FINAL
SEMIANNUAL SAMPLING REPORT
(February 2006 Sampling Event)

Multi Site G
Operation, Maintenance & Monitoring

SMS Instruments Site
Deer Park, Suffolk County, NY
Site 1-52-026

Work Assignment No.
D004445-14

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1.0 INTRODUCTION

The SMS Instruments site was evaluated in 2003 as part of the Pump and Treat Optimization initiative from U.S. Environmental Protection Agency (USEPA) headquarters which provided recommendations to enhance remedial and cost effectiveness. In July 2003, GeoTrans, Inc. (GeoTrans), on behalf of the USEPA conducted a site visit to perform the optimization evaluation of the active Groundwater Pump and Treat system. The results of the evaluation were included in a Remediation System Evaluation (RSE) report dated December 9, 2003. In the RSE report the team recommended developing an exit strategy and provided three potential approaches for consideration.

Site activities from 2004 to the present have been performed based on the above mentioned recommendations provided by the RSE team. The objective of this report is to summarize the SMS Instruments Site remediation activities that occurred following the RSE recommendations.

2.0 BACKGROUND INFORMATION AND SITE CHRONOLOGY

The SMS Instruments Superfund site is located at 120 Marcus Boulevard in Deer Park, Suffolk County, New York (Figure 1). The site was listed on the National Priority List (NPL) in 1986. The Site consists of a 34,000 square foot building located on a 1.5-acre lot that is surrounded by other light industrial facilities. A recharge basin is located adjacent to the Site to the east. Facility operations occurred between 1967 and 1990 and primarily involved overhauling of military aircraft components. These activities consisted of cleaning, painting, degreasing, refurbishing, metal machining, and testing components. The current uses, under different ownership, include the manufacturing of wooden kitchen utensils. Site contamination was first discovered in 1980 when the Suffolk County Department of Health Services sampled a leaching pool on the south side of the facility. USEPA investigative and remedial activities have included pumping out the leaching pond and backfilling it, removal of an underground storage tank (which was used to store jet fuel), and operation of a soil vapor extraction system (SVE). The SVE system was operated from 1992 to 1994, near the former leaching pool and the former-UST areas to remediate soils. Wastewater was historically discharged into a leaching pool at the site, which, subsequently contaminated soils and groundwater beneath the site. In addition, the leaking UST also contaminated soils and groundwater beneath the site. A Groundwater Pump and Treat (GW P&T) system was constructed and began operation in 1994.

Soil sampling conducted after the operation of the SVE system reflected that the soil remedy effectively removed contamination in the vadose zone to a point where there was no longer an indoor air quality problem. The groundwater contamination has decreased substantially since activation of the GW P&T system. However, after several years of operation, the influent concentrations had decreased substantially, the contaminant removal cost per pound had increased dramatically, and the system was no longer seen as accelerating site cleanup. Furthermore, the system was failing to achieve the ultimate groundwater cleanup goals (e.g., the maximum contaminant levels [MCLs]). Therefore, In July 2003, GeoTrans, on behalf of the USEPA, conducted a site visit to perform an evaluation of the active Groundwater Pump and Treat system. The results of the evaluation were included in a Remediation System Evaluation (RSE) report dated December 9, 2003. In the RSE report the team recommended developing an exit strategy and provided three potential approaches for consideration. One of the three recommended approaches, the most aggressive approach, was to pilot an alternative technology and determine if either that technology or another approach should replace the P&T system. The RSE report indicated various alternative technologies are available for reducing mass of volatile organic compounds (VOCs), including air sparging, bioaugmentation, and chemical oxidation. The USEPA considered this approach the most aggressive and most viable recommended approach received from the RSE team for an exit strategy. The intent of aggressively addressing the remaining soil contamination was to reduce

contaminant concentrations in the soil and reduce the potential for future contamination of the groundwater, thereby reducing both the cost and time required to remediate the site.

Following USEPA's selection of this recommendation from the RSE team, in May of 2004, the USEPA Remedial Action Branch sent a request for field support at the SMS Instruments Site located in Deer Park, New York, to both the USEPA Removal Action Branch and the USEPA Environmental Response Team (ERT). The request involved two phases, additional field characterization of a former UST area through use of a geoprobe down to the water table, and a second phase to assess and implement additional remedial technologies to address remaining source areas, such as air sparging with SVE and/or bioremedial-enhancing injections. In an effort to field characterize the former UST area and obtain data needed for the selection of a pilot alternative approach, 25 soil borings were advanced and installation of SVE and air sparge wells were performed in August 2004 by ERT and the Response Engineering and Analytical Contract (REAC). Further details of the August 2004 ERT/REAC activities are included in section 3.0 of this report.

Based on an evaluation of the data generated by ERT/REAC, the USEPA Remedial Project Manager (RPM) and the USEPA Removal On-Scene Coordinator (OSC) concluded the installation of a PHOSter™ bioremediation system would be the most appropriate and cost effective technology for the time frame of operation. In April of 2005, under the Emergency and Rapid Response Services (ERRS) contract, Earth Tech Northeast, Inc. (Earth Tech) procured a PHOSter™ system and the system was later installed and activated on site in May 2005. Further details of the PHOSter™ system are included in Section 5.0 of this report.

The groundwater pump-and-treat system ran almost continuously until October 3, 2005 when the New York State Department of Environmental Conservation (NYSDEC) granted a temporary shut-down as volatile organic compound (VOC) concentrations for the influent water were below detection limits.

The USEPA operated the treatment system at the Site until July 2005 when the Site was turned over to NYSDEC. Based on sampling conducted by CDM for the USEPA in June 2005 and effluent samples collected by Earth Tech in August 2005, Earth Tech determined that the GW P&T system was no longer removing significant quantities of contaminants. In a letter to NYSDEC dated October 6, 2005, Earth Tech recommended that the groundwater treatment system be de-activated. NYSDEC concurred with this recommendation in a letter dated October 21, 2005 (Attachment A).

3.0 USEPA ERT/REAC SOIL BORING ADVANCEMENT AND SVE/AIR SPARGE WELL INSTALLATION ACTIVITIES (AUGUST 2004)

In July 2004, EPA-ERT/REAC provided the necessary field support to characterize the remaining source area and preliminary cost projections to implement sparging/bioremediation operations. Twenty-five soil borings were advanced with a geoprobe to collect 46 subsurface soil samples which were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) via a portable GC in the field immediately after sample collection and three samples were analyzed for VOCs. The highest BTEX/VOC levels were detected in samples collected in the vicinity of the drywell and groundwater extraction well EXW-3. These soil samples were collected within the smear zone [between 24 and 28 feet below ground surface (bgs)]. The highest concentrations of BTEX were found in the drywell sample collected at 24 feet bgs with a total concentration of 170,580 micrograms per kilogram (µg/kg). The highest VOC results were obtained from the drywell location at 24 feet bgs with a total VOC concentration of 408,100 mg/kg. Results of samples collected in the vadose zone and in the groundwater table indicated the contamination was contained within the smear zone. Complete details of the soil boring event are included in the Site

Investigation Report (Technical Memorandum) generated by Lockheed Martin Technology Services Environmental Services, REAC, dated August 18, 2005.

Following a review of these results, it was determined that bioremedial enhancement required further evaluation beyond the USEPA's Remedial Action Branch's required timeframe for transfer of the site to the NYSDEC. Therefore, in November 2004, USEPA's Removal Action Branch along with ERT/REAC were able to provide continual field support to install the necessary piping for the bioremediation system. However, it was determined that purchasing and/or rental of the bioremediation was beyond the scope of their existing contract. Therefore, in May 2005, Earth Tech, EPA Region II ERRS contractor, procured and installed a PHOSter™ bioremediation system at the Site in May 2005. Further details of the bioremediation system are included in Section 5.0 of this report.

3.1 USEPA/Earth Tech GW P&T System Evaluation Sampling (August 31, 2005)

In an effort to evaluate the current status of the GW P&T system, on August 31, 2005, three groundwater samples, including one duplicate sample were shipped to Mitkem Corporation for volatile organics analysis USEPA Method 624. Also on August 31, 2005, three grab air samples, including one duplicate sample, were shipped to Con-Test Analytical Laboratory for total organic analysis.

The groundwater samples were collected after a minimum of five gallons was purged from the sample ports located within the treatment system. Volumes were collected from the influent (INFLUENT) and effluent (EFFLUENT) of the treatment system for volatile organics analysis. In addition, one duplicate sample (EFFLUENT-A) was collected from the effluent of the treatment system.

The grab air samples were collected using Summa canisters for a period of two minutes per sample. Samples were collected from post air stripper (POST AIR STRIPPER) and post carbon (POST CARBON) of the treatment system for total organics analysis. In addition, one duplicate sample (POST AIR STRIPPER-A) was collected post air stripper. Further details of the August 31, 2005 sampling activities are detailed in a Sampling Trip report dated August 31, 2005. Tables containing the laboratory analytical results for the Summa and groundwater sampling are included as Tables 1 and 2 of this report, respectively.

Results of the Groundwater Pump and Treat evaluation sampling performed on August 31, 2005 indicated no contamination was being treated by the Groundwater Pump and Treat system. Therefore, on October 6, 2005 Earth Tech recommended the shut-down of the SMS groundwater pump and treatment plant and in a letter dated October 21, 2005 the NYDEC approved the temporary shutdown of the groundwater treatment plant. The NYDEC letter also indicated that groundwater sampling will continue to determine if any significant rebound occurs. If no rebound is observed after a reasonable period of time, the treatment system will be permanently shut down and dismantled.

4.0 FEBRUARY 2006 MONITORING WELL SAMPLING EVENT

In accordance with the December 2005 Sampling And Analysis Plan developed for the SMS Instruments Site, Earth Tech conducted the first of two groundwater sampling events in February 2006, under NYSDEC Work Assignment #D0003821-41. This site is included in the Multi-Site G work assignment for State Superfund Sites that are currently in the Operation, Maintenance, and Monitoring phase. This section describes and presents the results of the groundwater sampling event that took place on February 7 through 10, 2006. Additional samples were collected on February 23 to replace samples that were broken during transport to the laboratory.

Prior to sampling each well, a depth to water measurement was taken using a water level indicator, which was washed in a liquinox bath and rinsed with distilled water before each use. Each monitoring well was purged of three well volumes with a submersible pump. The pump was decontaminated between each monitoring well by a liquinox bath followed by a distilled water rinse.

After purging, temperature, conductivity, pH, and turbidity measurements were recorded on the field observation logs. Water samples were obtained with new dedicated Teflon bailers. All groundwater samples were collected in bottleware provided by the laboratory. Samples were packed on ice, and submitted with a completed Chain-of-Custody (COC) to Mitkem Laboratories, Inc. located in Warwick, Rhode Island. Each sample was analyzed for VOCs by Method SW846-8260B, semivolatile organic compounds (SVOCs) by Method SW846-8270C and target analyte list (TAL) metals by Method 6010, and mercury by Method 7470.

The locations of these wells are presented in Figure 1, an aerial photograph of the site. A total of twenty monitoring wells and two extraction wells were sampled during this sampling event. The pump in extraction well EW-2 would not function during the sampling event. Consequently, Earth Tech returned to the Site on February 23 to collect this sample. Three SVOCs bottles were broken during transport to the laboratory on February 10 and replacement samples were collected during the second field effort.

The laboratory analytical results for the VOCs, SVOCs and TAL metals analyses and the related COC's are included as Tables 4, 5, and 6 of this report, respectively. In addition, the New York State Ambient Water Quality Standards and Guidance Values for groundwater are shown on each table. Any compound detected at a concentration at or above the applicable standard or guidance value is in bold/italics font.

