installed on the gravel; and approximately one foot of gravel was placed over the well screen. The remainder of the trench was backfilled with flow-fill (a lean concrete mix) to within one foot of the surface, and with native soil to the surface. The slotted PVC well screen is connected to vacuum blowers that extract the gasoline vapors from the subsurface. The gasoline vapors are incinerated by catalytic oxidizers (Catox) or filtered through granular activated carbon drums prior to emission to the atmosphere.

SVE treatment systems (Figure 1) were installed across the impacted area during the emergency response and site investigation activities. The treatment systems include the following:

- East Horizontal SVE System - Installed on the east side of Main Street. The system began operation on August 29, 2007. Groundwater sparging was initiated in July 2008 in combination with soil vapor extraction (See Groundwater Sparging below). A schematic of this system is presented on Figure A-1 in Appendix A.
- West A and B Horizontal SVE Systems – West A installed on the west side of Main Street, and West B installed behind the Casino Star Theatre. West A system operation began on September 21, 2007, and West B system operation began on January 17, 2008. A schematic of this system is presented on Figure A-2 in Appendix A. In addition, a perforated 2-inch diameter PVC pipe was installed in the basement of the Casino Star Theatre and connected to the West SVE System to extract gasoline vapors.
- South Horizontal SVE System - Installed in an open field adjacent north of the 255 South 100 West Street property. System operation began on November 20, 2007. Groundwater sparging was initiated in August 2008 in combination with soil vapor extraction (See Groundwater Sparging below). A schematic of this system is presented on Figure A-3 in Appendix A.
- Central Horizontal SVE System - Installed on the 60 West 200 South Street property near the north boundary. The system began temporary operation on November 27, 2007, utilizing a generator-powered catalytic oxidizer for emissions treatment. The temporary Catox was replaced with a flame oxidizer and utility power source on March 4, 2008. Groundwater sparging was initiated in July 2008 in combination with soil vapor extraction

(See Groundwater Sparging below). A schematic of this system is presented on Figure A-4 in Appendix A.

- West Alley Horizontal SVE System – Installed in a pre-existing building located near the west boundary of the 36 West 100 South Street property. The extraction trench extends from north to south across the east side of the property. Extracted vapors are captured in carbon drum filters. The system began operation on May 16, 2008. A schematic of this system is presented on Figure A-5 in Appendix A.
- An SVE system was installed beneath the basement floor slab of the residence at 255 South 100 West to mitigate the gasoline vapors beneath the building. The system was connected to the South SVE System and began operation on November 21, 2007. Two SVE wells were installed east of the building and were connected to South SVE System on August 8, 2008. Indoor air quality is being monitored periodically by summa canister testing.

2.2 Microbial Degradation and Natural Attenuation

The physical processes utilized in the SVE treatment systems have been discussed in previous reports. Calculations derived from Catox operation have been utilized to assess the amount of product that has been physically removed by the SVE systems and destroyed by catalytic oxidation. However, other remedial processes are provided through the operation of the treatment systems.

Natural biological activity in the subsurface is enhanced through the operation of soil vapor extraction and air sparge systems. Soil Vapor Extraction creates a continuous flow of air through the soil. Therefore, it often promotes biodegradation of organic compounds that may be present. Air sparging further enhances biological activity by introducing air (oxygen) into groundwater.

The subsurface contamination is further mitigated through natural attenuation processes, which include biodegradation; dispersion; dilution; sorption; volatilization; and chemical or biological stabilization, transformation, or destruction of contaminants. Though insufficient as a sole remedial alternative under current conditions, these natural processes further contribute to the reduction of contaminant concentrations.

Geochemical parameters (Appendix B) were collected to evaluate the potential biodegradation process for petroleum products. These geochemical parameters included temperature, dissolved oxygen (DO) concentration, pH, and oxygen reduction potential (ORP) measurements using a Multi-Parameter Troll 9000 meter from monitoring wells MW-1, MW-5, MW-6, and MW-7. In addition, groundwater samples were collected from monitoring wells MW-1, MW-5, MW-7, MW-9, and MW-12, and analyzed for the following parameters:

- Alkalinity, Method 2320B,
- Carbon dioxide, Method SM4500CO2D,
- Nitrate, Method 353.2
- Sulfate, sulfide, and chloride, Method 300
- Total organic carbon, Method 5310B
- Methane, ethane, and ethene, Method 8015
- Soluble ferrous iron and manganese, Method 6010B

Monitoring well MW-5 is located within the center of the petroleum product plume, and monitoring wells MW-1, MW-6, and MW-7 are located in a downgradient portion of the plume where lower petroleum impacts have been detected in groundwater. Monitoring wells MW-9 and MW-12 are located cross-gradient of the plume, where no petroleum impacts to groundwater have been detected to date.

These analyses, as well as the groundwater volatile organic analyses, indicate:

- Dissolved oxygen content of the groundwater within the center of the plume around MW-5 ranged from 0.37 to 0.40 mg/L. Dissolved oxygen content of the groundwater downgradient of the center of the plume, in monitoring wells MW-1, MW-6, and MW-7, which have been impacted by petroleum products, ranged from 1 to 1.5 mg/L. All of these measurements indicate moderately aerobic conditions within the aquifer, with decreased oxygen content in the center of the plume where bacteria have used oxygen in the biodegradation process, creating moderately anaerobic conditions.
- The pH of the groundwater ranged from 6.5 to 7.2, which is in the optimal range for the biodegradation process.
- The temperature of the groundwater ranged from 56 to 60 degrees centigrade, which the optimal range for biodegradation process.
- The oxidation reduction potential of the groundwater within and downgradient of the plume ranged from approximately 75 to 170 millivolts, indicating only moderately aerobic conditions. Decreased oxidation reduction potential within a petroleum product plume is an indication of biodegradation processes taking place.
- Background alkalinity concentrations ranged from 470 to 540 mg/L, while concentrations within and downgradient of the center of the petroleum product plume ranged from 610 to 630 mg/L. An increase in alkalinity would be expected in areas of high biodegradation activity due to the interaction of carbon dioxide, the final petroleum product biodegradation product, with aquifer minerals.
- Background nitrate concentrations measured in MW-9 and MW12 ranged from 15 to 16 mg/L, while concentrations within and downgradient of the center of the petroleum product plume were decreased, from nondetect up to 3.6 mg/L. Decreases in nitrate concentrations within a petroleum product plume are a geochemical indicator of the biodegradation process.
- Background manganese concentrations ranged from 0.37 to 2.2 mg/L, while concentrations within and downgradient of the center of the petroleum product plume were 0.13 to 1.6 mg/L. These manganese concentrations are not indicative of whether or not biodegradation is occurring.

Overall, biodegradation processes of the petroleum products are taking place as evidenced by the decrease in dissolved oxygen content, the decrease in oxidation reduction potential, the slight increase in alkalinity, and the slight decrease in nitrate concentrations within the center of the petroleum product plume (MW-1 and MW-5) as compared to groundwater concentrations of these constituents cross-gradient from the plume (MW-9 and MW12).

2.3 Tank Removal and Excavation of Impacted Soil in Release Area

Upon detection of the release, the remaining fuel in all of the tanks was removed. On August 21 and 22, 2007, two 6,000-gallon tanks and one 12,000-gallon tank were removed. Inspection of the bottom of the 12,000-gallon tank revealed corrosion perforations along a welded seam near the bottom of the tank. A portion of the contaminated soil surrounding the 12,000-gallon tank was removed and transported to the White Hills Landfill. Much of the soil surrounding the tank was left in place due to its close proximity to the Gunnison Telephone Building and the potential for undermining.

During excavation of an SVE pipeline near the dispenser island, an older release of petroleum product was discovered. Approximately 100 cubic yards of contaminated soil was removed and disposed of at the White Hills Landfill. Soil samples were analyzed to verify the material was suitable for disposal at the White Hills Landfill. Analyses included F & D List volatiles, toxic metals and chlorinated solvents as well as Total Petroleum Hydrocarbons Gasoline-Range Organics (TPH-GRO) and methyl-tert-butyl ether, benzene, toluene, ethylbenzene, total xylenes and naphthalene (MBTEXN). Confirmation soil samples were collected on one side and bottom of the excavation and indicated that a majority of contaminated soil from the older release had been removed.

2.4 Groundwater Extraction From Distal Zone

In December 2007, two groundwater extraction wells (GWE-1 and GWE-2) were installed in the plume's eastern branch distal zone. Mobile water storage tanks (frac tanks) were staged on the west side of 100 West Street just north of 300 South Street. Fifty-four thousand gallons of water were extracted from the groundwater extraction wells and stored in the three storage tanks for treatment. Treatment consisted of injecting air into the water and volatilizing the gasoline constituents.

Wasatch obtained a Utah Pollutant Discharge Elimination System (UPDES) permit with the Utah Division of Water Quality to allow the discharge of water stored in the frac tanks into the San Pitch River. As part of requirements under the permit (UTG790022), the water was analyzed for the following parameters:

Benzene	Toluene
Ethylbenzene	Xylenes
Naphthalene	Oil and Grease
Total Suspended Solids	Total Dissolved Solids
Total Lead	pH
Total Toxic Organics	Organic chemicals > 0.01 mg/L
MTBE	

Water samples collected from each storage tank were submitted to American West Analytical Laboratory for analysis. Analytical results indicated that all listed constituents were below regulatory levels. Discharge of the treated water was completed in March and April 2008. A final confirmatory sample was collected during the discharge of each tank.

2.5 Product Recovery

Only minor amounts of free product were encountered during the SVE trenching operations. No free product was present in any of the soil probe borings or in any of the monitoring wells. The most significant area of free product accumulation was in the vicinity of TW-6 (Figure 1). Free product recovery in this location consisted of placing sorbent booms into the SVE trench excavation and absorbing the product. An estimated 80 gallons of product was recovered.

2.6 Data From SVE Systems Operation—Estimates of Contaminant Mass Removal

The utilization of catalytic oxidizers to treat SVE vapor emissions has facilitated the calculation of the quantity of gasoline removed by the SVE treatment systems. Calculation factors include: the amount of heat generated in the combustion of the gasoline vapors drawn through the and Catox units, the amount of airflow, and the duration of system operation.

The rise in temperature of the air stream entering the Catox is utilized to calculate the percentage of vapors (and thereby the quantity of product) per volume of air in standard cubic feet (scf). The amount of product per volume of air is then multiplied by the air stream flow rate (scfm) and hours of operation for each SVE system to calculate the amount of fuel extracted and burned by each system during the total period of operation. The quantities removed by all SVE systems are then combined to calculate the total amount of product removed during the course of the project.

Catalytic Combustion Corporation, the manufacturer of the catalytic oxidizer units, calculated the per-day quantities of fuel combusted. The calculations were based on data from temperature charts recorded by each Catox unit during operation.

The Flame-Ox quantities are estimated using a formula provided by the Flame-Ox manufacturer. It is based on the average percent LEL, which has been monitored frequently since the system was initiated.

Table 1. Estimated Mass Removal					
System	Pre-CATOX	Gallons Removed	Post-CATOX	Gallons Removed	Total Gallons Removed
East SVE	8/27/07 – 11/13/07	811	11/13/07 – 8/15/08	1,406	2,217
West A SVE	9/21/07 – 11/21/07	1209	11/21/07 – 8/15/08	2,263	3,472
Central SVE			11/21/07 – 1/16/08	642	642
West B SVE			1/16/08 – 8/15/08	1,326	1,326
South SVE			11/20/07 – 7/15/08	462	462
Central Flame OX			3/14/08 – 7/15/08	3,283	3,283
West Alley SVE			5/16/08 – 9/22/08	192	192
					11,594

Notes:

- (1) The Central SVE CATOX unit was moved from the Central SVE system to the West B SVE system on 1/16/08.
- (2) Flame OX shut down on 8/25/08, system converted to carbon drums.
- (3) South SVE CATOX shut down on 8/25/08, system converted to carbon drums.

2.7 Sparge Curtain

Wasatch Environmental and Riding & Associates (R&A) installed a groundwater remediation system (Sparge Curtain) between the southwest extent of the plume and the San Pitch River. The Sparge Curtain was installed in a corral located on the west side of 100 West Street and adjacent to the south of the 220 South 100 West Street residence. System operation began on January 22, 2008. The system is the proprietary design of R&A. The design follows accepted sparging and fugitive vapor recovery principles (e.g. one to three ratio), only with emphasis on a large surface area per unit volume of air (SA/VA) through the system for the efficient exchange of volatiles and oxygen. The movement of air through the contaminated groundwater allows the volatile compounds of the dissolved water phase to be stripped out. This airflow also allows for the transfer of oxygen into the groundwater stimulating microbial degradation of residual petroleum compounds. A schematic of the system is presented on Figure A-6 in Appendix A.