VOCs results are shown on Table 4 of this report. The VOCs results are also summarized on Figure 2. Methyl tert-butyl ether (MTBE) was detected in one well, MW-13, at an estimated concentration of 1 microgram per liter (µg/L), which is less than the groundwater criterion of 10 µg/L.

1,1 Dichloroethane was detected in two wells, MW-1 (14 µg/L) its duplicate, MW-1A (13 µg/L) and MW-7 (estimated 1 µg/L). The concentration at MW-1 exceeds the groundwater criterion of 5 µg/L.

Chlorobenzene was detected in extraction well EW-1 at a concentration of 32 µg/L, which exceeds the groundwater criterion of 5 µg/L. Chlorobenzene was also detected in monitoring well MW-6S at an estimated concentration of 1 µg/L.

Ethylbenzene was detected in extraction well EW-1 at an estimated concentration of 1 µg/L, which is less than the groundwater criterion of 5 µg/L.

Xylene was detected in extraction well EW-1 at a concentration of 5 µg/L, which is the same as the groundwater criterion of 5 µg/L.

Several SVOCs, including 1,3 dichlorobenzene, 1,4 dichlorobenzene, isophorone, 2,4 dimethylphenol, butylbenzlyphthalate, fluoranthene, pyrene and benzo(g,h,i)perylene, were detected in several wells at concentrations below their applicable criteria as shown on Table 5. The SVOCs data is also summarized on Figure 3. In addition, bis(2-ethylhexyl)phthalate was reported at concentrations above its groundwater criterion at wells EW-1 and MW-16D. However, this analyte is a known laboratory contaminant and its detection is unlikely to be representative of Site conditions.

Several TAL metals were detected at concentrations above their respective Class GA criterion including antimony, cadmium, iron, lead, manganese, selenium, sodium, thallium and zinc. The results are summarized on Table 6 and are also presented on Figure 4. Iron, manganese, sodium and zinc are

common elements in soil and groundwater and most likely represent natural Site background conditions. Antimony was detected in four monitoring wells above the Class GA criterion of 3 µg/L at concentrations ranging up to 4.7 µg/L, slightly above the criterion. Cadmium was detected in three monitoring wells, MW-13D (72.8 µg/L), MW-16S (17.4 µg/L) and MW-16D (23.4 µg/L) above the Class GA criterion of 10 µg/L. Lead was detected in monitoring well MW-2 at a concentration of 135 µg/L (Class GA criterion of 25 µg/L). Selenium was detected in monitoring well MW-6D at a concentration of 12.5 µg/L, slightly above the Class GA criterion of 10 µg/L. Thallium was detected three monitoring wells, EW-1 (4.3 µg/L), MW-6S (6.4 µg/L) and MW-13 (4.4 µg/l) above the Class GA criterion of 4 µg/L.

5.0 PHOSTER™ SYSTEM

5.1 Technology Description

The Enhanced In-Situ Bioremediation Process is a biostimulation technology developed by the U.S. Department of Energy (DOE) at the Westinghouse Savannah River Plant site in Aiken, S.C. DOE refers to their phosphate injection technology as PHOSter™ and has licensed the process to Earth Tech. Earth Tech is utilizing the process to deliver a gaseous phase mixture of air, nutrients, and methane to contaminated soils at the SMS site. These enhancements are delivered to groundwater via injection wells to stimulate and accelerate the growth of existing microbial populations, especially methanotrophs. This type of aerobic bacteria has the ability to metabolize methane and produce enzymes capable of degrading chlorinated solvents and their degradation products to non-hazardous constituents. The primary components of Earth Tech's treatment system consist of injection wells), air injection equipment, groundwater monitoring wells, and soil vapor monitoring points. Figure 5 shows a plan view of the treatment area, the injection wells, and monitoring points. The injection wells are designed to deliver air, gaseous-phase nutrients, and methane to groundwater and the vadose zone in the underlying soils.

The SMS system consists of a 5 horsepower rotary screw compressor that is capable of delivering 15-30 pounds per square inch (psi) and approximately 10-100 standard cubic feet per hour (scfh) to a pressure rated steel tank. Air from the main line is diverted to the injection wells 30-50 feet below ground surface (ft bgs). The monitoring wells and soil vapor monitoring points were installed upgradient, downgradient and cross-gradient relative to the injection well location to delineate the zone of influence and to monitor groundwater within and outside the zone of influence. The soil vapor monitoring points can be designed to release or capture vapors that may build up in the overburden. The monitoring wells were constructed in a manner to allow them to be converted to either injection wells or soil vapor extraction points.

The SMS injection system consists of air, nutrient, and methane injection equipment (all housed in a temporary building or shed). A compressor serves as the air source, and includes a condensate tank ("trap") with a drain, an air line, coalescing filters and pressure regulators and valves. Methane and nitrous oxide provide the source of carbon and nitrogen, respectively. Both are provided in standard gas cylinders and are piped into the main air line using regulators and flow meters. Triethyl phosphate (TEP), the phosphorus source, is stored as a liquid in a pressure-rated steel tank. Air from the main line is diverted through the tank to volatilize the TEP for subsurface delivery. The air, nitrous oxide, and TEP are injected continuously while the methane is injected on a pulsed schedule. The methane is closely monitored just prior to injecting into subsurface wells to ensure that the injection concentration does not exceed 4% by volume, thus avoiding the methane lower explosive limit (LEL) of 5%.

5.2 Technology Selection Rationale

The PHOSter™ technology was chosen for this site for a number of reasons. Contamination concentrations in the groundwater are at very low asymptotic levels and it was felt that the pump and treat system was no longer capable of removing a sufficient mass of contamination to justify operation. A

system of groundwater and vadose zone wells were already in place that would be suitable for economically installing this technology. Soil and groundwater sampling results indicated existing biological activity was slowly degrading the contaminants. The site geology and hydrogeology was also ideal for this technology. The PHOSter™ technology has demonstrated ability to stimulate bacterial activity, promote the destruction of contaminants and act as a polishing technology for removal low levels of contamination often encountered in the final stages of site remediation.

5.3 Evaluation of PHOSter™ Sampling Results

Air samples are tested from on-site monitoring wells two times per month by Earth Tech staff scientists. The air is monitored for methane and CO_2 in percent with a CES-LANDTECH GEM^{TM} 500 portable gas analyzer. A MultiRAE meter is used to analyze for CO, O_2 and H_2S. A MultiRAE PID is used to monitor for VOCs.

The results of these sampling events are presented in Attachment C. The data indicate that organic vapors in the monitoring wells have in general been decreasing steadily since the installation of the PHOSter™ system. Methane concentrations have been somewhat variable but that is attributed to the fact that methane is being added in pulse doses to stimulate biological activity in the soil. The presence of methane in variable concentrations depending upon the timing of sampling events was expected and is desirable as an indication of the proper function of the system. Other parameters, such as O_2 and CO_2, indicate that biological activity has increased. The O_2 levels have decreased indicating increased aerobic biological activity that requires oxygen and the CO_2 levels have increased also, indicating biological activity has been stimulated.

5.4 PHOSter™ System Effectiveness Evaluation Groundwater Sampling

On September 27 and 28, 2005, Earth Tech, on behalf of the USEPA Region II Removal Action Branch, collected a total of eight groundwater samples, including one duplicate sample (AS3-A) and extra volume for one MS/MSD analysis. The samples were collected from sparge points utilized by the PHOSter™ system for the injection of bio nutrients. These samples were shipped to Shealy Environmental Laboratory for volatiles analysis only. A total of two trip blanks, two field blanks and two equipment blanks were also collected. The groundwater sampling procedures were conducted in accordance with the USEPA Region II Groundwater Sampling Low Flow (Minimal Drawdown) Groundwater Sampling procedures, dated April 1996. Further details of the sampling event are included in a Trip Report that was generated by Earth Tech.

Results of the PHOSter™ System sparge point sampling activities indicated all analytes for all samples were below the NYSDEC Class GA groundwater criteria. Class GA criteria apply to a discharge from a point source or outlet or any other discharge within the meaning of the Environmental Conservation Law, section 17-0501 that will or may enter the waters of the State. Unless a demonstration is made to the contrary, it shall be presumed that a discharge to the ground or unsaturated zone is a discharge to groundwater. The groundwater effluent limitation is the maximum allowable concentration. Therefore, according to the NYSDEC regulations, this groundwater would not be required to be treated for volatiles.

6.0 SUMMARY AND RECOMMENDATIONS FOR FUTURE SITE REMEDIATION ACTIVITIES

- Continued operation of the PHOSter™ bioremediation system,
- Permanent Shut-down of the Groundwater Pump and Treat system,

- Groundwater sampling should continue for another four months with the next event to be performed in July 2006. If the sampling results indicate no rebound of contamination, dismantling of the Groundwater Pump and Treat system is recommended,
- Collection of soil borings in the areas of known soil impact via direct-push soil sampling methods for the evaluation of current soil conditions in the area of concern and the effectiveness of the PHOSter™ bioremediation system.

REFERENCES

GeoTrans, Inc. (GeoTrans) for the USEPA, Remediation System Evaluation SMS Instruments. Report of the Remediation System Evaluation, Site Visit Conducted at the SMS Instruments Superfund Site. Final Report, December 9, 2003

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Earth Tech for the USEPA, Groundwater Treatment System Influent/Effluent and Post Air Stripper/Post Carbon Grab Air Sampling Activities August 31, 2005 Trip Report. Draft

Earth Tech for the USEPA, Sparge Well Groundwater sampling Event SMS Instruments Site September 27 through September 28, 2005 Trip Report. Draft

NYSDEC Division of Environmental Remediation Groundwater Pump and Treatment System Shutdown Memo. Gerald Rider Jr., P.E., October 21, 2005

Earth Tech for the NYSDEC, Trip Report SMS Instruments Site Groundwater Monitoring Well Sampling Event February 7 through February 10, 2006 Trip Report. Draft

Earth Tech SMS Groundwater Treatment System Operation Recommendation Memo. Urbie Nash, P.E., March 22, 2006

TABLE 1

SMS Instruments Summa Air Sampling of GW P&T System (August 31, 2005)

SMS Instruments Summa Air Sampling of GW P&T System (August 31, 2005) [All results are reported in parts per billion by volume (PPBv)			Sample ID#/Matrix:	Post Air Stripper/Air	Post Air Stripper-A/Air	Post Carbon/Air
			Location:	Post Air Stripper	Duplicate of Post Air Stripper	Post Carbon Filter
			Date Sampled/Lab ID# :	8/31/2005	8/31/2005	8/31/2005
			Analytical Method :	USEPA TO-15	USEPA TO-15	USEPA TO-15
Analytical Parameter (Air)	**NIOSH REL(PPBv)**	**ACGIH TLV®(PPB)**	**OSHA PEL (TWA)(PPBv)**	**Result (PPBv)**	**Result (PPBv)**	**Result (PPBv)**
Acetone	250,000	750,000	1,000,000	7.5	1.8	5.3
2-Butanone (MEK)	250,000	200,000	200,000	<0.5	<0.5	1.0
Carbon Disulfide	1,000	10,000	20,000	<0.5	0.5	<0.5
Chlorobenzene	N/A	10,000	75,000	8.4	6.0	<0.5
Chloroform	2,000	10,000	50,000	1.2	0.8	<0.5
Chloromethane	N/A	100,000	100,000	0.6	0.6	<0.5
1,4 Dichlorobenzene	N/A	10,000	75,000	1.2	0.8	<0.5
Dichlorodifluoromethane	1,000,000	1,000,000	1,000,000	0.6	0.5	<0.5
Ethanol	N/A	not established	N/A	1.9	1.9	0.8
Ethyl benzene	100,000	100,000	100,000	1.6	1.2	<0.5
Hexane	50,000	50,000.00	500,000	1.0	<0.5	<0.5
Methyl tert-Butyl Ether (MTBE)	N/A	50,000	N/A	1.8	1.3	<0.5
Tetrachloroethylene	N/A	30,000	100,000	2.0	1.4	1.2
Vinyl Acetate	4,000	10,000	N/A	<0.5	<0.5	0.6
Vinyl Chloride	N/A	1,000	1,000	<0.5	<0.5	0.8
m/p Xylene	100,000	100,000	100,000	1.6	1.2	<0.5

Notes:
Summa samples were collected from the air stream effluent of the P&T system air stripper.
Please note that the NIOSH REL, ACGIH TLV, and OSHA PEL have been included in this table for comparison purposes only. These reference guidelines are worker hazard guidelines, not remediation goals.

The NIOSH REL, ACGIH TLV, and OSHA PEL guidelines were obtained from www.cdc.gov/niosh/ipcsneng/nengsyn.utm/.

All results are reported in parts per billion by volume (PPBv)

Results have been highlighted.
For blanks and non-detects the results indicated with a "<" value represents the reporting limit for that analysis. Unless otherwise noted results are not corrected for blank value.

N/A=Not Available or Not Applicable

NIOSH REL= National Institute for Occupational Safety and Health, Recommended Exposure Limit

ACGIH= American Conference of Governmental Industrial Hygienists
TLV®= Threshold Limit Values. TLV's® are guidelines (not standards) prepared by ACGIH, Inc, to assist industrial hygienists in making decisions regarding safe levels of exposure to various hazards found in the workplace. A TLV reflects the level of exposure that the typical worker can experience without an unreasonable risk of disease or injury. TLV's® are **not** quantitative estimates of risk at different exposure levels or by different routes of exposure.
PEL= Permissible Exposure Limit. A PEL is the maximum amount or concentration of a chemical that a worker may be exposed to under OSHA regulations. THE PEL's are TWA's, unless otherwise noted.

TWA= 8-hour Time Weighted Average. TWA's are an average value of exposure over the course of an 8-hour work shift.

TABLE 2

SMS Instruments Aqueous Sampling of
GW P&T System
(August 31, 2005)

SMS Instruments Aqueous Sampling of GW P&T System (August 31, 2005) [All results are reported in micrograms per L (µg/L)]			Sample ID#/Matrix:	Influent/Aqueous	Effluent/Aqueous	Effluent-A/Aqueous
			Location:	Influent	Effluent	Duplicate of Effluent
			Date Sampled/Lab ID# :	8/31/2005/D1031-03A	8/31/2005/D1031-01A	8/31/2005/D1031-02A
			Analytical Method :	USEPA Methane 624+10	USEPA Methane 624+10	USEPA Methane 624+10
Analytical Parameter (Air)	**NIOSH REL (µg/L)**	**ACGIH TLV®(µg/L)**	**OSHA PEL (TWA)(µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Chlorobenzene	N/A	47,000	350,000	2J	5U	5U
1,2 Dichloroethane	4,000	40,000	200,000	2J	5U	5U

Notes:

All other analytes were not detected
All results are reported in micrograms per liter (µg/L).

Results have been highlighted.

For non-detects the results indicated with a "U" value represents the reporting limit for that analysis.

Other VOC parameters had reporting limits of 5 µg/L.

N/A=Not Available or Not Applicable

NIOSH REL= National Institute for Occupational Safety and Health, Recommended Exposure Limit

ACGIH= American Conference of Governmental Industrial Hygienists
TLV®= Threshold Limit Values. TLV's® are guidelines (not standards) prepared by ACGIH, Inc, to assist industrial hygienists in making decisions regarding safe levels of exposure to various hazards found in the workplace. A TLV reflects
the level of exposure that the typical worker can experience without an unreasonable risk of disease or injury. TLV's® are **not** quantitative estimates of risk at different exposure levels or by different routes of exposure.
PEL= Permissible Exposure Limit. A PEL is the maximum amount or concentration of a chemical that a worker may be exposed to under OSHA regulations. THE PEL's are TWA's, unless otherwise noted.

TWA= 8-hour Time Weighted Average. TWA's are an average value of exposure over the course of an 8-hour work shift.

J=Concentration was determined to be below the method detection limit. Therefore, the result is estimated

TABLE 3

SMS Instruments Sparge Well Groundwater Sampling Event
(September 27 and 28, 2005)

TABLE 3
SMS INSTRUMENTS SPARGE-WELL GROUNDWATER SAMPLING EVENT
VOLATILE ORGANIC COMPOUNDS (September 27 and 28, 2005)

Sample Location:	AS3		AS3-A		AS7		AS9		AS11		AS4		AS12		TB-1	
CLP Number:	B38F5		B38F6		B38F7		B38F8		B38F9		B38G0		B38G1		B38G2	
Matrix:	WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Units:	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Date Sampled:	9/27/05		9/27/05		9/27/05		9/28/05		9/28/05		9/27/05		9/27/05		9/27/05	
	conc	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**0.46**	J	0.50	U	0.50	U
Vinyl Chloride	**0.19**	J	**0.20**	J	**0.38**	J	0.50	U	0.50	U	**0.29**	J	0.50	U	0.50	U
Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Trichlorofluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1 Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Acetone	5.0	U	5.0	U	**41**		**12**		5.0	U	5.0	U	**46**		5.0	U
Carbon Disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl Acetate	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene Chloride	0.50	U	0.50	U	0.5	U	0.50	U	0.5	U	0.50	U	0.5	U	**0.47**	J
trans-1,2-Dichloroethene	0.50	UJ	0.50	UJ	0.50	U	0.50	U	0.50	U	**0.11**	J	0.50	U	0.50	U
Methyl tert-Butyl Ether	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1-Dichloroethane	**0.081**	J	**0.077**	J	0.50	U	0.50	U	0.50	U	**0.30**	J	0.50	U	0.50	U
cis-1,2-Dichloroethene	**0.22**	J	**0.17**	J	**0.35**	J	0.50	U	0.50	U	**0.66**	J	0.50	U	0.50	U
2-Butanone	5.0	U	5.0	U	**2.8**	J	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Bromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	**0.091**	J	0.50	U	**0.095**	J	0.50	U	0.50	U
Cyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**0.14**	J	0.50	U
Carbon Tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Benzene	0.50	U	0.50	U	**0.063**	J	**0.10**	J	0.50	U	**0.082**	J	0.5	U	**0.055**	J
1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Trichloroethene	**0.058**	J	**0.070**	J	0.50	U	**0.095**	J	**0.054**	J	**0.19**	J	0.50	U	0.50	U
Methylcyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromodichloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
4-Methyl-2-pentanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Toluene	0.50	U	0.50	U	0.50	U	**0.22**	J	0.5	U	0.50	U	0.50	U	**0.057**	J
trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**0.16**	J	0.50	U	0.50	U
2-Hexanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Dibromochloromethane	0.50	U	0.50	U	0.50	U	0.50	UJ	0.50	UJ	0.50	UJ	0.50	U	0.50	UJ
1,2-Dibromoethane	0.50	U	0.50	U	0.50	U	0.50	UJ	0.50	UJ	0.50	UJ	0.50	U	0.50	UJ
Chlorobenzene	0.50	U	0.50	U	0.50	U	**0.35**	J	**0.068**	J	0.50	U	0.50	U	0.50	U
Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Xylenes (total)	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Styrene	0.50	U	0.50	U	0.50	U	0.50	UJ	0.50	UJ	0.50	U	0.50	U	0.50	U
Bromoform	0.59	U	0.55	U	0.56	U	0.53	UJ	0.51	UJ	0.50	UJ	0.59	U	**0.73**	J
Isopropylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,3-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.50	U	0.50	U	0.50	U	**0.059**	J	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichlorobenzene	0.50	U	0.50	U	0.50	U	**0.066**	J	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromo-3-chloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,4-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,3-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Unknown	**1.0**	R	**0.97**	R	**0.98**	R	**0.88**	R	**0.94**	R	**0.96**	R	**0.95**	R	**0.97**	J
Unknown			**0.76**	R	**0.73**	R	**0.68**	R	**0.72**	R	**0.76**	R	**0.86**	R	**0.74**	J

J - Estimated value
U - Compound not detected
R - Rejected data

J - Estimated
U - Compound
R - Rejected d

TABLE 3
SMS INSTRUMENTS SPARGE-WELL GROUNDWATER SAMPLING EVENT
VOLATILE ORGANIC COMPOUNDS (September 27 and 28, 2005)

Sample Location:	TB-2		FB-1		FB-2		EB-1		EB-2		EB-2	
CLP Number:	B38G3		B38G4		B38G5		B38G6		B38G7		B38G7DL	
Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
Units:	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Date Sampled:	9/28/05		9/27/05		9/28/05		9/27/05		9/28/05		9/28/05	
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	
Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**1**	UJ
Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Vinyl Chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Trichlorofluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,1 Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Acetone	5.0	U	5.0	U	5.0	U	5.0	U	**41***		**41**	
Carbon Disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Methyl Acetate	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Methylene Chloride	**0.52**		**0.51**		**0.49**	J	**0.50**		**0.44**	J	**0.56**	J
trans-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Methyl tert-Butyl Ether	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,1-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
cis-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
2-Butanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	10	U
Bromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Cyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Carbon Tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Benzene	**0.061**	J	0.50	U	**0.055**	J	0.50	U	0.50	U	**0.13**	J
1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Trichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Methylcyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,2-Dichloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Bromodichloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
4-Methyl-2-pentanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	10	U
Toluene	**0.088**	J	**0.064**	J	**0.065**	J	**0.066**	J	**0.077**	J	**0.11**	J
trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,1,2-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
2-Hexanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	10	U
Dibromochloromethane	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	1	U
1,2-Dibromoethane	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	1	U
Chlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Xylenes (total)	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Styrene	0.50	UJ	0.50	U	0.50	UJ	0.50	U	0.50	UJ	1	U
Bromoform	**0.7**	J	**0.73**	J	**0.69**	J	**0.67**	J	**0.76**	J	**1.2**	
Isopropylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,3-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,4-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,2-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,2-Dibromo-3-chloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,2,4-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
1,2,3-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	1	U
Unknown	**0.83**	J	**0.97**	J	**0.86**	J	**1.1**	J	**0.87**	J		
Unknown	**0.68**	J			**0.71**	J	**0.79**	J				

value
d not detected
data

TABLES 4, 5, and 6

SMS Instruments Groundwater Monitoring Well Sampling Event
(February 2006)

TABLE 4
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
VOLATILE ORGANIC COMPOUNDS
REDUCED DATA TABLES, DETECTIONS ONLY

Sample Location	NYSDEC	EW-1	EW-2	MW-1	MW-1A	MW-2	MW-3	MW-3A	MW-4	MW-5
Sample ID	Class GA	SMS-EW-1	SMS-EW-2	SMS-MW-1	SMS-MW-1A	SMS-MW-2	SMS-MW-3	SMS-MW-3A	SMS-MW-4	SMS-MW-5
Laboratory ID	Groundwater	E0136-20A	E0203-03C	E0153-03A	E0153-04A	E0136-03A	E0153-05A	E0153-06A	E0153-01A	E0136-19A
Sample Date	Criteria	2/9/06	2/23/06	2/10/06	2/10/06	2/7/06	2/10/06	2/10/06	2/9/06	2/9/06
Matrix	water	water	water	water	water	water	water	water	water	water
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q
Methyl tert-butyl ether	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	***14.0***	***13.0***	ND	ND	ND	ND	ND
Chlorobenzene	5	***32.0***	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	1.0 J	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene	NC	5.0	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	5	5.0	ND	ND	ND	ND	ND	ND	ND	ND
number of TICs		0	0	0	0	0	0	0	0	0
TIC Total		ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
ND - Not Detected
J - Estimated value
Bold/Italics - Exceeds criterion