The SA/VA design consideration was extremely important for this application because of the shallow depth of groundwater and corresponding limited contact time. The increased SA/VA ratio is accomplished with a sparge emitter consisting of micro porous membrane allowing for the creation of very small bubbles. For each emitter installed, a corresponding section of vapor recovery screen is installed, completing a "cell." Each of these can be independently controlled from an equipment building since each system component is plumbed as a "home run." This allows for the control of airflow distribution (in case of emitter silt up) and independently gauged flow monitoring. If necessary in the future, this design is easily amenable to gaseous phase nutrients and/or ozone injection.

The sparge curtain trench was excavated 13 to 14 feet bgs or to refusal on dense riverbed cobbles and the emitters were bedded at the bottom of the trench and covered with approximately six feet of washed gravel. The vapor recovery piping was installed on the gravel backfill and in turn covered with foot of washed gravel backfill. The remainder of the trench excavation was backfilled with native material. Ten of these ten-foot long emitter cells were installed end-to-end forming a sparge curtain to intercept the migrating petroleum contaminant plume.

2.8 Building Ventilation Systems

Building Ventilation Systems are presently installed in two businesses and eight residences across the site. These ventilation systems have been designed and installed by J&J Environmental Engineering. The systems consist of Sub-Membrane Depressurization and Basement/Crawl Space Ventilation.

- Sub-Membrane Depressurization (SMD): where a high-density polyethylene sheet is laid on the earthen crawlspace area and affixed to the walls. Soil gases are drawn from beneath the polyethylene sheet via a minimum 3-inch diameter, schedule 40 PVC perforated pipe connected and routed to a depressurization fan that exhausts through a non-perforated pipe at the exterior of the building.
- Basement/Crawl Space Ventilation System: where a basement or a portion of a crawl space is not appropriate or accessible for plastic sheeting, a minimum 3-inch diameter, schedule 40 PVC pipe is connected and routed from the basement or crawlspace to a depressurization fan that exhausts at the exterior of the building.
- Fans were selected based on building and soil conditions. Regardless of the type utilized, the fans are rated for handling moist air streams, for location in non-hazardous locations (regardless of indoor or outdoor location), and sub-freezing weather conditions. The fans have sealed housings and junction boxes and carry a minimum five-year manufacturer's warranty.

Data from the building ventilation systems is presented below.

Table 2. Building Ventilation Systems Emissions – PID Data (PPM)												
Building Ventilation System	May 14	May 23	Jun 3	June 11	Jun 18	Jun 25	July 1	July 8	July 16	July 31	Aug 26	Sep 16
26 W 100 S St.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	---	0.0
36 W 100 S St.	10.2	0.9	0.2	0.2	0.0	0.4	0.0	0.0	0.0	0.0	---	0.0
29 W 100 S St.	18.3	16.8	11.0	12.0	9.0	7	5.6	3.0	2.2	1.5	1.0	0.0
39 W 100 S St.	92	85	41	35	29	20.5	16.4	12.1	11.4	8.3	8.0	5.7
59 W 200 S St. (Side)	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	---	0.0
59 W 200 S St. (Rear)	---	2.6	0.9	1.1	0.6	0.0	0.0	0.0	0.0	0.0	---	0.0
60 W 200 S St.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	---	0.0
70 W 200 S St.	---	---	---	---	---	---	---	---	---	---	---	---
96 W 200 S St.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	0.0
His N Hers	16.8	24.5	18.0	19.9	---	---	17	---	11	7.6	---	3.7
White Hills Trading Co	---	---	---	---	---	---	---	---	---	---	---	0.0

2.9 Groundwater Sparging

The rise in groundwater elevation of 1 to approximately 2.5 feet across the plume area has resulted in adequate water in the wells to evaluate the effectiveness of air sparging to reduce dissolved hydrocarbon concentrations in groundwater. In July and August 2008, groundwater sparging was initiated on the Top Stop property, in the Central SVE area, and in the South SVE area.

Wells WS-1, WS-2, and WS-3 (East SVE System), trench wells TW-4 and TW-6 (Central SVE System), and trench wells TW-1 and TW-2 (South SVE System) were converted to groundwater sparge wells.

3.0 TREATMENT SYSTEM COVERAGE

The initial directive of the emergency response was to protect human health and to mitigate the gasoline vapors migrating into businesses and residences. Accordingly, the initial installations of SVE systems (East SVE, West A SVE, South SVE, and the portion of Central SVE on the north side of the 60 West and 68 West 200 South Street properties) were constructed up gradient and proximate to the impacted buildings. Subsequent SVE trench installation in the Central SVE System and West Alley SVE System was completed to provide more complete coverage of the impacted area.

Data obtained from monitoring wells at various locations across the impacted area will provide information to determine if more coverage or additional remediation measures are necessary to treat contaminated groundwater and/or soil. Prior to closing of the Site, confirmatory soil and groundwater samples will be collected from areas inside and outside of the SVE systems to verify remedial targets have been attained.

4.0 ADDITIONAL MONITORING WELLS

Thirteen new monitoring wells (MW-19 through MW-31) have been installed inside and outside plume boundaries (Figure 1), ten of which were identified in the May 2008 Corrective Action Plan Summary Letter. Eight of the new monitoring wells (MW-19, MW-20, MW-21, MW-24, MW-25, MW-28, MW-30, and MW-31) located outside the groundwater plume will provide periodic verification of the groundwater plume's outer perimeter through quarterly monitoring. Wells located inside the groundwater plume boundary will provide data pertaining to current plume concentrations and subsurface conditions. Wells located near trench systems will provide data pertaining to zones of influence for each treatment system. Tables presenting the depth to groundwater in the monitoring wells and the results of chemical analysis of collected groundwater samples are presented in Appendix F.

4.1 Soil Samples

During monitoring well installation activities in August 2008, soil samples were obtained at five-foot intervals from each of the 13 borings. One soil sample from each boring was submitted for laboratory analysis based on PID screening results. Analytical results indicate that the configuration of the vapor plume, as illustrated in previous reports, has not changed significantly. Eight of the thirteen wells (MW-19, MW-20, MW-21, MW-24, MW-25, MW-28, MW-30, and MW-31) were installed outside the vapor plume boundary. With the single exception of benzene, which was detected in the soil sample collected from MW-21 (15 feet bgs) at a concentration of 0.0047 ppm, no gasoline constituents were detected in soil samples collected from any of the eight wells. However, diesel range organics were detected in soil samples collected from five of the eight outlying wells (MW-19, MW-20, MW-21, MW-30, and MW-31) at concentrations ranging from 0.078 ppm to 0.77 ppm. See Figure 1 in "Monthly Report of Corrective Action – August 2008."

Five wells (MW-22, MW-23, MW-26, MW-27, and MW-29) were installed inside the plume boundary. Gasoline range organics and various combinations of benzene, toluene, ethylbenzene, total xylenes and naphthalene (BTEXN) constituents were detected in soil samples obtained from each of the five wells. Diesel range organics were detected in soil samples collected from four out of the five wells at concentrations ranging from 0.13 ppm to 5.0 ppm. See Figure 1 in "Monthly Report of Corrective Action – August 2008." A table of the results of chemical analysis of collected soil samples is presented in Appendix F.

5.0 VAPOR IMPACTS INSIDE BUILDINGS

Gasoline vapor concentrations have been detected in the basements of buildings at various locations within the plume boundaries. Vapor mitigation is currently being addressed in all locations in which access has been permitted. Where warranted, building ventilation systems have been installed to remove vapors. See Section 2.8 above.

5.1 255 South 100 West Street Residence - SVE Well Installation

The Taylor residence has presented unique and difficult challenges to remediation. To date, our investigation indicates that there was a relatively narrow (less than 10 feet wide) zone of contamination that ran beneath the home. In addition, the home is constructed of Polysteel, a polystyrene material that provides excellent insulation capabilities.

Initial investigation efforts consisted of two borings on the property (B-85, B-86), which were completed on the east side of the residence. Elevated PID readings (2300 ppm) were encountered in boring B-85.

In the basement of the home, three cores were completed through the basement floor, and two cores were completed in the garage. Elevated PID readings were encountered only in the one core completed in the basement, which was located in the storage room beneath the front porch. A soil vapor extraction well was installed in this core location and was connected to the South SVE System.

Over the subsequent months, indoor air testing has indicated the continued presence of gasoline constituents at the residence. Additional investigation was recently conducted at the residence to identify the specific pathway of migration by which gasoline constituents may be entering the home. As a result of the investigation, SVE wells (EW-1, EW-2) were completed on the east side of the residence and connected to the South SVE System. Extraction well locations are illustrated on Figure 1.

Another concern is the potential that the Polysteel has adsorbed gasoline constituents from the vapor plume beneath the home, and that adsorbed gasoline constituents are off gassing, or may off-gas at some point in the future. To evaluate this concern, Wasatch has proposed collecting and evaluating core samples of Polysteel from the walls of the residence.

5.2 White Hills Trading Company

Following positive indoor air laboratory results from samples obtained on July 15, 2008, a building ventilation system was installed in the basement/crawl space of White Hills Trading build. The building was retested on July 31, 2008, and the reported concentrations had significantly decreased when compared to the previous sample.

5.3 Casino Star Theatre

Subsurface investigation and indoor air testing has recently been completed in the basement of the Casino Star Theatre and will be presented in a subsequent report.

5.4 Schedule of Summa Tests

Monitoring of homes and businesses affected by the plume is currently being conducted on a monthly basis. Sampling frequency will be reduced to quarterly at locations where samples for three consecutive months indicate that indoor air quality standards have been achieved.

The selection criteria for evaluating the ambient air in residences and businesses was based on an initial report of gasoline odors, followed by an emergency response in which the residence or business was inspected for gasoline odor and was scanned with a PID as a preliminary determination. Subject residences and businesses were then tested through the placement of eight-hour time-lapse summa canisters that collect air samples from inside the subject building and are laboratory tested for the presence of gasoline vapor constituents. In cases where a direct connection to the release was not apparent from the results of previous subsurface investigation activities, additional subsurface investigation was conducted around the subject location.

Currently, a number of residences and businesses are being monitored monthly. The third round of indoor air sampling is in process. The results will be presented in a separate report: "Modified Schedule for Residential and Business Indoor Air Analysis."

Future reports of gasoline odors will be investigated as described above.

5.5 Data From Building Ventilation Systems

Building Ventilation Systems are presently installed in two businesses and eight residences across the impacted area. Data obtained between May 14, 2008, and September 16, 2008, is presented in Section 2.8 above.

6.0 GROUNDWATER MONITORING

With the installation of the 13 additional monitoring wells referenced above, there are currently 38 wells across the site. The new wells were installed both along the centerline of the plume and outside the vapor plume boundaries as defined by PID readings. It is proposed that wells WS-2, MW-2, MW-3, MW-5, MW-9, MW-14, MW-17, and MW-19 through MW-31 be sampled quarterly (see Figure 1 for monitor well locations).

7.0 SOIL SAMPLING

Periodic confirmation soil samples will be collected at locations pertinent to each of the treatment systems/areas, and at time intervals corresponding with each system's progress. Sample times, locations and depths will be selected on the basis of:

- Boring locations and depths where high contaminant concentrations were identified in the past.
- Analytical results obtained from groundwater monitoring well samples.
- Gasoline vapor concentration data obtained during the operation of the SVE systems.

8.0 SECURITY ISSUES

All systems housed inside buildings are secured by lock and key. Trench valves in systems are enclosed within fenced compounds and the compound fences are secured by lock and key. Alarm systems are installed on each system, which notify maintenance personnel of any system shuts down.

9.0 REPORTING REQUIREMENTS

As outlined by Utah DERR, the following items will be reported on a monthly basis:

- A summary of system performance
- A discussion of zones treated
- Contaminant mass (and estimated volume) removal
- Operating conditions

- Air sampling data (summarized on a comprehensive data table and documented with laboratory data sheets and chain-of-custody)

As outlined by Utah DERR, the following items will be reported on a quarterly basis:

- Groundwater monitoring (conducted pursuant to Utah Administrative Code rule R311-205.)

10.0 CLEANUP STANDARDS

The target cleanup levels for the proposed Corrective Action are set in accordance with Utah Administrative Code rule R311-211-6. The Initial Screening Levels (ISLs) and Tier 1 Screening Criteria (See Appendix C) will be followed according to site parameters, i.e., the distance from the contaminant plume to buildings, site boundaries, utility lines, and water wells.

11.0 CONTINGENCY PLANS

The following contingencies are based upon progress or development of the site remediation.

11.1 System Modifications

The current installed systems were designed to mitigate vapors in crucial locations, to address the areas of contamination, and to intercept future plume migration. At present, the installed systems have reduced vapors in commercial and residential buildings and in other subsurface locations where comparative testing has been conducted. System modifications will be considered if any of the following developments occur:

- Complaints of gasoline vapors at additional locations.
- Additional areas of contamination discovered through further site investigation.
- The groundwater plume moves beyond the influence of the treatment systems.