TABLE 4
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
VOLATILE ORGANIC COMPOUNDS
REDUCED DATA TABLES, DETECTIONS ONLY

Sample Location	NYSDEC	MW-6S	MW-6D	MW-7	MW-8	MW-9	MW-11	MW-12	MW-13	MW-13D
Sample ID	Class GA	SMS-MW-6S	SMS-MW-6D	SMS-MW-7	SMS-MW-8	SMS-MW-9	SMS-MW-11	SMS-MW-12	SMS-MW-13	SMS-MW-13D
Laboratory ID	Groundwater	E0136-13A	E0136-17A	E0153-07A	E0136-01A	E0136-02A	E0136-05A	E0136-06A	E0136-07A	E0136-09A
Sample Date	Criteria	2/8/06	2/9/06	2/10/06	2/7/06	2/7/06	2/8/06	2/8/06	2/8/06	2/8/06
Matrix	water	water	water	water	water	water	water	water	water	water
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q
Methyl tert-butyl ether	10	ND	ND	ND	ND	ND	ND	ND	1.0 J	ND
1,1-Dichloroethane	5	ND	ND	1.0 J	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	1.0 J	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
number of TICs		0	0	0	0	0	0	0	0	0
TIC Total		ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
ND - Not Detected
J - Estimated value
Bold/Italics - Exceeds criterion

TABLE 4
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
VOLATILE ORGANIC COMPOUNDS
REDUCED DATA TABLES, DETECTIONS ONLY

Sample Location	NYSDEC	MW-14		MW-15		MW-16S		MW-16M		MW-16D		MW-17	
Sample ID	Class GA	SMS-MW-14		SMS-MW-15		SMS-MW-16S		SMS-MW-16M		SMS-MW-16D		SMS-MW-17	
Laboratory ID	Groundwater	E0136-08A		E0136-11A		E0136-12A		E0136-15A		E0136-16A		E0136-18A	
Sample Date	Criteria	2/8/06		2/8/06		2/9/06		2/9/06		2/9/06		2/9/06	
Matrix	water	water		water		water		water		water		water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		conc	Q	conc	Q	conc	Q	conc	Q	conc	Q	conc	Q
Methyl tert-butyl ether	10	ND		ND		ND		ND		ND		ND	
1,1-Dichloroethane	5	ND		ND		ND		ND		ND		ND	
Chlorobenzene	5	ND		ND		ND		ND		ND		ND	
Ethylbenzene	5	ND		ND		ND		ND		ND		ND	
m,p-Xylene	NC	ND		ND		ND		ND		ND		ND	
Xylene (Total)	5	ND		ND		ND		ND		ND		ND	
number of TICs		0		0		0		0		0		0	
TIC Total		ND		ND		ND		ND		ND		ND	

Notes:
ND - Not Detected
J - Estimated value
Bold/Italics - Exceeds criterion

TABLE 5
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
SEMIVOLATILE ORGANIC COMPOUNDS
REDUCED DATA TABLES, DETECTIONS ONLY

Sample Location	NYSDEC	EW-1	EW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6S
Sample ID	Class GA	SMS-EW-01	SMS-EW-2	SMS-MW-1	SMS-MW-2	SMS-MW-3	SMS-MW-4	SMS-MW-5	SMS-MW-6S
Laboratory ID	Groundwater	E0136-20B	E0203-03C	E0153-03B	E0136-03C	E0153-05B	E0153-01B	E0136-19B	E0136-13C
Sample Date	Criteria	2/9/06	2/23/06	2/10/06	2/7/06	2/10/06	2/9/06	2/9/06	2/8/06
Matrix	water	water	water	water	water	water	water	water	water
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	1.0 J
1,4-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND	2.0 J
Isophorone	50	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	50	ND	ND	ND	ND	ND	ND	ND	1.0 J
Fluoranthene	50	ND	ND	ND	ND	ND	ND	ND	1.0 J
Pyrene	50	ND	ND	ND	ND	ND	ND	ND	1.0 J
Butylbenzylphthalate	50	ND	ND	ND	ND	ND	ND	ND	5.0 J
Benzo(a)anthracene	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	0.002	ND	ND	ND	ND	ND	ND	ND	***1.0*** J
bis(2-Ethylhexyl)phthalate	50	***83.0*** B	1.0 J	21.0	2.0 J	2.0 J	ND	ND	6.0 JB
Benzo(b)fluoranthene	0.002	ND	ND	ND	ND	ND	ND	ND	***1.0*** J
Benzo(k)fluoranthene	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	5	ND	ND	ND	ND	ND	ND	ND	1.0 J
number of TICs		2	0	3	2	3	1	2	19
TIC total		322 J	ND	111 J	634 J	323 J	9 J	353 J	845 J

Notes:
ND - Not Detected
J - Estimated value
Bold/Italics - Exceeds criterion
D - Dilution
B - Possible laboratory contamination

TABLE 5
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
SEMIVOLATILE ORGANIC COMPOUNDS
REDUCED DATA TABLES, DETECTIONS ONLY

Sample Location	NYSDEC	MW-6D	MW-7	MW-7	MW-8	MW-9	MW-11	MW-12	MW-13
Sample ID	Class GA	SMS-MW-6D	SMS-MW-7	SMS-MW-7A	SMS-MW-8	SMS-MW-9	SMS-MW-11	SMS-MW-12	SMS-MW-13
Laboratory ID	Groundwater	E0136-17B	E0203-01A	E0203-02A	E0136-01C	E0136-02C	E0136-05C	E0136-06C	E0136-07C
Sample Date	Criteria	2/9/06	2/23/06	2/23/06	2/7/06	2/7/06	2/8/06	2/8/06	2/8/06
Matrix	water	water	water	water	water	water	water	water	water
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	50	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	50	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	50	2.0 J	ND	ND	ND	ND	ND	ND	ND
Pyrene	50	2.0 J	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	50	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.002	***1.0*** J	ND	ND	ND	ND	ND	ND	ND
Chrysene	0.002	***2.0*** J	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50	5.0 JB	11.0	9 J	2.0 J	2.0 J	ND	ND	ND
Benzo(b)fluoranthene	0.002	***2.0*** J	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.002	***1.0*** J	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.002	***2.0*** J	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.002	***1.0*** J	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	5	2.0 J	ND	ND	ND	ND	ND	ND	ND
number of TICs		10	6.0	4	9	8	3	4	4
TIC total		963 J	53 J	24 J	53 J	198 J	552 J	229 J	290 J

Notes:
ND - Not Detected
J - Estimated value
Bold/Italics - Exceeds criterion
D - Dilution
B - Possible laboratory contamination

TABLE 5
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
SEMIVOLATILE ORGANIC COMPOUNDS
REDUCED DATA TABLES, DETECTIONS ONLY

Sample Location	NYSDEC	MW-13D	MW-14	MW-15	MW-16S	MW-16M	MW-16D	MW-17
Sample ID	Class GA	SMS-MW-13D	SMS-MW-14	SMS-MW-15	SMS-MW-16S	SMS-MW-16M	SMS-MW-16D	SMS-MW-17
Laboratory ID	Groundwater	E0136-09C	E0136-08C	E0136-11C	E0136-12C	E0136-15B	E0136-16B	E0136-18B
Sample Date	Criteria	2/8/06	2/8/06	2/8/06	2/8/06	2/9/06	2/9/06	2/9/06
Matrix	water	water	water	water	water	water	water	water
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		conc Q	conc Q	conc Q	conc Q	conc Q	conc Q	conc Q
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND
Isophorone	50	2.0 J	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	50	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	50	ND	ND	ND	ND	ND	ND	ND
Pyrene	50	ND	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	50	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.002	ND	ND	ND	ND	ND	ND	ND
Chrysene	0.002	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50	ND	ND	ND	ND	2.0 JB	***190*** DB	ND
Benzo(b)fluoranthene	0.002	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.002	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.002	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.002	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	5	ND	ND	ND	ND	ND	ND	ND
number of TICs		3	2	1	3	4	2	2
TIC total		256 J	171 J	7 J	188 J	329 J	140 J	102 J

Notes:
ND - Not Detected
J - Estimated value
Bold/Italics - Exceeds criterion
D - Dilution
B - Possible laboratory contamination

TABLE 6
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
TAL METALS
REDUCED DATA TABLE, DETECTIONS ONLY

Sample Location	NYSDEC	EW-1		EW-2		MW-1		MW-1A		MW-2		MW-3	
Sample ID	Class GA	SMS-EW-1		SMS-EW-2		SMS-MW-1		SMS-MW-1A		SMS-MW-2		SMS-MW-3	
Laboratory ID	Groundwater	E0136-20B		E0203-03		E0153-03C		E0153-04A		E0136-03B		E0153-05C	
Sample Date	Criteria	2/9/06		2/23/06		2/10/06		2/10/06		2/7/06		2/10/06	
Matrix	water	water		water		water		water		water		water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		conc	Q	conc	Q	conc	Q	conc	Q	conc	Q	conc	Q
Aluminum	NC	28.8	BE	77	B	236	E	133	BE	1,930	E	886	E
Antimony	3	ND		***4***	B	***3.3***	B	2.5	B	2.2	B	2.3	B
Arsenic	25	ND		2	B	3.5	B	ND		2.6	B	2.2	B
Barium	1,000	34.1	B	88	B	48.7	B	47.2	B	28.2	B	72.7	B
Beryllium	3	ND		0	B	ND		ND		ND		ND	
Cadmium	10	1.0	B	ND		0.7	B	0.6	B	4.1	B	1.6	B
Calcium	NC	13,300	E	22,400		24,000		24,000		13,100	E	32,500	
Chromium	50	3.4	B	8	B	9.6	B	3.5	B	12.1	B	15.4	B
Cobalt	NC	4.4	BE	1	B	2.5	B	2.2	B	2.4	BE	3.6	B
Copper	200	8.9	B	5	B	16.8	B	11.5	B	43.0		29.8	B
Iron	300	***3,650***	NE	***2,670***		***30,000***	E	***14,600***	E	***28,100***	NE	***26,700***	E
Lead	25	0.9	B	4	B	3.2	B	2.3	B	***135***		6.8	B
Magnesium	35,000	2,000	E	3,780		4,610	E	4,530	E	3,380	E	4,790	E
Manganese	300	***684***	E	200		226	E	171	E	221	E	***399***	E
Mercury	2	ND		ND		ND		ND		ND		ND	
Nickel	NC	4.3	B	9	B	13.9	B	8.1	B	13.6	B	18.5	B
Potassium	NC	2,810		9,610		7,940		6,620		4,210		10,300	
Selenium	10	3.3	B	2	B	ND		1.9	B	5.1	B	ND	
Silver	50	ND		2	B	ND		ND		ND		1.6	B
Sodium	20,000	17,300	E	18,400		***28,400***		***23,400***		8,240	E	16,900	
Thallium	4	***4.3***	B	3	B	ND		ND		1.2	B	ND	
Vanadium	NC	0.9	B	ND		1.3	B	0.7	B	11.1	B	3.5	B
Zinc	300	52.7	E	126		55.1		47.9	B	***4,620***	E	66.1	

Notes:
B - Estimated value
Bold/Italics - Exceeds criterion
E - result is estimated due to interference or exceedance of the calibrated range
ND - Not Detected