The SVE treatment systems and the sparge curtain can be expanded and modified through the installation of additional trenching to address areas outside the present zone of influence. Other modifications can be made by changing valve configurations to focus system operation at specific locations within each trench system.

11.2 Protocol for Responding Quickly to Reports of Vapors in Buildings

It is Wasatch's opinion that the residents within or adjacent to the impacted area have been adequately informed, through public meetings as well as personal contacts, as to the appropriate procedures to report gasoline odors within a home or business. During the public meetings and personal contacts, residents were advised to vacate buildings if gasoline odors were detected and report the odors to Wasatch Environmental. In some instances, reports of gasoline odor were reported to Remedy, LLC (Lance Hess), the Department of Environmental Response and Remediation (Doug Hansen), the Gunnison City Fire Department, or the Sanpete County Hazmat.

Wasatch Environmental will respond as rapidly as possible to reports of gasoline odors from home occupants or businesses, or any reports relayed through Remedy, LLC, or state or local government agencies that are then relayed to Wasatch.

11.3 Plan for Evaluation of Utilities

Figure 1 denotes the location of water meter boxes on each lot and sewer manhole locations. During the initial phases of the emergency response, some of these structures were monitored, and detection of

organic vapors was recorded in the water meter box at 29 West 100 South Street (30 ppm), and in sewer manholes along 100 South Street (up to 300 ppm). The installation and operation of the West SVE System and the West Alley SVE System have mitigated these vapors.

Sewer manholes and water meter boxes will be scanned periodically with a PID. The location, date, time, and any vapor reading will be recorded. Wasatch will investigate the detection of vapor readings in any of these structures, both up and down gradient, to determine the source and extent of the vapors. Steps will then be taken to mitigate such vapors.

Any significant PID readings obtained from water meter valve boxes will be correlated with indoor air laboratory and PID results, and if a relationship is deemed to exist, steps will be taken to eliminate or seal off any pathway for vapor migration, such as through utility trenching between the utility valve box and the affected building.

Past experience indicates that it is unlikely that a petroleum release has permeated water lines. To evaluate this potential, tap water samples will be collected from the residences located at 26 West 200 South Street, 60 West 200 South Street, and 255 South 100 West Street for laboratory analysis. If petroleum hydrocarbon constituents are detected in the tap water samples collected from any of these residences, then tap water from all residences within the vapor plume will be evaluated.

11.4 Site Maintenance

Operations and Maintenance (O&M) will include the clearing of wind-blown debris and other refuse from the remediation equipment sites. The Top Stop property and the Central SVE System have been sprayed to reduce weed growth. These efforts will continue.

11.5 Burning Eye Syndrome

There have been reports of “burning eyes, irritated throats, irritated skin and metallic taste” from certain individuals in the city of Gunnison to Remedy, Inc. A site map (Appendix D) has been completed by Remedy, Inc., which denotes the location of individuals that in the past have reported related symptoms to Lance Hess. According to the map, there were eight such complaints within the plume area. Wasatch will interview residents who complained of symptoms to ascertain if they are currently experiencing such symptoms.

12.0 PERMITS

The following permits and approvals were obtained during the Emergency Response, Site Investigation, and during the installation of treatment systems:

- 1) Utah Division of Environmental Response and Remediation, Closure Plan Approval for Underground Storage Tanks – Top Stop C-4, Gunnison, Utah
- 2) Utah Department of Transportation, Highway Right of Way Encroachment, Permit Numbers: 4R-072756-0, 4R-082852-0
- 3) Utah Pollutant Discharge Elimination System General Permit for the Discharge of Treated Ground Water – Permit No. UTG790022
- 4) Blue Stakes Utility Locating Approval

A Utah Division of Air Quality Permit has yet to be obtained.

13.0 SITE RESTORATION

During the site investigation and treatment system installation, the landscaping of a number of the affected properties has been damaged. Most of the affected areas have been restored. Additional efforts to respond to public comments pertaining to the mitigation of "adverse consequences from cleanup activities" are currently in progress. Appendix E lists all properties identified and the nature and status of repairs either completed or in progress.

13.1 Plan for Inspecting Trenches

Trenches are routinely inspected for backfill settlement during operation and maintenance activities. During the spring of 2008, several areas of settlement were noted during inspections and property owners identified additional locations. All areas have been satisfactorily repaired. Any recurring or new areas of trench backfill settlement will also be repaired.

13.2 Plan for Noise Reduction

Slats have been installed in the fence around the Central SVE System to reduce the noise level of the system. The Central SVE System Flame Oxidizer is not currently operating. All systems in operation at the present time are therefore housed inside the treatment system shed, which greatly reduces the decibel level related to system operation.

Our services consist of professional opinions and recommendations made in accordance with generally accepted environmental engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied. Should you have any questions, please do not hesitate to contact us.

Sincerely,

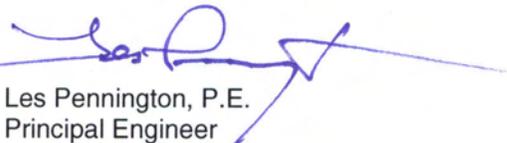
WASATCH ENVIRONMENTAL, INC.



Troy Smith
Project Geologist

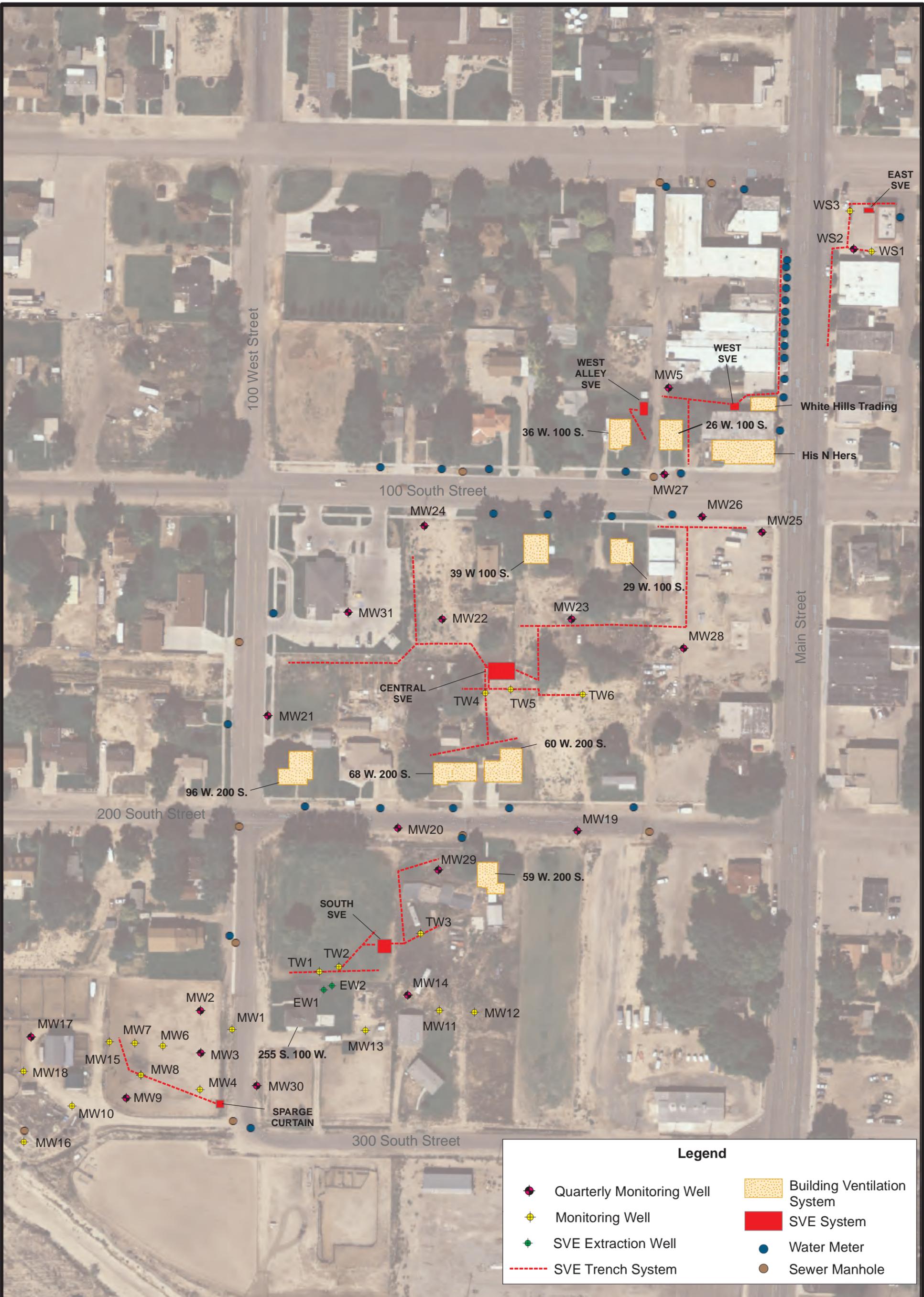


Rebecca Studenka
Utah Certified UST Consultant

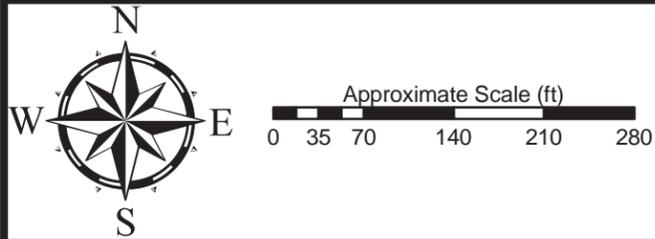


Les Pennington, P.E.
Principal Engineer

Copies: (2) Addressee
(1) DERR
(2) Library
(1) Gunnison City



Legend	
	Quarterly Monitoring Well
	Monitoring Well
	SVE Extraction Well
	SVE Trench System
	Building Ventilation System
	SVE System
	Water Meter
	Sewer Manhole



Environmental Science and Engineering

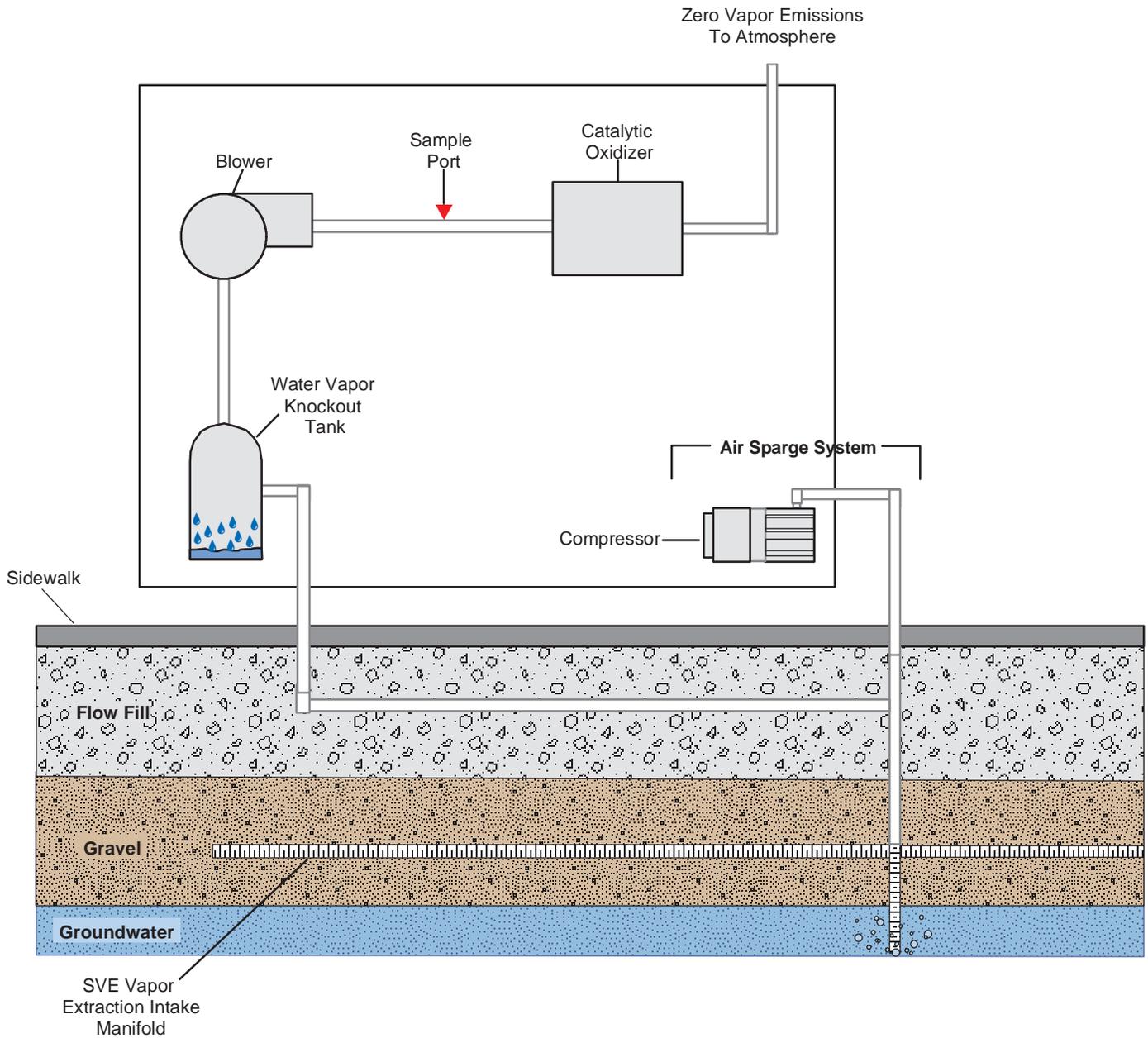
Site Plan

Gunnison, Utah

PROJECT NO.	DRAWING DATE	FIGURE
1241-026A	September 30, 2008	

APPENDIX A
TREATMENT SYSTEMS SCHEMATICS

EAST HORIZONTAL SVE SYSTEM SCHEMATIC



NOT TO SCALE



Environmental Science and Engineering

EAST SVE SCHEMATIC

GUNNISON, UTAH

PROJECT NO.

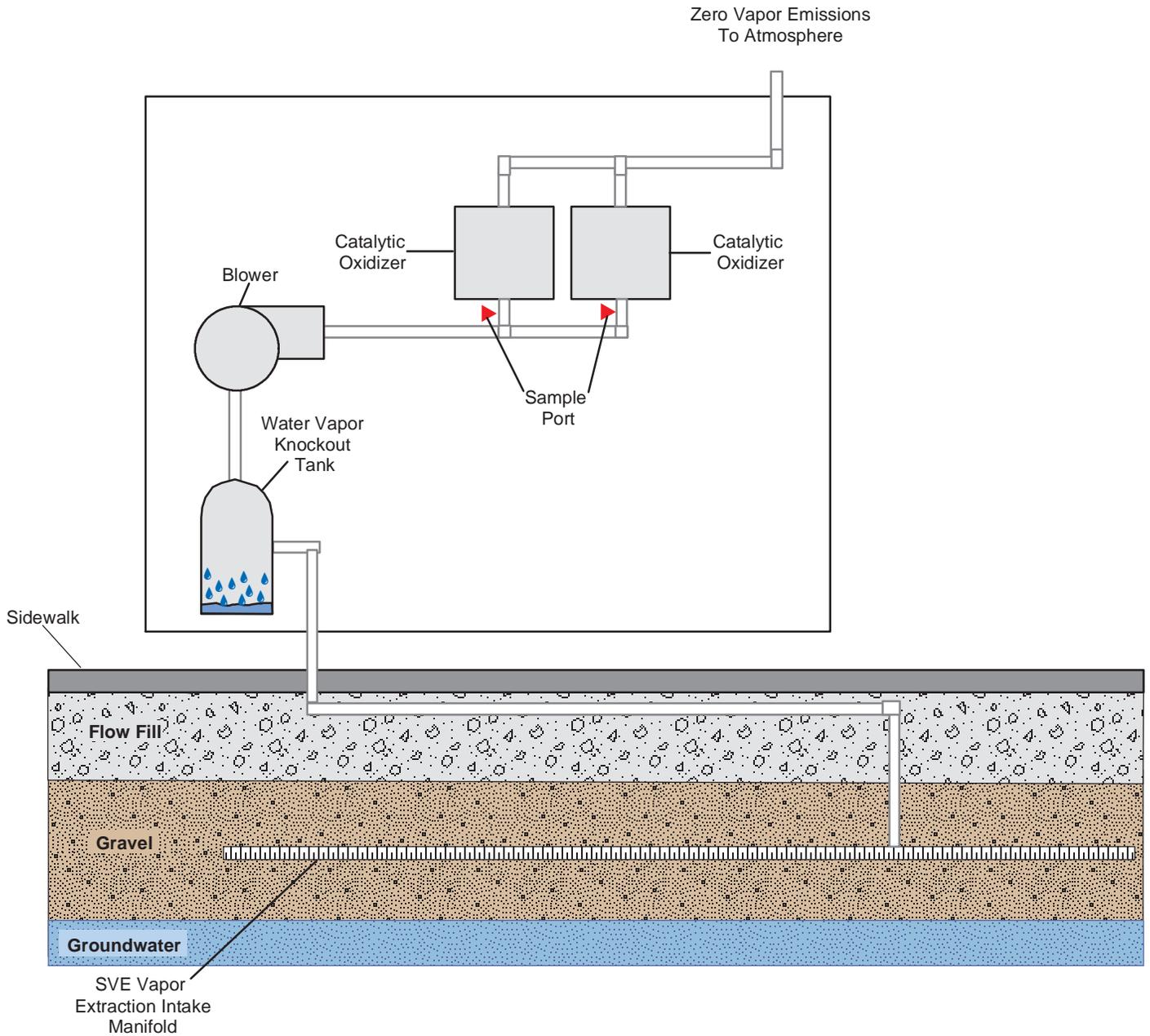
1241-026A

DRAWING DATE

September 30, 2008

FIGURE
A-1

WEST A AND B HORIZONTAL SVE SYSTEMS SCHEMATIC



NOT TO SCALE



WASATCH
ENVIRONMENTAL

Environmental Science and Engineering

WEST A AND B SVE SCHEMATIC

GUNNISON, UTAH

PROJECT NO.

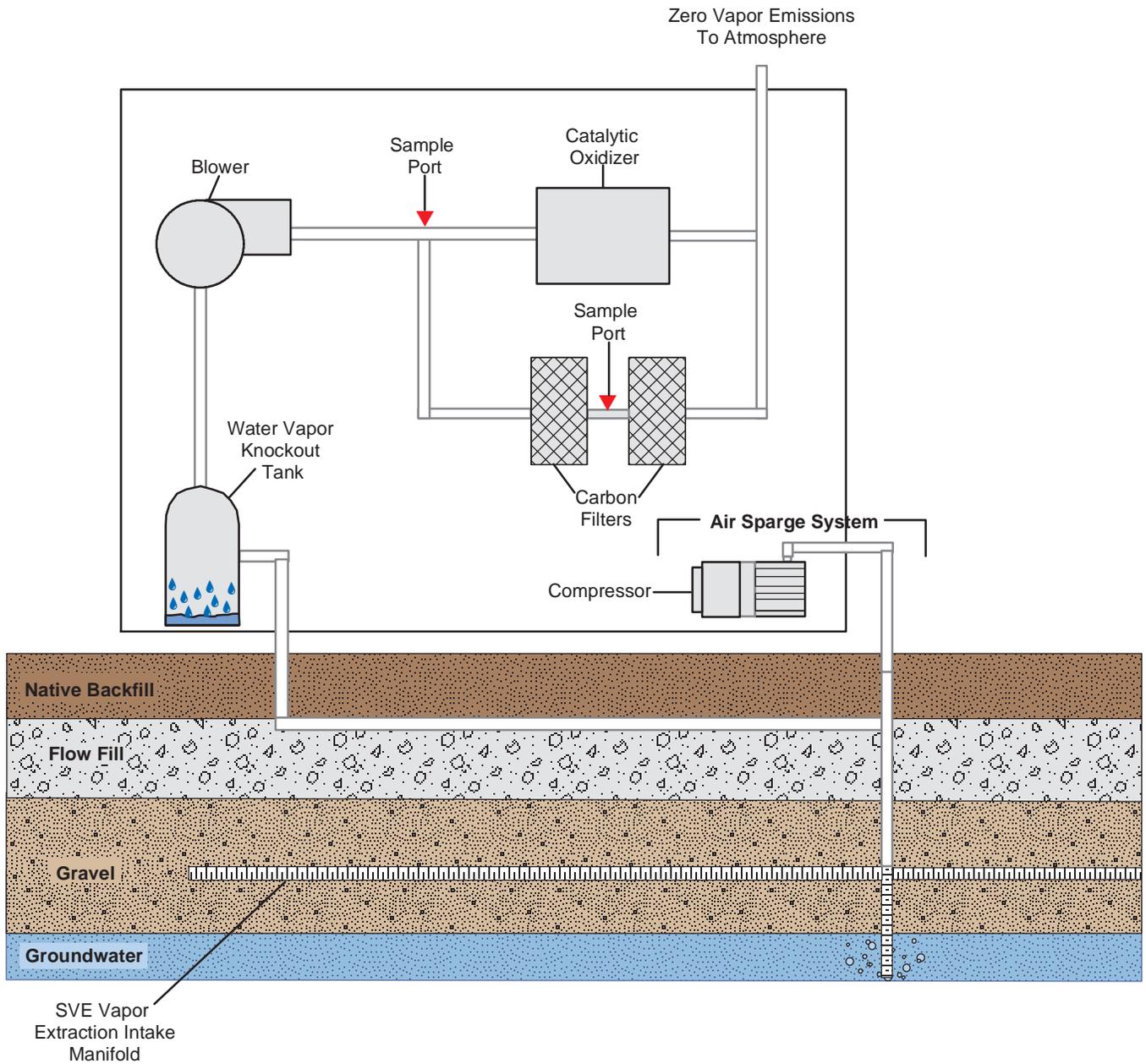
1241-026A

DRAWING DATE

September 30, 2008

**FIGURE
A-2**

SOUTH HORIZONTAL SVE SYSTEM SCHEMATIC



NOT TO SCALE



Environmental Science and Engineering

SOUTH SVE SCHEMATIC

GUNNISON, UTAH

PROJECT NO.

DRAWING DATE

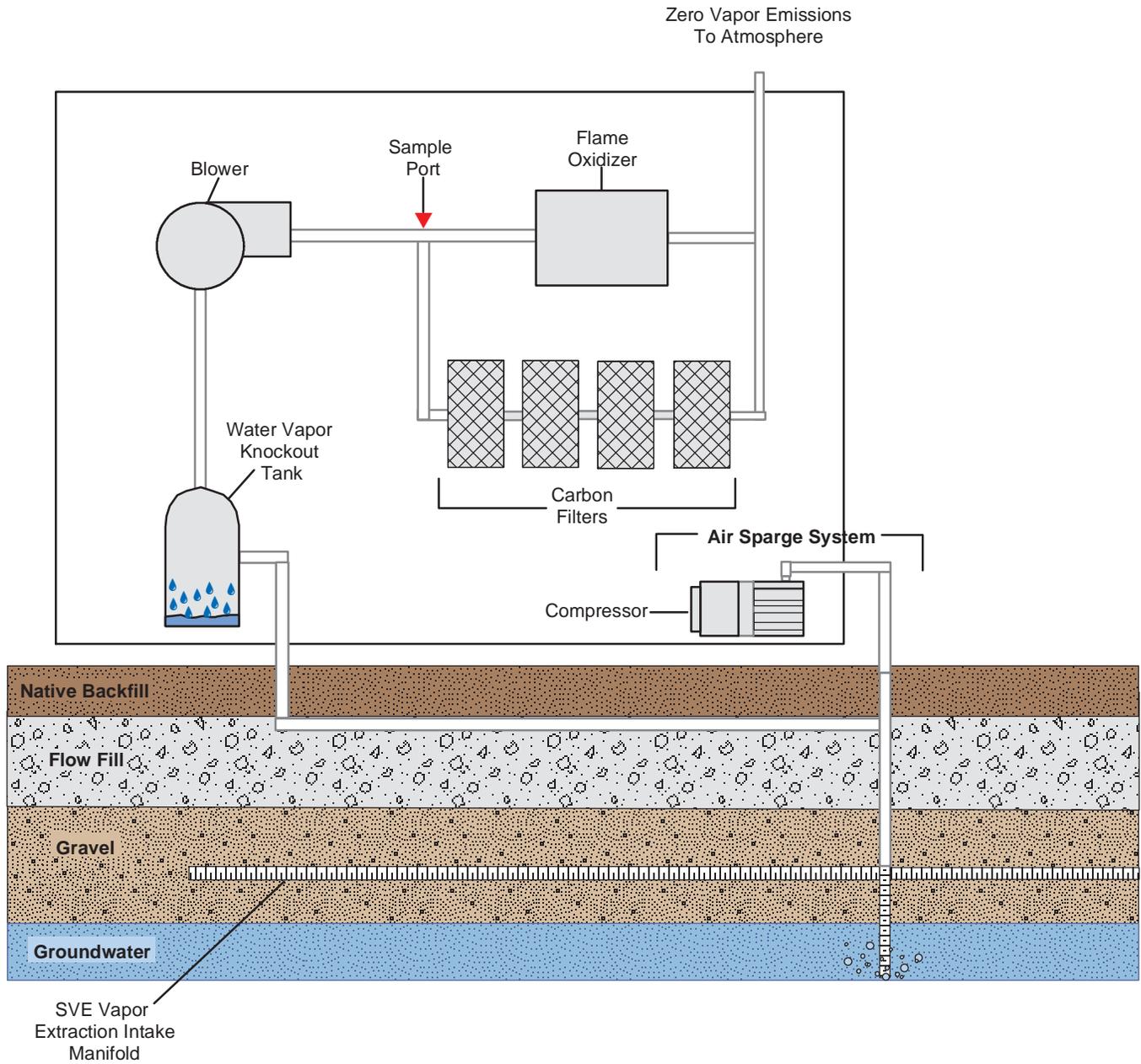
FIGURE

1241-026A

September 30, 2008

A-3

CENTRAL HORIZONTAL SVE SYSTEM SCHEMATIC



NOT TO SCALE



WASATCH
ENVIRONMENTAL

Environmental Science and Engineering

CENTRAL SVE SCHEMATIC

GUNNISON, UTAH

PROJECT NO.