TABLE 6
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
TAL METALS
REDUCED DATA TABLE, DETECTIONS ONLY

Sample Location	NYSDEC	MW-3A		MW-4		MW-5		MW-6S		MW-6D		MW-7	
Sample ID	Class GA	SMS-MW-3A		SMS-MW-4		SMS-MW-5		SMS-MW-6S		SMS-MW-6D		SMS-MW-7	
Laboratory ID	Groundwater	E0153-06C		E0153-01C		E0136-19C		E0136-13B		E0136-17C		E0153-07C	
Sample Date	Criteria	2/10/06		2/9/06		2/9/06		2/8/06		2/9/06		2/10/06	
Matrix	water	water		water		water		water		water		water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		conc	Q	conc	Q	conc	Q	conc	Q	conc	Q	conc	Q
Aluminum	NC	1,070	E	139	BE	284	E	2,740	E	2,340	E	161	BE
Antimony	3	***4.2***	B	***4.7***	B	1.7	B	2.0	B	2.3	B	***3.5***	B
Arsenic	25	2.0	B	ND		6.9	B	8.1	B	5.1	B	4.0	B
Barium	1,000	72.8	B	31.8	B	22.3	B	44.2	B	52.1	B	30.2	B
Beryllium	3	ND		ND		ND		0.2	B	ND		0.2	B
Cadmium	10	3.1	B	0.5	B	5.8		3.3	B	4.1	B	2.2	B
Calcium	NC	33,400		16,300		10,500	E	54,000	E	24,000	E	20,400	
Chromium	50	22.5		2.4	B	8.8	B	15.0	B	16.7	B	10.1	B
Cobalt	NC	4.7	B	2.1	B	2.3	BE	21.2	BE	28.2	BE	2.8	B
Copper	200	43.8		ND		30.9		70.4		74.5		19.6	B
Iron	300	***33,300***	E	***47,800***	E	***44,700***	NE	***17,700***	NE	***72,300***	NE	***72,000***	E
Lead	25	10.3		1.5	B	4.2	B	20.5		21.7		1.4	B
Magnesium	35,000	5,020	E	3,020	E	1,560	E	13,700	E	5,140	E	3,910	E
Manganese	300	***540***	E	***544***	E	291	E	***869***	E	***593***	E	***445***	E
Mercury	2	ND		ND		ND		ND		ND		ND	
Nickel	NC	26.4	B	6.6	B	13.4	B	21.1	B	25.8	B	15.4	B
Potassium	NC	10,300		2,370		2,240		4,710		3,180		3,230	
Selenium	10	ND		3.5	B	6.3	B	5.9	B	***12.5***	B	3.9	B
Silver	50	ND		ND		ND		ND		ND		ND	
Sodium	20,000	17,100		6,310		3,670	E	16,800	E	13,100	E	10,200	
Thallium	4	ND		ND		ND		***6.4***	B	ND		ND	
Vanadium	NC	4.9	B	2.1	B	4.3	B	13.5	B	9.8	B	3.6	B
Zinc	300	97.6		35.2	B	44.3	BE	***3,280***	E	225	E	35.9	B

Notes:
B - Estimated value
Bold/Italics - Exceeds criterion
E - result is estimated due to interference or exceedance of the calibrated range
ND - Not Detected

TABLE 6
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
TAL METALS
REDUCED DATA TABLE, DETECTIONS ONLY

Sample Location	NYSDEC	MW-8		MW-9		MW-11		MW-12		MW-13		MW-13D	
Sample ID	Class GA	SMS-MW-8		SMS-MW-9		SMS-MW-11		SMS-MW-12		SMS-MW-13		SMS-MW-13D	
Laboratory ID	Groundwater	E0136-01B		E0136-02C		E0136-05C		E0136-06B		E0136-07B		E0136-09C	
Sample Date	Criteria	2/7/06		2/7/06		2/8/06		2/8/06		2/8/06		2/8/06	
Matrix	water	water		water		water		water		water		water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		conc	Q	conc	Q	conc	Q	conc	Q	conc	Q	conc	Q
Aluminum	NC	194	BE	50.6	BE	44.9	BE	48.8	BE	82.6	BE	53.0	BE
Antimony	3	2.8	B	2.3	B	ND		ND		ND		ND	
Arsenic	25	5.6	B	3.0	B	ND		ND		3.2	B	ND	
Barium	1,000	43.4	B	35.1	B	19.8	B	9.2	B	103	B	67.2	B
Beryllium	3	ND		ND		ND		ND		ND		ND	
Cadmium	10	1.2	B	0.7	B	0.2	B	0.3	B	1.4	B	***72.8***	
Calcium	NC	24,500	E	9,130	E	13,200	E	8,410	E	30,200	E	12,900	E
Chromium	50	31.7		38.5		1.5	B	2.1	B	3.1	B	7.8	B
Cobalt	NC	3.4	BE	2.0	BE	1.4	BE	1.4	BE	5.6	BE	1.1	BE
Copper	200	72.7		34.7		9.9	B	10.2	B	11.5	B	32.9	
Iron	300	***107,000***	NE	***78,300***	NE	***12,000***	NE	***6,600***	NE	***52,600***	NE	***746***	NE
Lead	25	7.0	B	3.9	B	ND		1.0	B	1.0	B	0.8	B
Magnesium	35,000	3,870	E	1,530	E	1,800	E	1,210	E	3,260	E	7,790	E
Manganese	300	***456***	E	***339***	E	177	E	249	E	***867***	E	12	BE
Mercury	2	ND		ND		ND		ND		ND		ND	
Nickel	NC	40.3	B	35.3	B	4.2	B	5.0	B	9.3	B	15.1	B
Potassium	NC	6,370		5,400		3,730		7,140		11,200		2,430	
Selenium	10	9.9	B	7.1	B	1.6	B	1.3	B	2.2	B	3.3	B
Silver	50	ND		ND		ND		ND		ND		ND	
Sodium	20,000	***23,400***	E	11,400	E	14,800	E	10,100	E	19,900	E	***27,500***	E
Thallium	4	ND		ND		1.5	B	2.0	B	***4.4***	B	ND	
Vanadium	NC	2.5	B	1.7	B	ND		ND		0.8	B	ND	
Zinc	300	95.5	E	33.9	BE	56.4	E	44.5	BE	88.0	E	72.4	E

Notes:
B - Estimated value
Bold/Italics - Exceeds criterion
E - result is estimated due to interference or exceedance of the calibrated range
ND - Not Detected

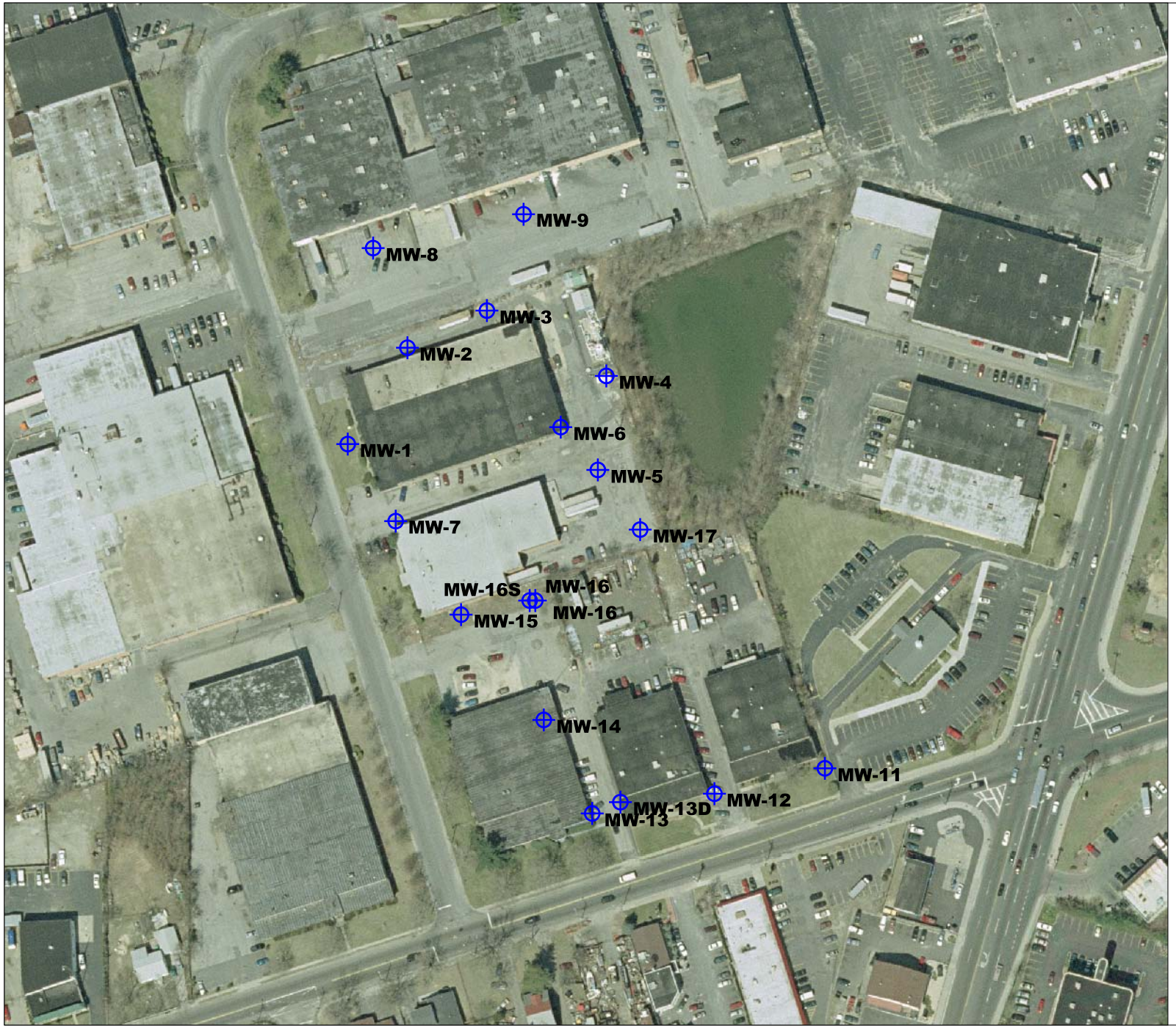
TABLE 6
SMS INSTRUMENTS SITE
FEBRUARY 2006 SEMI-ANNUAL GROUNDWATER SAMPLING
TAL METALS
REDUCED DATA TABLE, DETECTIONS ONLY

Sample Location	NYSDEC	MW-14		MW-15		MW-16S		MW-16M		MW-16D		MW-17	
Sample ID	Class GA	SMS-MW-14		SMS-MW-15		SMS-MW-16S		SMS-MW-16M		SMS-MW-16D		SMS-MW-17	
Laboratory ID	Groundwater	E0136-08B		E0136-11B		E0136-12B		E0136-15C		E0136-16C		E0136-18C	
Sample Date	Criteria	2/8/06		2/8/06		2/8/06		2/9/06		2/9/06		2/9/06	
Matrix	water	water		water		water		water		water		water	
Units	µg/L	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		conc	Q	conc	Q	conc	Q	conc	Q	conc	Q	conc	Q
Aluminum	NC	334.0	E	43.2	BE	135	BE	203	E	29.0	BE	72.0	BE
Antimony	3	ND		ND		ND		1.3	B	ND		2.6	B
Arsenic	25	ND		ND		ND		ND		ND		ND	
Barium	1,000	15.9	B	12.4	B	46.1	B	97.9	B	51.9	B	22.8	B
Beryllium	3	ND		ND		ND		ND		ND		ND	
Cadmium	10	0.9	B	4.1	B	***17.4***		4.0	B	***23.4***		3.1	B
Calcium	NC	12,100	E	13,800	E	27,900	E	23,900	E	18,200	E	13,900	E
Chromium	50	1.7	B	9.8	B	31.3		25.4		34.6		14.8	B
Cobalt	NC	1.0	BE	1.1	BE	2.3	BE	2.5	BE	1.3	BE	1.6	BE
Copper	200	12.8	B	9.5	B	17.6	B	26.6	B	17.0	B	12.7	B
Iron	300	***27,100***	NE	276	NE	***480***	NE	***458***	NE	262	NE	***645***	NE
Lead	25	2.6	B	2.3	B	2.0	B	1.5	B	2.5	B	1.3	B
Magnesium	35,000	1,610	E	2,260	E	4,920	E	2,650	E	3,250	E	1,930	E
Manganese	300	287	E	28	BE	251	E	34.0	BE	60.7	E	77.9	E
Mercury	2	ND		ND		ND		ND		ND		0.1	B
Nickel	NC	6.1	B	6.9	B	28.6	B	12.4	B	10.6	B	15.6	B
Potassium	NC	2,460		3,330		5,460		12,300		5,280		2,760	
Selenium	10	ND		ND		ND		ND		ND		ND	
Silver	50	ND		ND		ND		ND		ND		ND	
Sodium	20,000	2,230	E	9,790	E	12,100	E	17,500	E	15,600	E	5,940	E
Thallium	4	ND		ND		2.2	B	2.1	B	ND		ND	
Vanadium	NC	2.2	B	ND		0.5	B	0.6	B	ND		2.1	B
Zinc	300	29.2	BE	19.8	BE	66.8	E	106	E	61.4	E	43.4	BE