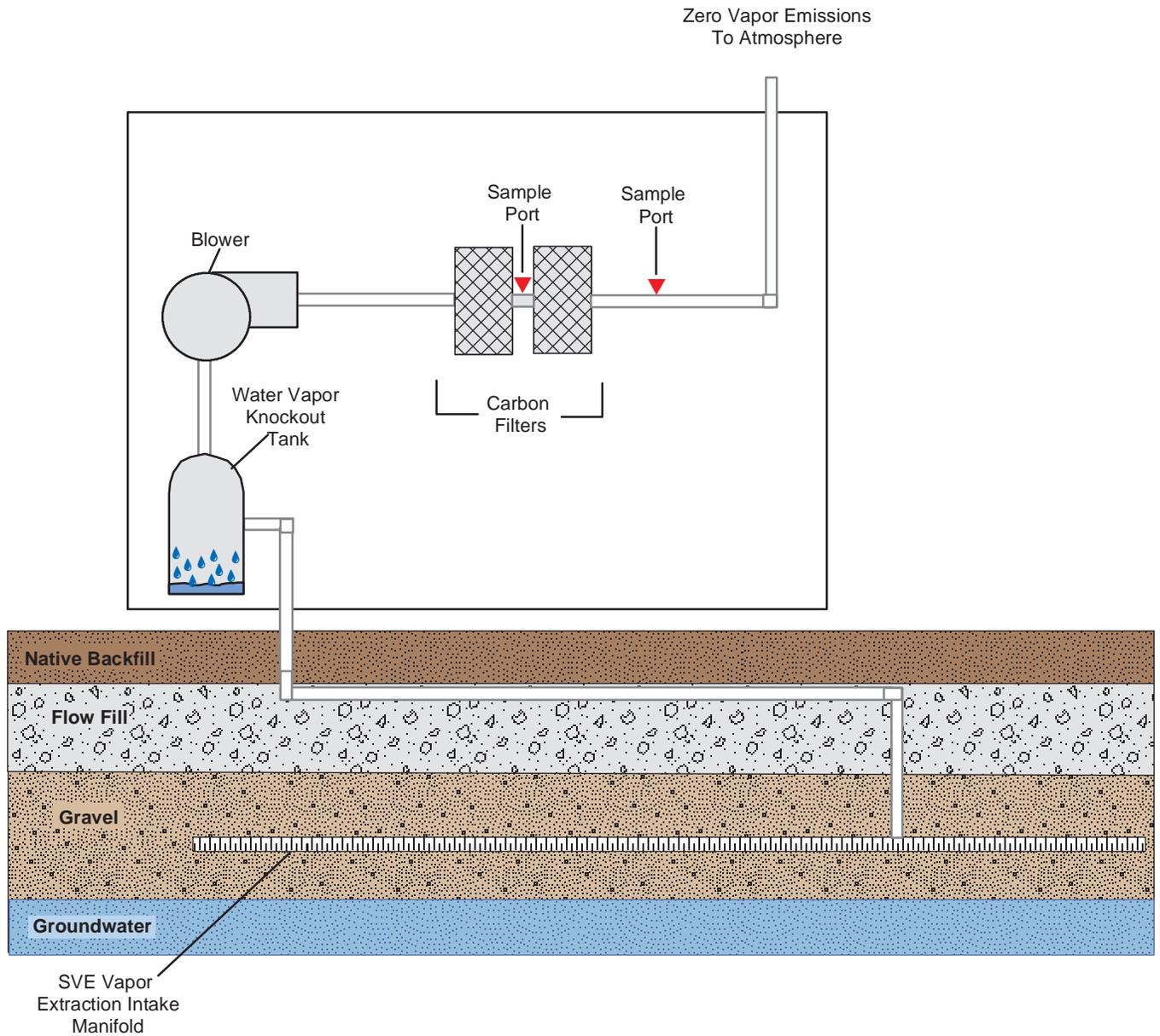
1241-026A

DRAWING DATE

September 30, 2008

**FIGURE
A-4**

WEST ALLEY HORIZONTAL SVE SYSTEM SCHEMATIC



NOT TO SCALE



WASATCH
ENVIRONMENTAL

Environmental Science and Engineering

WEST ALLEY SVE SCHEMATIC

GUNNISON, UTAH

PROJECT NO.

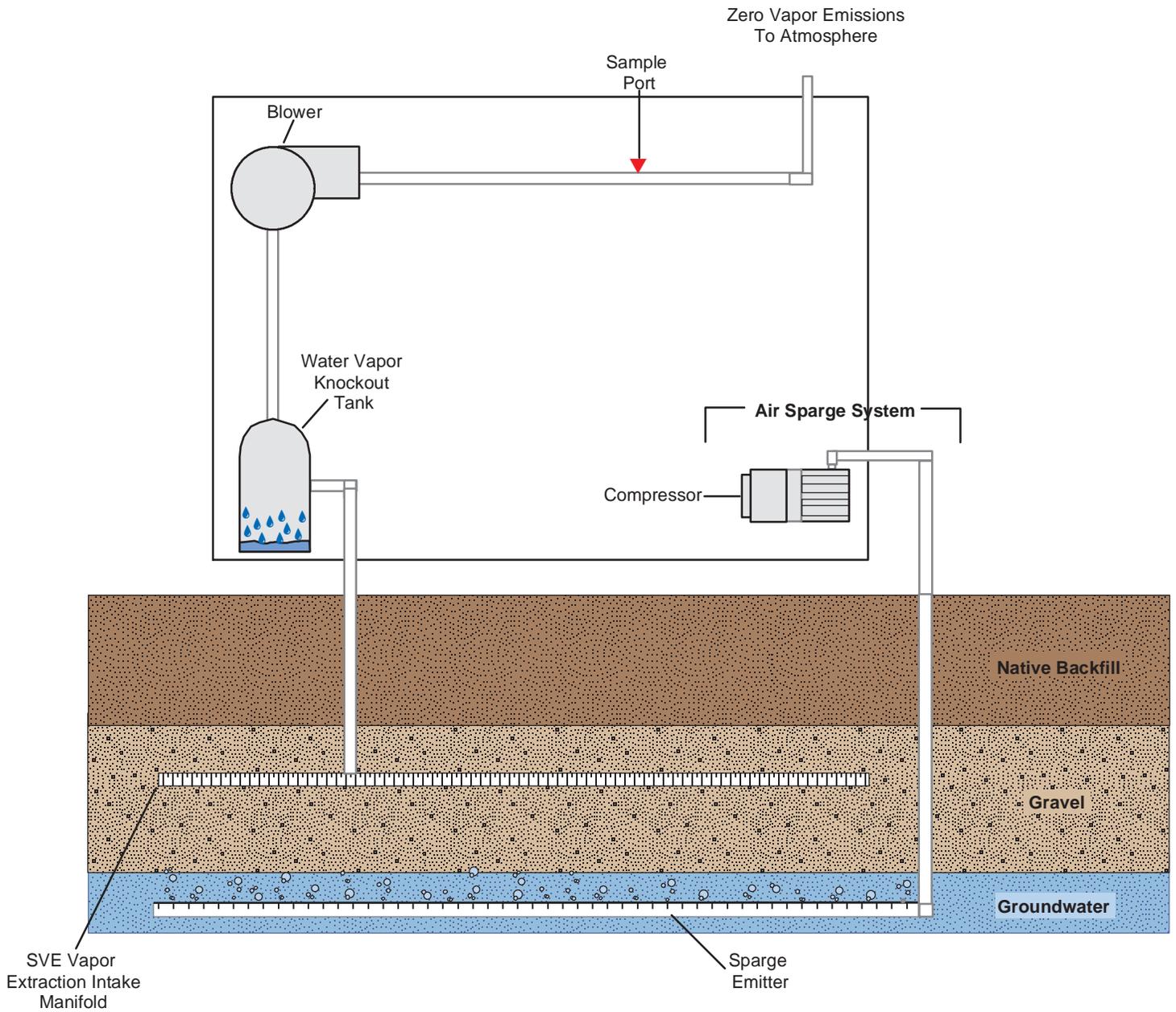
1241-026A

DRAWING DATE

September 30, 2008

**FIGURE
A-5**

SPARGE CURTAIN SCHEMATIC



NOT TO SCALE



WASATCH
ENVIRONMENTAL

Environmental Science and Engineering

SPARGE SCHEMATIC

GUNNISON, UTAH

PROJECT NO.

1241-026A

DRAWING DATE

September 30, 2008

FIGURE
A-6

APPENDIX B

**INORGANIC GROUNDWATER
ANALYTICAL RESULTS**



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-03D
Field Sample ID: MW-1
Collected: 2/28/2008 1:00:00 PM
Received: 2/29/2008

DISSOLVED METALS

Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Results
463 West 3600 South Salt Lake City, Utah 84115	mg/L	3/3/2008 7:19:00 PM	6010B	0.0050	1.2

(801) 263-8686
Toll Free (888) 263-8686
Fax (801) 263-8687
e-mail: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Report Date: 3/13/2008 Page 4 of 12



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-03
Field Sample ID: MW-1
Collected: 2/28/2008 1:00:00 PM
Received: 2/29/2008

	Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Result
463 West 3600 South Salt Lake City, Utah 84115 (801) 263-8686 Toll Free (888) 263-8686 Fax (801) 263-8687 e-mail: awal@awal-labs.com	Alkalinity,(As CaCO3)	mg/L	3/3/2008 7:00:00 AM	2320B	20	630
	Carbon Dioxide	mg/L	3/7/2008	4500CO2D	0.10	29
	Chloride	mg/L	3/3/2008 10:35:41 PM	300.0	10	320
	Iron, Ferrous	mg/L	3/3/2008 7:00:00 PM	3500FE	0.10	< 0.10 H
	Nitrate (as N)	mg/L	2/29/2008 4:32:00 PM	353.2	0.010	0.054
	Sulfate	mg/L	3/1/2008 1:24:06 AM	300.0	15	360
	Sulfide	mg/L	3/3/2008 6:20:00 AM	4500(S2-)B	5.0	< 5.0
	Total Organic Carbon	mg/L	3/4/2008 9:08:00 AM	5310B	1.0	4.2

H - Sample was received outside of holding time.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Report Date: 3/13/2008 Page 9 of 12

Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
(303) 425-6021

Client Sample ID: MW-1
Client Project ID: Gunnison Remediation/1241-026A
Date Collected: 2/29/08
Date Received: 3/6/08
Date Prepared: 3/12/08
Date Analyzed: 3/12/08
Percent Moisture: NA

Lab Work Order: 08-1450
Lab Sample ID: 08-1450-03A
Sample Matrix: Water
Lab File ID: GAS0312024
Method Blank: GB031208
Prep Factor: 1.000
Dilution Factor: 1.00

Method: RSKSOP175M

RSKSOP-175M HEADSPACE

Prep Method: RSKSOP175M

Analytes	CAS Number	Result	Units: mg/L
			LQL
Ethane	74-84-0	U	0.0016
Ethene	74-85-1	U	0.0024
Methane	74-82-8	0.00090	0.00080



Analyst



Approved

Qualifiers: See the case narrative for a discussion

- B - Analyte detected in the Method Blank, value not subtracted from result
- E - Extrapolated value. Value exceeds calibration range
- H - Prep or Analytical holding time exceeded
- S - Spike Recovery outside acceptance limits
- X - See case narrative
- * - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Qualifiers: U - Analyte not detected at or above the reporting limit

J - Estimated value below the LQL

- Definitions:**
- NA - Not Applicable
 - LQL - Lower Quantitation Limit
 - MDL - Method Detection Limit
 - Surr - Surrogate Standard

Print Date: 3/13/08



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-05D
Field Sample ID: MW-5
Collected: 2/28/2008 4:45:00 PM
Received: 2/29/2008

DISSOLVED METALS

Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Results
463 West 3600 South Salt Lake City, Utah 84115	mg/L	3/3/2008 7:35:00 PM	6010B	0.0050	1.6

(801) 263-8686
Toll Free (888) 263-8686
Fax (801) 263-8687
e-mail: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Report Date: 3/13/2008 Page 6 of 12



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-05
Field Sample ID: MW-5
Collected: 2/28/2008 4:45:00 PM
Received: 2/29/2008

	Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Result
463 West 3600 South Salt Lake City, Utah 84115 (801) 263-8686 Toll Free (888) 263-8686 Fax (801) 263-8687 e-mail: awal@awal-labs.com	Alkalinity,(As CaCO3)	mg/L	3/3/2008 7:00:00 AM	2320B	40	610
	Carbon Dioxide	mg/L	3/7/2008	4500CO2D	0.10	18
	Chloride	mg/L	3/3/2008 11:22:10 PM	300.0	10	390
	Iron, Ferrous	mg/L	3/3/2008 7:00:00 PM	3500FE	0.10	< 0.10 H
	Nitrate (as N)	mg/L	2/29/2008 4:32:00 PM	353.2	0.010	< 0.010
	Sulfate	mg/L	3/1/2008 2:10:39 AM	300.0	15	340
	Sulfide	mg/L	3/3/2008 6:20:00 AM	4500(S2-)B	5.0	< 5.0
	Total Organic Carbon	mg/L	3/4/2008 9:08:00 AM	5310B	1.0	5.0

H - Sample was received outside of holding time.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Report Date: 3/13/2008 Page 11 of 12

00
00
00

Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
(303) 425-6021

Client Sample ID: MW-5
Client Project ID: Gunnison Remediation/1241-026A
Date Collected: 2/29/08
Date Received: 3/6/08
Date Prepared: 3/12/08
Date Analyzed: 3/12/08
Percent Moisture NA

Lab Work Order 08-1450
Lab Sample ID: 08-1450-05A
Sample Matrix: Water
Lab File ID: GAS0312029
Method Blank: GB031208
Prep Factor: 1.000
Dilution Factor: 1.00

Method: RSKSOP175M

RSKSOP-175M HEADSPACE

Prep Method: RSKSOP175M

Analytes	CAS Number	Result	Units: mg/L LQL
Ethane	74-84-0	U	0.0016
Ethene	74-85-1	U	0.0024
Methane	74-82-8	0.0012	0.00080



Analyst



Approved

Qualifiers: See the case narrative for a discussion

- B - Analyte detected in the Method Blank, value not subtracted from result
- E - Extrapolated value. Value exceeds calibration range
- H - Prep or Analytical holding time exceeded
- S - Spike Recovery outside acceptance limits
- X - See case narrative
- * - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Qualifiers: U - Analyte not detected at or above the reporting limit

J - Estimated value below the LQL

Definitions: NA - Not Applicable
LQL - Lower Quantitation Limit
MDL - Method Detection Limit
Surr - Surrogate Standard

Print Date: 3/13/08



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-04D
Field Sample ID: MW-7
Collected: 2/28/2008 3:15:00 PM
Received: 2/29/2008

DISSOLVED METALS

Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Results
463 West 3600 South Salt Lake City, Utah 84115	mg/L	3/3/2008 7:23:00 PM	6010B	0.0050	0.13

(801) 263-8686
Toll Free (888) 263-8686
Fax (801) 263-8687
e-mail: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Report Date: 3/13/2008 Page 5 of 12



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Lab Sample ID: L82664-04
Field Sample ID: MW-7
Collected: 2/28/2008 3:15:00 PM
Received: 2/29/2008

	Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Result
463 West 3600 South Salt Lake City, Utah 84115 (801) 263-8686 Toll Free (888) 263-8686 Fax (801) 263-8687 e-mail: awal@awal-labs.com	Alkalinity,(As CaCO3)	mg/L	3/3/2008 7:00:00 AM	2320B	40	630
	Carbon Dioxide	mg/L	3/7/2008	4500CO2D	0.10	28
	Chloride	mg/L	3/3/2008 10:58:55 PM	300.0	10	340
	Iron, Ferrous	mg/L	3/3/2008 7:00:00 PM	3500FE	0.10	< 0.10 H
	Nitrate (as N)	mg/L	2/29/2008 4:32:00 PM	353.2	0.10	3.6
	Sulfate	mg/L	3/1/2008 1:47:22 AM	300.0	15	360
	Sulfide	mg/L	3/3/2008 6:20:00 AM	4500(S2-)B	5.0	< 5.0
	Total Organic Carbon	mg/L	3/4/2008 9:08:00 AM	5310B	1.0	6.8

H - Sample was received outside of holding time.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

007

Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862

(303) 425-6021

Client Sample ID: MW-7
Client Project ID: Gunnison Remediation/1241-026A
Date Collected: 2/29/08
Date Received: 3/6/08
Date Prepared: 3/12/08
Date Analyzed: 3/12/08
Percent Moisture: NA

Lab Work Order: 08-1450
Lab Sample ID: 08-1450-04A
Sample Matrix: Water
Lab File ID: GAS0312025
Method Blank: GB031208
Prep Factor: 1.000
Dilution Factor: 1.00

Method: RSKSOP175M

RSKSOP-175M HEADSPACE

Prep Method: RSKSOP175M

Units: mg/L

Analytes	CAS Number	Result	LQL
Ethane	74-84-0	U	0.0016
Ethene	74-85-1	U	0.0024
Methane	74-82-8	U	0.00080

Analyst

Approved

Qualifiers: See the case narrative for a discussion

- B - Analyte detected in the Method Blank, value not subtracted from result
- E - Extrapolated value. Value exceeds calibration range
- H - Prep or Analytical holding time exceeded
- S - Spike Recovery outside acceptance limits
- X - See case narrative
- * - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Qualifiers: U - Analyte not detected at or above the reporting limit

J - Estimated value below the LQL

- Definitions:**
- NA - Not Applicable
 - LQL - Lower Quantitation Limit
 - MDL - Method Detection Limit
 - Surr - Surrogate Standard

Print Date: 3/13/08



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-01D
Field Sample ID: MW-9
Collected: 2/28/2008 9:30:00 AM
Received: 2/29/2008

DISSOLVED METALS

463 West 3600 South
Salt Lake City, Utah
84115

Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Results
Manganese	mg/L	3/3/2008 6:59:00 PM	6010B	0.0050	0.37

(801) 263-8686
Toll Free (888) 263-8686
Fax (801) 263-8687
e-mail: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Report Date: 3/13/2008 Page 2 of 12



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-01
Field Sample ID: MW-9
Collected: 2/28/2008 9:30:00 AM
Received: 2/29/2008

	Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Result
463 West 3600 South Salt Lake City, Utah 84115 (801) 263-8686 Toll Free (888) 263-8686 Fax (801) 263-8687 e-mail: awal@awal-labs.com	Alkalinity,(As CaCO3)	mg/L	3/3/2008 7:00:00 AM	2320B	20	470
	Carbon Dioxide	mg/L	3/7/2008	4500CO2D	0.10	8.7
	Chloride	mg/L	2/29/2008 11:27:47 PM	300.0	10	360
	Iron, Ferrous	mg/L	3/3/2008 7:00:00 PM	3500FE	0.10	< 0.10 H
	Nitrate (as N)	mg/L	2/29/2008 4:32:00 PM	353.2	0.10	15
	Sulfate	mg/L	2/29/2008 11:27:47 PM	300.0	75	340
	Sulfide	mg/L	3/3/2008 6:20:00 AM	4500(S2-)B	5.0	< 5.0
	Total Organic Carbon	mg/L	3/4/2008 9:08:00 AM	5310B	1.0	4.0

H - Sample was received outside of holding time.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
(303) 425-6021

Client Sample ID: MW-9
Client Project ID: Gunnison Remediation/1241-026A
Date Collected: 2/29/08
Date Received: 3/6/08
Date Prepared: 3/12/08
Date Analyzed: 3/12/08
Percent Moisture NA

Lab Work Order 08-1450
Lab Sample ID: 08-1450-01A
Sample Matrix: Water
Lab File ID: GAS0312036
Method Blank: GB031208
Prep Factor: 1.000
Dilution Factor: 1.00

Method: RSKSOP175M

RSKSOP-175M HEADSPACE

Prep Method: RSKSOP175M

Analytes	CAS Number	Result	Units: mg/L LQL
Ethane	74-84-0	U	0.0016
Ethene	74-85-1	U	0.0024
Methane	74-82-8	0.0051	0.00080



Analyst



Approved

Qualifiers: See the case narrative for a discussion

- B - Analyte detected in the Method Blank, value not subtracted from result
- E - Extrapolated value. Value exceeds calibration range
- H - Prep or Analytical holding time exceeded
- S - Spike Recovery outside acceptance limits
- X - See case narrative
- * - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Qualifiers: U - Analyte not detected at or above the reporting limit

J - Estimated value below the LQL

- Definitions:** NA - Not Applicable
LQL - Lower Quantitation Limit
MDL - Method Detection Limit
Surr - Surrogate Standard

Print Date: 3/13/08



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-02D
Field Sample ID: MW-12
Collected: 2/28/2008 11:20:00 AM
Received: 2/29/2008

DISSOLVED METALS

Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Results
463 West 3600 South Salt Lake City, Utah 84115	mg/L	3/3/2008 7:15:00 PM	6010B	0.0050	2.2

Sample required additional preservative upon receipt.

(801) 263-8686
Toll Free (888) 263-8686
Fax (801) 263-8687
e-mail: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Report Date: 3/13/2008 Page 3 of 12



INORGANIC ANALYSIS REPORT

Client: Wasatch Environmental
Project ID: Gunnison Remediation / 1241-026A

Contact: Les Pennington

**AMERICAN
WEST
ANALYTICAL
LABORATORIES**

Lab Sample ID: L82664-02
Field Sample ID: MW-12
Collected: 2/28/2008 11:20:00 AM
Received: 2/29/2008

	Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Result	
463 West 3600 South Salt Lake City, Utah 84115 (801) 263-8686 Toll Free (888) 263-8686 Fax (801) 263-8687 e-mail: awal@awal-labs.com	Alkalinity,(As CaCO3)	mg/L	3/3/2008 7:00:00 AM	2320B	20	540	
	Carbon Dioxide	mg/L	3/7/2008	4500CO2D	0.10	30	
	Chloride	mg/L	3/3/2008 10:12:26 PM	300.0	10	300	
	Iron, Ferrous	mg/L	3/3/2008 7:00:00 PM	3500FE	0.10	< 0.10	H
	Nitrate (as N)	mg/L	2/29/2008 4:32:00 PM	353.2	0.10	16	
	Sulfate	mg/L	3/1/2008 1:00:49 AM	300.0	15	340	
	Sulfide	mg/L	3/3/2008 6:20:00 AM	4500(S2-)B	5.0	< 5.0	*
	Total Organic Carbon	mg/L	3/4/2008 9:08:00 AM	5310B	1.0	3.2	

* Sample required additional preservative upon receipt.