Notes:
B - Estimated value
Bold/Italics - Exceeds criterion
E - result is estimated due to interference or exceedance of the calibrated range
ND - Not Detected

FIGURE I

Monitoring Well Location Map (obtained from REAC/ERT)



N
W E
S

PRELIMINARY GIS LOCATIONS

NAME	NYTM_X	NYTM_Y
MW-1	642128	4513646
MW-2	642149	451368Ø
MW-3	642177	4513693
MW-4	642219	451367Ø
MW-5	642216	4513637
MW-6	6422Ø3	4513652
MW-7	642145	4513619
MW-8	642137	4513715
MW-9	64219Ø	4513727
MW-11	642296	4513532
MW-12	642257	4513523
MW-13	642214	4513516
MW-13D	642224	451352Ø
MW-14	642197	4513549
MW-15	642168	4513586
MW-16 _	642193	4513592
MW-16	642194	4513591
MW-16S	642192	4513591
MW-17	642231	4513616

LOCATIONS OF MONITORING WELLS

SMS Instruments Site ID No. 152026

100 0 100 200 Feet

sms_map.pdf WB Welling 12/2/2005

100'

● Monitoring well location

Note:
All units in micrograms per liter (ug/L)

Summary of Volatile Organic Compounds in Groundwater - February 2006

N

EarthTech
A tyco International Ltd. Company

Multi Site G	PROJECT NO. 95900.02	DWG NAME Figure 2	REV 1
SMS Instruments	SCALE As Shown		SHEET

100'

● Monitoring well location

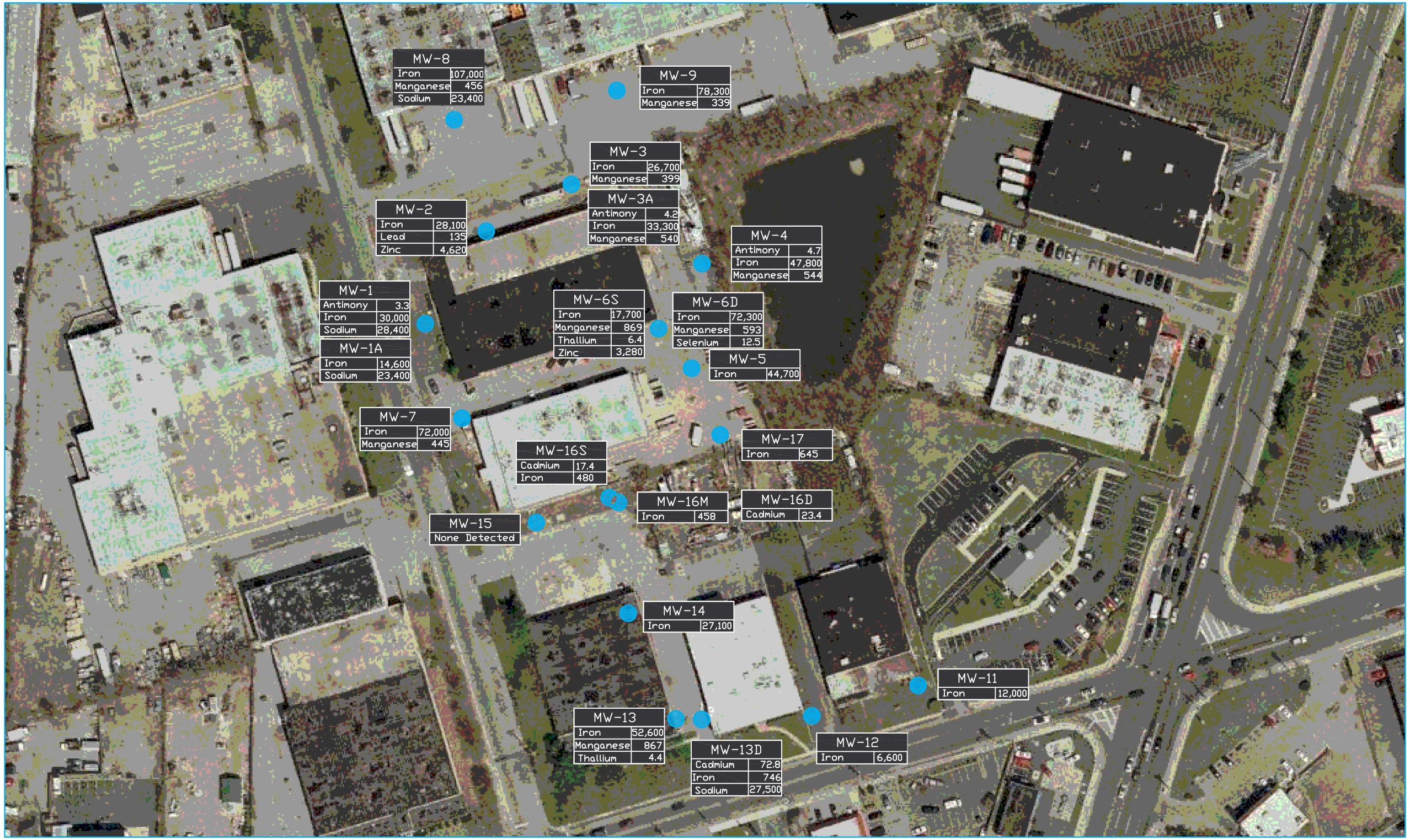
Note:
All units in micrograms per liter (ug/L)

Summary of Semi-volatile Organic Compounds in Groundwater - February 2006

N

EarthTech
A tyco International Ltd. Company

Multi Site G	PROJECT NO. 95900.02	DWG NAME Figure 3	REV 1
SMS Instruments	SCALE As Shown	SHEET	



100'

● Monitoring well location

Note:
All units in micrograms per liter (ug/L)

Summary of TAL Metals in Groundwater - February 2006

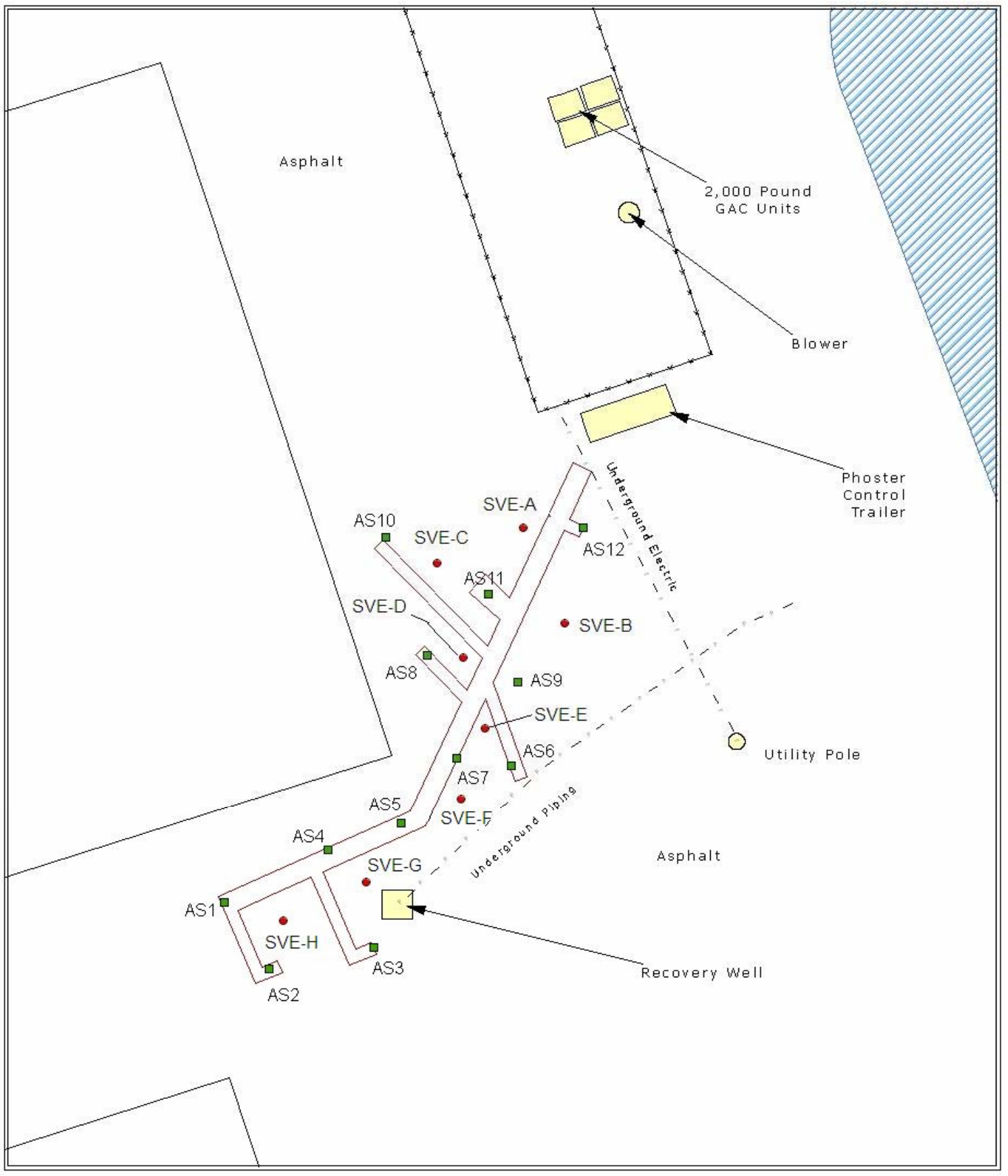
N

EarthTech
A tyco International Ltd. Company

Multi Site G	PROJECT NO. 95900.02	DWG NAME Figure 4	REV 1
SMS Instruments	SCALE As Shown	SHEET	

FIGURE 5

Soil Vapor Extraction/Air Sparge Well Location Map
(obtained from ERT/REAC)



Map created using New York State DEP Digital
Orthorectified Quadrangles (DOQ) and site-survey GPS data.
GPS collected in Lat., Lon., Decimal Degrees, WGS84

Map Creation Date: 04August2005

Coordinate system: UTM
Zone: 18N
Units: Meters
Datum: NAD83

5 0 5 10 15
Meters

Legend

- Air Sparge Well
- Soil Vapor Extraction Well
- si_047_trench
- Fenceline
- Underground Electric
- Underground Piping
- Building Footprint
- Pond

N
W
E
S
Magnetic North

Data: g:\arcviewprojects\reac4\0-047
MXD file: g:\arcinfoprojects\reac4\EAC00047_SMS\047_airspargesvewells_f4rev003
Revision Number: 003

Location of Air Sparge and
Soil Vapor Extraction Wells
SMS Instruments
Deer Park, Long Island, NY

ATTACHMENT A

NYSDEC LETTER APROVING TEMPORARY SHUT-DOWN OF THE GROUNDWATER PUMP AND TREAT (GW P&T) SYSTEM (dated October 21, 2005)

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau D, 12th Floor
625 Broadway, Albany, New York 12233-7013
Phone: (518) 402-9818 • **FAX:** (518) 402-9819
Website: www.dec.state.ny.us

Denise M. Sheehan
Acting
Commissioner

October 21, 2005

Mr. Paul Kareth
Earth Tech
300 Broadacres Drive
Bloomfield, NJ 07003

Re: Work Assignment #D003821-41
SMS Instruments #152026
Groundwater pump and treatment system shutdown

Dear Mr. Kareth:

Earth Tech's letter of October 6, 2005 recommending the shut-down of the SMS Instruments groundwater pump and treatment plant has been reviewed, and we agree there is no benefit to continuing the operation of this air stripper. Considering that influent volatile organic compound contaminate concentrations are currently below instrument detection levels, clearly no contamination is entering the air stripper for treatment. Upon receipt of this letter, Earth Tech may temporarily shutdown the groundwater treatment plant. Groundwater sampling will, however, be continued to determine if any significant rebound occurs. The treatment plant piping should be drained and protected from freeze damage just in case a significant rebound is observed requiring the treatment plant be restarted.