H - Sample was received outside of holding time.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Report Date: 3/13/2008 Page 8 of 12

005

Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
(303) 425-6021

Client Sample ID: MW-12	Lab Work Order 08-1450
Client Project ID: Gunnison Remediation/1241-026A	Lab Sample ID: 08-1450-02A
Date Collected: 2/29/08	Sample Matrix: Water
Date Received: 3/6/08	Lab File ID: GAS0312037
Date Prepared: 3/12/08	Method Blank: GB031208
Date Analyzed: 3/12/08	Prep Factor: 1.000
Percent Moisture NA	Dilution Factor: 1.00

Method: RSKSOP175M		RSKSOP-175M HEADSPACE	
Prep Method: RSKSOP175M			Units: mg/L
Analytes	CAS Number	Result	LQL
Ethane	74-84-0	U	0.0016
Ethene	74-85-1	U	0.0024
Methane	74-82-8	0.0056	0.00080

Analyst

Approved

Qualifiers: See the case narrative for a discussion

- B - Analyte detected in the Method Blank, value not subtracted from result
- E - Extrapolated value. Value exceeds calibration range
- H - Prep or Analytical holding time exceeded
- S - Spike Recovery outside acceptance limits
- X - See case narrative
- * - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Qualifiers: U - Analyte not detected at or above the reporting limit
J - Estimated value below the LQL

Definitions: NA - Not Applicable
LQL - Lower Quantitation Limit
MDL - Method Detection Limit
Surr - Surrogate Standard

Print Date: 3/13/08

Micropurge Log

Well MW-5 Date 9/26/08 Site Gunnison Rem. Sampler TJS
 DTW (R-TOC) 12.24 Depth of pump tubing beneath static water level (ft) 6ft

Time	DO mg/L	ORP mv	Temp (C degrees)	Conductivity	pH
11:02:00	0.40	180	60.81	2350	6.39
11:02:30	0.39	178	60.80	2350	6.41
11:03:00	0.38	175	60.77	2350	6.42
11:03:30	0.38	174	60.78	2349	6.44
11:04:00	0.38	172	60.77	2347	6.45
11:04:30	0.37	171	60.77	2347	6.46
11:05:00	0.37	170	60.77	2347	6.47
11:05:30	0.37	169	60.78	2367	6.67

Total volume purged (gallons) 2.0

Well MW-1 Date 9/26/08 Site Gunnison Rem. Sampler TJS
 DTW (R-TOC) 10.96 Depth of pump tubing beneath static water level (ft) 5

Time	DO mg/L	ORP mv	Temp (C degrees)	Conductivity	pH
13:17:00	1.11	98	56.93	2050	7.01
13:17:30	1.17	98	56.93	2050	7.01
13:18:00	1.23	98	56.93	2050	7.01
13:18:30	1.27	98	56.93	2050	7.01
13:19:00	1.16	97	56.91	2051	7.01
13:19:30	1.11	97	56.90	2049	7.01
13:20:00	1.03	97	56.90	2047	7.01
13:20:30	1.03	97	56.89	2048	7.02
13:21:00	1.06	97	56.87	2047	7.02
13:21:30	1.08	97	56.89	2047	7.02
13:22:00	1.07	97	56.89	2047	7.02
13:22:30	1.04	97	56.88	2047	7.02

Total volume purged (gallons) 2.0

Stabilization parameters: pH 0.1, Cond. 3-5%, Temp. 10%

Micropurge Log

Well MW-7 Date 9-26-08 Site Gunnison Res. Sampler TJS
 DTW (R-TOC) 10.62 Depth of pump tubing beneath static water level (ft) 5ft

Time	DO mg/L	ORP mv	Temp (C degrees)	Conductivity	pH
11:41:00	1.20	103	60.25	2181	6.99
11:41:30	1.11	103	60.21	2179	6.99
11:42:00	1.07	103	60.19	2180	6.99
11:42:30	1.04	103	60.16	2179	6.99
11:43:00	1.02	103	60.16	2179	6.99
11:43:30	0.99	103	60.13	2176	6.99
11:44:00	0.96	103	60.12	2176	6.99
11:44:30	0.94	103	60.12	2176	6.99
11:45:00	0.92	103	60.10	2174	6.99
11:45:30	0.90	103	60.10	2172	6.99
11:46:00	0.89	103	60.09	2172	6.99
11:46:30	0.89	103	60.10	2170	6.99

Total volume purged (gallons) 2.0

Well MW-6 Date 9-26-08 Site Gunnison R. Sampler TJS
 DTW (R-TOC) 10.64 Depth of pump tubing beneath static water level (ft) 5ft

Time	DO mg/L	ORP mv	Temp (C degrees)	Conductivity	pH
14:15:00	1.65	74	59.38	2141	7.18
14:15:30	1.66	74	59.38	2141	7.18
14:16:00	2.37	74	59.38	2140	7.17
14:16:30	1.96	74	59.38	2139	7.17
14:17:00	1.77	74	59.37	2139	7.17
14:17:30	1.55	75	59.37	2139	7.17
14:18:00	1.59	75	59.36	2138	7.17
14:18:30	1.48	75	59.37	2139	7.17
14:19:00	1.55	75	59.36	2138	7.17
14:19:30	1.64	75	59.36	2138	7.17
14:20:00	1.56	75	59.36	2138	7.17
14:20:30	1.54	75	59.36	2138	7.17

Total volume purged (gallons) 2.0

Stabilization parameters: pH 0.1, Cond. 3-5% Temp. 10%

APPENDIX C

**INITIAL SCREENING LEVELS AND
TIER 1 SCREENING CRITERIA**

INITIAL SCREENING LEVELS (November 1, 2005)

Contaminants	Groundwater (mg/L)	Soil (mg/kg)
Benzene	0.005	0.2
Toluene	1.0	9
Ethylbenzene	0.7	5
Xylenes	10.0	142
Naphthalene	0.7	51
Methyl t-butyl ether (MTBE)	0.2	0.3
Total Petroleum Hydrocarbons (TPH) as gasoline	1	150
Total Petroleum Hydrocarbons (TPH) as diesel	1	500
Oil and Grease or Total Recoverable Petroleum Hydrocarbons (TRPH)	10	1000

TIER 1 SCREENING CRITERIA (November 1, 2005)

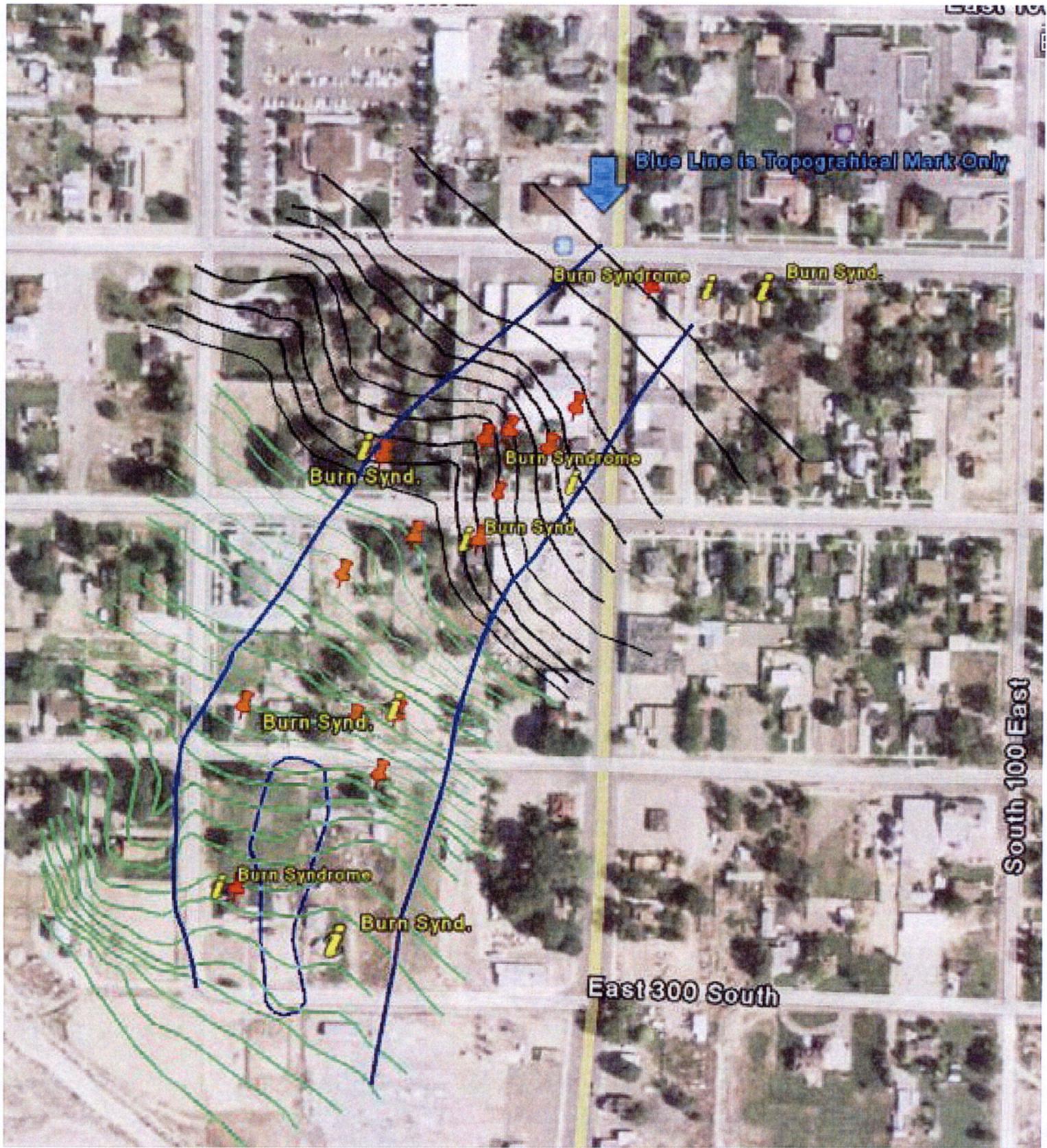
Tier 1 Screening Levels are applicable only when the following site conditions are met:

- 1) No buildings, property boundaries or utility lines within 30 feet of the highest measured concentration of any contaminant that is greater than the initial screenings levels but less than or equal to the Tier 1 screening levels; AND,
- 2) No water wells or surface water within 500 feet of highest measured concentration of any contaminant that is greater than the initial screenings levels but less than or equal to the Tier 1 screening levels.

Contaminants	Groundwater (mg/L)	Soil (mg/kg)
Benzene	0.3	0.9
Toluene	3	25
Ethylbenzene	4	23
Xylenes	10	142
Naphthalene	0.7	51
Methyl t-butyl ether (MTBE)	0.2	0.3
Total Petroleum Hydrocarbons (TPH) as gasoline	10	1500
Total Petroleum Hydrocarbons (TPH) as diesel	10	5000
Oil and Grease or Total Recoverable Petroleum Hydrocarbons (TRPH)	10	10000

APPENDIX D

BURNING EYE SYNDROME MAP



Blue Line is Topographical Mark Only

Burn Syndrome

Burn Synd.

Burn Synd.

Burn Syndrome

Burn Synd

Burn-Synd.

Burn Syndrome

Burn Synd.

East 300 South

South 100 East

APPENDIX E

**PUBLIC NOTICE—
PROPERTY REPAIRS SUMMARY**

**GUNNISON ABATEMENT
PUBLIC NOTICE—PROPERTY REPAIRS SUMMARY**

No.	Ref. Public Notification Ltr.	Address	Item	Date Owner Contact Authorization	Date Completed
1.	1.A.i.	36 West 100 South	Repair landscaping	8/14/08	In Progress
2.	1.A.ii.	40 West 200 South	Replace fence	8/13/08	6/10/08
3.	1.A.iii.a.	60 West 200 South	Remove construction debris from property as indicated resident's comments, item #3.	8/13/08	8/1/08
	1.A.iii.b.	60 West 200 South	In order to protect resident and family, install a fence between resident's yard and the remediation equipment and access, as indicated in resident's comments, item #4.	8/13/08	In Progress
	1.A.iii.c.	60 West 200 South	Repair damage to sprinkling system and irrigation water systems.	8/13/08	8/1/08
	1.A.iii.d.	60 West 200 South	Remove the port-a-potty from the property.	8/13/08	8/1/08
4.	9/26/08	26 West 100 South	At 36 West 100 South, repair landscaping.	8/14/08	In Progress
	1.A.iv.b.	26 West 100 South	At 26 West 100 South, dispose of insulation bags and repair basement door.	8/14/08	9/26/08
5.	1.A.v.a.	78 South Main	Remove the unused Soil Vapor Extraction ("SVE") vent stack from the side of the building.	8/21/08	9/26/08
	1.A.v.b.	78 South Main	Repair damage done to building during installation of the SVE vent stack.	8/21/08	Pending
	1.A.v.c.	78 South Main	The Casino Star Theatre is on the National Register of Historic Places. Propose a plan to mitigate damages to the building specified in subparagraphs 1 and 2 above, in keeping with its designation as an historic building.	8/21/08	9/26/08
6.	1.A.vi.	68 West 200 South	Repair sprinklers and landscaping.	8/14/08	9/30/08
7.	1.A.vii.	220 South 100 West	Repair damage resulting from construction, including restoring the pasture.	8/13/08	Pending
8.	1.A.viii.	29 West 100 South	Replace fence	8/13/08	9/1/08
9.	1.A.ix.	49 West 100 South	Repair fencing, landscaping, and other damage from construction activities.	8/13/08	9/26/08
10.	1.B.i.a.		Main Street: Replace trees removed during abatement/remediation activities.	9/3/05	Pending
	1.B.i.b.		Main Street: Repair damaged electrical and water lines.	9/3/05	9/26/08
11.	1.B.ii.a.		Repair damage of city roads resulting from construction activities in front of 255 S 100 West Street property	9/3/05	9/26/08
	1.B.ii.b.		Repair damage of city roads resulting from construction activities in front of 220 S 100 West Street property.	9/3/05	9/26/08

No.	Ref. Public Notification Ltr.	Address	Item	Date Owner Contact Authorization	Date Completed
	1.B.ii.c.		Repair damage of city roads resulting from construction activities in front of 60 West 200 South Street property.	9/3/05	9/30/08
	1.B.ii.d.		Repair damage of city roads resulting from construction activities in the alley behind the Casino Star Theatre.	9/3/05	In Progress
12.	1.B.iii.		Propose a plan to inspect trenching throughout the release site for settling and repair as necessary.	9/3/05	9/26/08
13.	1.C.i.		Condition and appearance of the Top Stop Property	9/3/05	9/26/08
14.	1.C.ii.		Propose a plan for Catox system noise reduction	9/3/05	9/26/08

APPENDIX F
HISTORICAL GROUNDWATER AND
SOIL DATA

Table F-1
Historical Depth to Groundwater
Gunnison Remediation
15 South Main Street
Gunnison, Utah
Facility ID 2000220, Release ID EMHB

Sample Identity	Date	Depth to Groundwater (ft)
MW1	1/11/08	12.08
	6/26/08	11.64
	9/16/2008	10.92
MW2	1/11/08	12.28
	6/26/08	11.99
MW3	1/11/08	11.83
	6/26/08	11.40
MW4	1/11/08	12.62
	6/26/08	11.70
MW5	1/11/08	15.11
	6/26/08	14.77
	9/16/08	12.93
MW6	1/11/08	12.20
	6/26/08	11.62
MW7	1/11/08	12.55
	6/26/08	11.91
MW8	1/11/08	12.95
	6/26/08	12.04
MW9	1/11/08	15.05
	6/26/08	14.37
MW11	1/11/08	10.08
	6/26/08	10.35
MW12	1/11/08	10.60
	6/26/08	8.72
MW13	1/11/08	9.94
	6/26/08	9.83
MW14	1/11/08	12.34
	6/26/08	12.07
MW15	6/26/08*	---
MW17	2/27/08	NM
	6/26/08	NM
MW18	6/26/08	NM
TW-1	1/11/08	12.50
	6/26/08	12.29

Table F-1
Historical Depth to Groundwater
Gunnison Remediation
15 South Main Street
Gunnison, Utah
Facility ID 2000220, Release ID EMHB

Sample Identity	Date	Depth to Groundwater (ft)
TW-2	1/11/08	13.22
	6/26/08	13.01
TW-3	1/11/08	12.23
	6/26/08	12.03
	9/16/08	10.41
TW-4	1/11/08	17.93
	6/26/08	15.95
TW-6	1/11/08	NM
	6/26/08	13.46
WS-1	1/11/08	13.19
	6/25/08	11.62
WS-2	1/11/08	12.61
	6/25/08	11.23
WS-3	1/11/08	10.70
	6/25/08	10.21

Table F-2
Historical Soil Data
mg/kg
Gunnison Remediation
15 South Main Street
Gunnison, Utah
Facility ID 2000220, Release ID EMHB

Sample Identity	Depth (ft)	Date	TPH GRO C6-C10	TPH DRO C10-C28	Benzene	Toluene	Ethyl-Benzene	Xylenes	Naphthalene	MtBE
SS1	13	8/14/07	4.9	<24	0.022	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
SS2	13	8/14/07	<0.059	<24	<0.0029	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059
SS3	4	8/15/08	<0.058	<0.058	<0.0029	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058
	13	8/15/07	970	5100	6.3	62	16	87	7.1	<0.12
SS4	3	8/15/07	<0.057	<0.057	<0.0028	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057
	13	8/15/07	0.13	<24	0.0052	0.013	<0.0059	<0.0059	<0.0059	0.13
SS5	2.5	8/15/07	<0.057	<0.057	<0.0028	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057
SS6	3.5	8/15/07	<0.055	<0.055	<0.0027	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055
	4	8/14/07	<0.062	<24	<0.0031	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062
SS7	4	8/14/07	<0.059	<24	<0.0029	<0.0059	<0.0059	0.031	<0.0059	<0.0059
SS8	4	8/14/07	1200	5100	1.2	11	25	200	15	<0.12
SS9A	8	8/15/07	<0.060	<0.060	<0.0030	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
SS11	5	8/27/07	420	390	0.17	2.9	3.6	30	24	<0.12
SS12	5	8/27/07	510	730	0.18	3.3	3.9	32	31	<0.12
SS12A	7	8/17/07	<0.056	NS	<0.0028	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056
SS15A	11	8/17/07	3100	NS	81	410	120	610	24	<1.3
SS16A	13	8/17/07	0.91	NS	0.29	0.32	<0.0061	0.093	<0.0061	<0.0061
SS17A	8	8/17/07	<0.056	NS	0.0030	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056
B-253	15	1/10/08	<0.055	NS	<0.0027	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055
B-254	15	1/10/08	<0.055	NS	<0.0027	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055
B255	15	1/10/08	<0.056	NS	<0.0028	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056

Table F-2
Historical Soil Data
mg/kg
Gunnison Remediation
15 South Main Street
Gunnison, Utah
Facility ID 2000220, Release ID EMHB

Sample Identity	Depth (ft)	Date	TPH GRO C6-C10	TPH DRO C10-C28	Benzene	Toluene	Ethyl-Benzene	Xylenes	Naphthalene	MtBE
MW19	10	8/11/08	<0.055	0.77	<0.0027	<0.0055	<0.0055	<0.0055	<0.0055	<0.013
MW20	10	8/11/08	<0.059	0.34	<0.0030	<0.0059	<0.0059	<0.0059	<0.0059	<0.015
MW21	10	8/11/08	<0.058	0.078	0.0047	<0.0058	<0.0058	<0.0058	<0.0058	<0.014
MW22	10	8/11/08	1.2	1.6	0.18	<0.0067	<0.0067	0.16	<0.0067	<0.016
MW23	15	8/11/08	1.6	0.13	0.49	0.24	0.069	0.59	0.090	<0.014
MW24	15	8/11/08	<0.058	<0.058	<0.0029	<0.0058	<0.0058	<0.0058	<0.0058	<0.014
MW25	15	8/11/08	<0.059	<0.059	<0.0029	<0.0059	<0.0059	<0.0059	<0.0059	<0.015
MW26	15	8/11/08	0.070	<0.061	0.059	<0.0061	<0.0061	0.011	<0.0061	<0.015
MW27	15	8/11/08	46	5.0	5.1	8.6	0.71	9.0	0.49	<0.016
MW28	15	8/11/08	<0.059	<0.059	<0.0029	<0.0059	<0.0059	<0.0059	<0.0059	<0.014
MW29	15	8/11/08	270	5.0	<0.12	0.57	1.3	43	4.8	<0.60
MW30	15	8/19/08	<0.057	0.29	<0.0029	<0.0057	<0.0057	<0.0057	0.0077	<0.014
MW31	10	8/19/08	<0.056	0.13	<0.0028	<0.0056	<0.0056	<0.0056	<0.0056	<0.014

TPH (GRO) = Total Petroleum Hydrocarbons (Gasoline Range)
 TPH (DRO) = Total Petroleum Hydrocarbons (Diesel Range)
 < = Concentrations less than the given instrument
 MtBE = Methyl-tertiary Butyl Ether
 BOLD = Measured concentration exceeds Utah Tier I Screening Level
 NS = Not Sampled

Table F-3
Historical Groundwater Data
Gunnison Remediation
15 South Main Street
Gunnison, Utah
Facility ID 2000220, Release ID EMHB

Sample Identity	Date	TPH GRO C6-C10	TPH DRO C11-C15	Benzene	Toluene	Ethyl-Benzene	Xylenes	Naphthalene	Depth to Groundwater (ft)
MW1	11/27/07	7.8	0.032	2.8	0.85	0.02	3.8	0.048	11.55
	1/11/08	4.6	<0.020	1.3	0.4	<0.020	1.6	0.051	11.98
	6/26/08	0.082	<0.020	0.029	0.003	<0.002	<0.002	0.039	11.64
MW2	11/27/07	5.9	0.022	2.4	0.96	0.027	2.3	0.037	11.84
	6/26/08	0.46	0.025	0.13	0.0031	0.0028	0.063	0.054	11.99
MW3	11/27/07	9.7	0.041	2.6	2.5	0.2	3.9	0.071	11.28
	6/26/08	0.23	0.067	0.012	0.002	<0.002	0.015	0.065	11.40
MW4	11/27/07	<0.020	<0.020	<0.002	<0.020	<0.020	<0.002	<0.002	11.56
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	11.70
MW5	11/27/07	6.3	0.036	4	0.62	0.057	1.0	0.089	NM
	1/11/08	8.2	0.021	4.1	0.88	0.11	0.49	0.15	14.85
	6/26/08	0.73	0.099	0.043	<0.002	0.071	0.023	0.11	14.77
MW6	6/26/08	0.035	<0.020	<0.002	<0.002	<0.002	0.0034	0.0026	11.62
MW7	1/11/08	3.9	<0.020	1.4	0.32	<0.020	1.5	<0.020	12.32
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	11.91
MW8	1/11/08	4.7	0.020	0.9	0.21	<0.0020	1.8	0.081	14.78
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	12.04
MW9	1/11/08	<0.020	<0.020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	12.68
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	14.37
MW10		---	---	---	---	---	---	---	Dry
MW11	1/11/08	<0.020	<0.020	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020	10.43
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	10.35
MW12	1/11/08	<0.020	<0.020	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020	8.43
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	8.72
MW13	1/11/08	<0.020	<0.020	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020	10.60
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	9.83

Table F-3
Historical Groundwater Data
Gunnison Remediation
15 South Main Street
Gunnison, Utah
Facility ID 2000220, Release ID EMHB

Sample Identity	Date	TPH GRO C6-C10	TPH DRO C11-C15	Benzene	Toluene	Ethyl-Benzene	Xylenes	Naphthalene	Depth to Groundwater (ft)
MW14	1/11/08	<0.020	<0.020	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020	12.33
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	12.07
MW15	2/27/08	1.1	<0.020	0.49	0.039	<0.0020	0.45	0.0043	NM
	6/26/08*	---	---	---	---	---	---	---	---
MW16	---	---	---	---	---	---	---	---	Dry
MW17	2/27/08	<0.020	<0.020	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020	NM
	6/26/08	0.22	<0.020	0.089	<0.002	<0.002	0.024	0.0056	NM
MW18	6/26/08	<0.020	<0.020	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020	NM
TW-1	11/27/07	8.6	0.041	3	0.96	0.0046	3.9	0.097	16.24
	1/4/08	5.8	<0.020	1.2	0.50	<0.0020	2.4	0.11	NM
	6/26/08	0.081	<0.020	0.0071	<0.002	<0.002	0.027	0.01	12.29
TW-2	6/26/08	0.92	0.092	0.038	0.0068	<0.002	0.44	0.056	13.01
TW-3	11/27/07	1.6	<0.020	0.42	0.16	<0.020	0.62	0.032	NM
	1/4/08	0.56	<0.020	0.059	0.0093	<0.002	0.25	0.019	NM
	6/26/08	<0.020	<0.020	<0.002	<0.002	<0.002	<0.002	<0.002	12.03
TW-4	9/16/08	---	---	---	---	---	---	---	10.41
	1/11/08	27	0.110	6	3.8	0.6	6.4	0.26	17.93
	6/26/08	50	0.930	4.3	11	3.3	27	1.3	15.95
TW-6	6/26/08	27	0.930	0.6	2.9	1.7	18	1.1	13.46
WS-1	8/14/07	0.12	NS	0.018	0.0071	<0.0020	0.0022	<0.0020	NM
	12/13/07	19	0.200	2.4	2.2	0.6	3.7	0.17	NM
	1/11/08	37	<0.200	5.7	3.2	1.1	5.6	0.23	12.95
	6/25/08	12	<0.020	2.2	3.6	0.32	4.9	0.12	11.62

**Table F-3
 Historical Groundwater Data
 Gunnison Remediation
 15 South Main Street
 Gunnison, Utah
 Facility ID 2000220, Release ID EMHB**

Sample Identity	Date	TPH GRO C6-C10	TPH DRO C11-C15	Benzene	Toluene	Ethyl-Benzene	Xylenes	Naphthalene	Depth to Groundwater (ft)
WS-2	8/14/07	<0.020	NS	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020	NM
	12/13/07	7	0.025	2.1	1.9	0.14	0.96	0.02	NM
	1/11/08	0.088	<0.020	0.058	0.011	0.012	0.043	0.0021	12.28
	6/25/08	7.4	<0.020	3.8	0.41	0.23	2.5	<0.02	11.23
WS-3	12/13/07	6.9	0.500	0.12	<0.020	0.28	<0.020	0.1	NM
	1/11/08	9.2	<0.020	0.22	<0.020	0.38	0.049	0.084	10.50
	6/25/08	0.25	0.077	0.081	<0.002	0.017	0.0073	<0.002	10.21
INITIAL SCREENING LEVEL		1	1	0.005	1	0.7	10	0.7	

TPH (GRO) = Total Petroleum Hydrocarbons (Gasoline Range C6 to C10)
 TPH (DRO) = Total Petroleum Hydrocarbons (Diesel Range C11 to C15)
 < = Concentrations less than the given instrument detection level
 SHADED = Measured concentration exceeds Utah Initial Screening Level

* Note: MW15 could not be located
 * Note: MW10 was dry
 NS - Not Sampled
 NM - Not Measured