If no rebound is observed after a reasonable period of time, it is our intent that the treatment system will be permanently shutdown and dismantled. This evaluation will be made in 2006 along with the evaluation of the performance and effectiveness of the ongoing bio-sparging system. Task 2.1.5 is included in this work assignment to dismantle the treatment plant and will be funded either by rebudgeting or by amendment after that decision is made.

We would like to schedule a meeting in December to discuss the performance of the bio-sparging system of this remedy. Please contact Carl Hoffman P.E., of my staff, in October to schedule this meeting. Also, if you have any questions please feel free to contact Mr. Hoffman P.E. at (518) 402-9812.

Sincerely,

Gerald Rider

Gerald Rider, Jr., P.E.
Chief
Remedial Section B
Remedial Bureau D
Division of Environmental Remediation

cc: C. Hoffman

ATTACHMENT B

EARTH TECH MEMO RECOMMENDING THE PERMANENT SHUTDOWN OF THE SMS GROUNDWATER PUMP & TREAT SYSTEM OPERATIONS

MEMO

To: Tom Williams

From: Urbie Nash, P.E.

Date: March 22, 2006

Subject: SMS Groundwater Treatment System Operation Recommendation

I have reviewed the results of last groundwater sampling event for SMS completed on February 9th and 10th 2006. The results again indicate that contaminate concentrations in the groundwater continue to remain below instrumentation detection limits for the USEPA Method 624 list of organic compounds. Groundwater samples were collected from on-site monitoring wells by CDM in November, 2004 and again in June, 2005. These results also indicated the concentrations of contaminants were below permit limits for all contaminants of concern. These three sampling events conducted over a fifteen month period indicated the groundwater no longer is contaminated and further groundwater treatment is not required.

The groundwater treatment system has been off since October 5, 2005. The results of the February 2006 sampling indicated no rebound in contamination occurred which is another good indication that groundwater treatment is no longer necessary.

Still of concern are chemicals that are added to the groundwater in the treatment plant that ultimately find their way to surface waters. When in operation the groundwater treatment system adds polyphosphates to chelate iron and other divalent cations in the influent to control air stripper iron fouling and scaling. The phosphorus in this additive is a basic nutrient that is often regulated and sometimes strictly limited in discharges to surface waters. Phosphorus is usually a limiting nutrient in natural systems. Discharges that contain phosphorus can stimulate excessive aquatic plant growth and algal blooms that can lead to declines in receiving water quality. As a result, unnecessary discharge of phosphate containing wastewater should be avoided whenever possible.

The effluent from the groundwater treatment system at SMS discharges into a small pond or lagoon. Observations by the groundwater treatment system operation and maintenance staff indicate excessive algal growth in this water body. The algal growth is possibly being stimulated by phosphates in the discharge.

The groundwater sampling results indicate that the water quality below the site has remained well within permissible limits for more than 4 months. In addition, the groundwater system treatment uses polyphosphates that ultimately are discharged to surface waters where they can stimulate unwanted algal blooms and aquatic plant growth. For these two reasons we recommend that groundwater treatment system be permanently turned off. Groundwater sampling should continue for another 4 months with the next event to be performed in July. If the sampling results indicate no rebound of contamination, the treatment system should be dismantled.

ATTACHMENT C

PHOSTER™ SYSTEM MONITORING LOGS

SMS INSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date: 5 / 27 / 05

	Flame Inoization Detector (FID) & MultiRAE Plus PID				
	FID (to include Methane)	**CO (MultiRAE)**	**Oxygen % (MultiRAE)**	**PID (MultiRAE)**	**H2S (MultiRAE)**
AS-1	50.5	N/A	N/A	4.9	N/A
AS-2	N/A	N/A	N/A	N/A	N/A
AS-3	N/A	N/A	N/A	N/A	N/A
AS-4	N/A	N/A	N/A	N/A	N/A
AS-5	N/A	N/A	N/A	N/A	N/A
AS-6	44.2	N/A	N/A	3.7	N/A
AS-7	47.5	N/A	N/A	3.6	N/A
AS-8	N/A	N/A	N/A	N/A	N/A
AS-9	N/A	N/A	N/A	N/A	N/A
AS-10	N/A	N/A	N/A	N/A	N/A
AS-11	N/A	N/A	N/A	N/A	N/A
AS-12	39.5	N/A	N/A	4.4	N/A
SVE-A	N/A	N/A	N/A	N/A	N/A
SVE-B	N/A	N/A	N/A	N/A	N/A
SVE-C	N/A	N/A	N/A	N/A	N/A
SVE-D	N/A	N/A	N/A	N/A	N/A
SVE-E	N/A	N/A	N/A	N/A	N/A
SVE-F	N/A	N/A	N/A	N/A	N/A
SVE-G	N/A	N/A	N/A	N/A	N/A
SVE-H	N/A	N/A	N/A	N/A	N/A

Methane, CO, PID, H2S Concentrations in ppm
CO: Carbon Monoxide
ppm: Parts per million
N/A; Not available, data not collected

Equipment calibrated by: John Huisman

Readings performed by: Randy Hoffmaster

Comments:

SMS INSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date: 5 / 28 / 05

	Flame Inoization Detector (FID) & MultiRAE Plus PID				
	VOC Via FID (to include Methane)	**CO (MultiRAE)**	**Oxygen % (MultiRAE)**	**VOC Via PID (MultiRAE)**	**H2S (MultiRAE)**
AS-1	N/A	N/A	N/A	N/A	N/A
AS-2	N/A	N/A	N/A	N/A	N/A
AS-3	N/A	N/A	N/A	N/A	N/A
AS-4	N/A	N/A	N/A	N/A	N/A
AS-5	N/A	N/A	N/A	N/A	N/A
AS-6	N/A	N/A	N/A	N/A	N/A
AS-7	N/A	N/A	N/A	N/A	N/A
AS-8	N/A	N/A	N/A	N/A	N/A
AS-9	N/A	N/A	N/A	N/A	N/A
AS-10	N/A	N/A	N/A	N/A	N/A
AS-11	N/A	N/A	N/A	N/A	N/A
AS-12	N/A	N/A	N/A	N/A	N/A
SVE-A	5,515	N/A	N/A	112.5	N/A
SVE-B	5,480	N/A	N/A	N/A	N/A
SVE-C	3,050	N/A	N/A	114.3	N/A
SVE-D	5,204	N/A	N/A	N/A	N/A
SVE-E	3,080	N/A	N/A	121.2	N/A
SVE-F	4,150	N/A	N/A	N/A	N/A
SVE-G	5,090	N/A	N/A	N/A	N/A
SVE-H	1,650	N/A	N/A	113.4	N/A

Methane, CO, PID, H2S Concentrations in ppm
CO: Carbon Monoxide
ppm: Parts per million
N/A; Not available, data not collected

Equipment calibrated by: John Huisman

Readings performed by: Randy Hoffmaster

Comments:

SMS INSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date: 6 / 9 / 05

	Flame Ionization Detector (FID) & MultiRAE Plus PID				
	VOC Via FID (to include Methane)	**CO (MultiRAE)**	**Oxygen % (MultiRAE)**	**VOC Via PID (MultiRAE)**	**H2S (MultiRAE)**
AS-1	N/A	N/A	N/A	N/A	N/A
AS-2	N/A	N/A	N/A	N/A	N/A
AS-3	N/A	N/A	N/A	N/A	N/A
AS-4	N/A	N/A	N/A	N/A	N/A
AS-5	N/A	N/A	N/A	N/A	N/A
AS-6	N/A	N/A	N/A	N/A	N/A
AS-7	N/A	N/A	N/A	N/A	N/A
AS-8	N/A	N/A	N/A	N/A	N/A
AS-9	N/A	N/A	N/A	N/A	N/A
AS-10	N/A	N/A	N/A	N/A	N/A
AS-11	N/A	N/A	N/A	N/A	N/A
AS-12	N/A	N/A	N/A	N/A	N/A
SVE-A	760.2	1	17.80%	15.9	0
SVE-B	1,080.1	2	20.90%	11.9	0
SVE-C	131.1	1	20.90%	15.8	0
SVE-D	136.3	1	20.90%	6.1	0
SVE-E	124.4	0	20.90%	8.4	0
SVE-F	91.9	0	21.30%	8.6	0
SVE-G	599.3	0	20.90%	6.3	0
SVE-H	84.0	1	20.90%	6.0	0

Methane, CO, PID, H2S Concentrations in ppm
CO: Carbon Monoxide
ppm: Parts per million
N/A; Not available, data not collected

Equipment calibrated by: James Kearns

Readings performed by: Randy Hoffmaster

Comments:
Replaced Brass valve on Methane tank (obtained from General Welding). Replaced Methane and Nitrous tanks. Check valve on Methane tank needs replacement (methane bottle not activated).
Air compressor #1 needs repair. Issue with air dryer, no condensate in tray and condensate was observed in sparge line flow meters.
Valves were installed on all well heads. Monitoring wells were fitted with valves for air monitoring (with the exception of G and H, could not close manhole lids, caps replaced on these wells)

Activities to be performed:
Air stream dryer manual was reviewed and manufacturer will be contacted.
Check valve has been ordered and will be installed on June 13, 2005. Methane will be re-activated at that time.
Evaluate compressor integrity.
Additional monitoring to review residual methane concentrations.
Continue to attempt to obtain CO2 meter (awaiting funds). Forward monitoring results to Greg Carter and discuss optimization.

SMS INSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date: 6/23/05

	Flame Ionization Detector (FID) & MultiRAE Plus PID				
	Methane (FID)	**CO (MulitRAE)**	**Oxygen % (MultiRAE)**	**VOC (MultiRAE) PID)**	**H2S (MultiRAE)**
AS-1	N/A	N/A	N/A	N/A	N/A
AS-2	N/A	N/A	N/A	N/A	N/A
AS-3	N/A	N/A	N/A	N/A	N/A
AS-4	N/A	N/A	N/A	N/A	N/A
AS-5	N/A	N/A	N/A	N/A	N/A
AS-6	N/A	N/A	N/A	N/A	N/A
AS-7	N/A	N/A	N/A	N/A	N/A
AS-8	N/A	N/A	N/A	N/A	N/A
AS-9	N/A	N/A	N/A	N/A	N/A
AS-10	N/A	N/A	N/A	N/A	N/A
AS-11	N/A	N/A	N/A	N/A	N/A
AS-12	N/A	N/A	N/A	N/A	N/A
SVE-A	758.0	2.0	20.9	11.5	0
SVE-B	1060	1.0	29	1.4	0
SVE-C	30.0	1.0	17.2	1.4	0
SVE-D	15.0	1.0	20.9	0	0
SVE-E	20.0	2.0	20.9	0.5	0
SVE-F	429.0	1.0	20.9	0	0
SVE-G	2075	1.0	20.9	0	0
SVE-H	246.0	2.0	20.9	0	0

Methane, CO, PID, H2S Concentrations in ppm
CO: Carbon Monoxide
ppm: parts per billion
N/A: not applicable, data not avaliable.

Equipment calibrated by: James Kearns
Air samples collected by: Randy Hoffmaster
Readings performed by: Randy Hoffmaster

Comments: Methane wasn't running for 18 days; will run 6-24-05, 6 a.m.--10 a.m. on Day 19

SMS INTSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date: 7/28/2005

	Flame Ionization Detector (FID) & MultiRAE Plus PID				
	Methane (FID)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)
AS-1					
AS-2					
AS-3					
AS-4					
AS-5					
AS-6					
AS-7					
AS-8					
AS-9					
AS-10					
AS-11					
AS-12					
SVE-A	465.6	1	17.7	253.0	0
SVE-B	1856	0	17.0	1084	0
SVE-C	172.5	2	14.0	91.3	0
SVE-D	1042	0	15.9	516	0
SVE-E	641.1	0	16.3	470	0
SVE-F	277.7	0	17.3	155	0
SVE-G	922.2	0	17.4	616	0
SVE-G	400.6	0	18.0	165	0

Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm:parts per million

Equipment Calibrated by: James Kearns
Air samples collected by: Robert Derrick and Frank Mahalski
Readings performed by: Robert Derrick and Frank Mahalski

GROUNDWATER TREATMENT SYSTEM AQUEOUS/VAPOR MONITORING DATA
SMS INSTRUMENTS SITE
EARTH TECH PROJECT NO. 87616

Date: 8/3/05

WATER DATA

	pH	COND.	TURB.	DO	TEMP.	SALINITY	TDS	ORP
Influent	6.23	0.275	220	12.80	15.1	0.0%	0.18	54
Effluent	5.11	0.366	120	10.50	19.3	0.0%	0.23	190

AIR DATA

	CO	VOC	Oxygen	H2S	LEL
Post Air Stripper-Front (Prior to GAC)	1	0	20.9	0	0
Post Air Stripper-Back (Prior to GAC)	2	0	20.9	0	0

pH- Measured in pH units.
COND. - Conductivity measured in milliSiemens per centimeter (mS/cm).
TURB. - Turbidity measure in nephelometric turbidity units (NTU).
DO - Dissolved oxygen measured in milligrams per liter (mg/L).
TEMP. - Temperature measured in degrees Celsius.
SALINITY - Salinity in percentage.
TDS- Total dissolved solids measured in gallons per meter (g/m).
ORP- Oxidation reduction potential measured in mV.

GAC- Vapor phase granular activated carbon treatment units
CO- Carbon monoxide measured in parts per million (ppm).
VOC- Volatile organic compounds measured in parts per million (ppm).
Oxygen measured in percentage.
H2S measured in parts per million (ppm).
LEL- Lower exposure limit measured in percent

Comments: 1) Horiba Calibration- at a pH of 3.90, a conductivity of 4.48, a turbidity of 0, a dissolved oxygen content of 8.8, a temperature of 22.8, a salinity of 0.2, a TDS of 2.9 and an ORP of 222.
2) Totalizer reading at 8:45 a.m. was 971,258 gallons
3)System was shut down at 10:15 a.m. due to low remaining volume of chelating agent.

SMS INTSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date: 8/10/2005

	CES Landtec GEM-500 & MultiRAE Plus PID					
	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2%(GEM)
AS-1						
AS-2						
AS-3						
AS-4*						
AS-5						
AS-6						
AS-7						
AS-8						
AS-9						
AS-10						
AS-11						
AS-12						
SVE-A	0.8	0	17.4	197.0	0	2.6
SVE-B	16.0	1	16.1	1042	0	3.3
SVE-C	0	0	13.6	10.1	0	5.4
SVE-D	0.5	1	16.1	130	0	0.37
SVE-E	0.2	0	17.0	35.9	0	2.9
SVE-F	0.1	1	16.4	48.9	0	3.1
SVE-G	0.9	1	16.1	222	0	3.2
SVE-H	0.3	2	18.5	99.7	0	1.4

CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm:parts per million
CO2: Carbon Dioxide

Equipment Calibrated by: James Kearns
Air samples collected by: Robert Derrick and Frank Mahalski
Readings performed by: Robert Derrick and Frank Mahalski

Comments: *AS-4 was covered by steel I-Beams so no measurements could be taken.
All FID readings were collected after the PID readings.
System was shut down at 10:15 AM due to low chelating agent.
SVE measurements taken on 8-4-2004
The Phoster system was activated on August 4 at 18:00 hours after the methane, nitrogen and phosphorous had been replaced.

SMS INTSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date:8/15/05

	CES Landtec GEM-500 & MultiRAE Plus PID						Water Level Meter		
	Methane % (GEM)	CO % (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2 % (GEM)	Depth to Water	Well Depth	Column of Water
AS-1							21.79	28.57	6.78
AS-2							18.34	33.46	15.12
AS-3							19.65	33.25	13.60
AS-4*									
AS-5							18.64	33.42	14.78
AS-6							18.82	33.00	14.18
AS-7							18.80	33.13	14.33
AS-8							18.75	33.14	14.39
AS-9							18.79	34.71	15.92
AS-10							18.15	33.51	15.36
AS-11							18.44	32.40	13.96
AS-12							18.30	33.30	15.00
SVE-A	0.7	1	17.0	147	0	2.5			
SVE-B	18.8	2	16.4	1134	0	3.1			
SVE-C	0	0	15.7	6.8	0	3.8			
SVE-D	1.5	0	15.5	261	0	4			
SVE-E	0.4	0	16.5	116	0	3.1			
SVE-F	0.4	0	16.8	101	0	3.0			
SVE-G		0	17.0	116	0				
SVE-H	0.7	0	17.6	183	0	2.1			

Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm:parts per million
Water levels measured in feet.
CO2: Carbon Dioxide
GEM: Landtec GEM-500 Landfill Gas Monitor

Equipment Calibrated by: James Kearns
Air samples collected by: Robert Derrick and Frank Mahalski
Readings performed by: Robert Derrick and Frank Mahalski

SMS INTSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date:8-22-05

	CES Landtec GEM-500 & MultiRAE Plus PID						Water Level Meter		
	Methane % (GEM)	CO % (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2 % (GEM)	Depth to Water	Well Depth	Column of Water
AS-1									
AS-2									
AS-3									
AS-4*									
AS-5									
AS-6									
AS-7									
AS-8									
AS-9									
AS-10									
AS-11									
AS-12									
SVE-A	0.5	0	18.0	61	0	1.6			
SVE-B	7.6	0	16.2	670	0	2.9			
SVE-C	0	0	18.4	9.8	0	1.5			
SVE-D	0	0	17.0	2.9	0	2.4			
SVE-E	0	0	17.9	1.2	0	1.7			
SVE-F	0.1	0	18.1	39.1	0	1.8			
SVE-G	2.2	0	16.7	329	0	2.4			
SVE-H	0	0	17.5	39.1	0	1.7			

Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm:parts per million
Water levels measured in feet.
CO2: Carbon Dioxide
GEM: Landtec GEM-500 Landfill Gas Monitor

Equipment Calibrated by: James Kearns
Air samples collected by: Robert Derrick and Trip
Readings performed by: Robert Derrick and Trip

SMS INTSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date:9/7/05

	CES Landtec GEM-500 & MultiRAE Plus PID						Water Level Meter		
	Methane % (GEM)	CO % (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2 % (GEM)	Depth to Water	Well Depth	Column of Water
AS-1									
AS-2									
AS-3									
AS-4*									
AS-5									
AS-6									
AS-7									
AS-8									
AS-9									
AS-10									
AS-11									
AS-12									
SVE-A	0	0	19.3	3.0	0	1			
SVE-B	0.3	0	17.3	101	0	2.2			
SVE-C	0	0	16.8	0.2	0	2.5			
SVE-D	0	0	17.9	0.2	0	1.7			
SVE-E	0	0	18.4	4.5	0	1.4			
SVE-F	0	0	18.1	2.6	0	1.4			
SVE-G	0	1	17.2	5.4	0	2			
SVE-H	0	1	17.6	4.8	0	1.9			

Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm:parts per million
Water levels measured in feet.
CO2: Carbon Dioxide
GEM: Landtec GEM-500 Landfill Gas Monitor

Equipment Calibrated by: James Kearns
Air samples collected by: Robert Derrick and Frank Mahalski
Readings performed by: Robert Derrick and Frank Mahalski

SMS INTSTRUMENTS SITE

REMEDIATION INJECTION SYSTEM MONITORING LOG
POST-STARTUP

Date:9/12/05

	CES Landtec GEM-500 & MultiRAE Plus PID						Water Level Meter		
	Methane % (GEM)	CO % (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2 % (GEM)	Depth to Water	Well Depth	Column of Water
AS-1									
AS-2									
AS-3									
AS-4*									
AS-5									
AS-6									
AS-7									
AS-8									
AS-9									
AS-10									
AS-11									
AS-12									
SVE-A	0	1	20.7	0.6	0	0			
SVE-B	0.2	1	18.7	32.5	0	1.5			
SVE-C	0	1	18.1	0.3	0	1.7			
SVE-D	0	0	18.6	0.8	0	1.3			
SVE-E	0	0	19.0	0.7	0	0.8			
SVE-F	0	2	19.2	1.0	0	0.9			
SVE-G	0	1	17.9	3.8	0	1.5			
SVE-H	0	1	18.8	0.8	0	0.9			

Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm:parts per million
Water levels measured in feet.
CO2: Carbon Dioxide
GEM: Landtec GEM-500 Landfill Gas Monitor

Equipment Calibrated by: James Kearns
Air samples collected by: Robert Derrick and Frank Mahalski
Readings performed by: Robert Derrick and Frank Mahalski

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 9/19/05 1:00 PM
WEATHER: partly cloudy, 80°

General condition of site (anything in need, ie. Porta John need cleaning, etc..):

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? ____Yes __√__No
If not, what parts/work needs be done to get in good working order?
System is off because the power is off
Are pipes leaking or broken? ___Yes __√__No
Are all sample ports in good working order: __√__Yes ___No
Is the sump pump working properly?: Yes No **No, only because the power is off and therefore the pump is not on.**
Safety checklist:
Are fire extinguishers in good working order: __√__Yes ___No
Are chemicals stored properly: __√__Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = 1,561,820 gallons
Chelating Agent Holding Tank= 17 gallons
Activities Performed:
Vapor monitoring of SVE wells, water gauging on selected wells

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 9/19/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2								19.20	33.46	14.26
AS-3										
AS-4*										
AS-5								19.48	33.42	13.94
AS-6										
AS-7								19.83	33.13	13.3
AS-8										
AS-9								19.41	34.71	15.3
AS-10								19.00	33.51	14.51
AS-11										
AS-12								19.21	33.30	14.09
SVE-A		0	0	19.1	1.2	0	1.2			
SVE-B		0.1	0	20.9	1.8	0	1.8			
SVE-C		0	0	19.3	0.7	0	0.7			
SVE-D		0	0	17.9	1.5	0	1.5			
SVE-E		0	0	18.1	1.1	0	1.1			
SVE-F		0	0	17.6	1.9	0	1.9			
SVE-G		0	0	16.8	2.0	0	2.5			
SVE-H		0	0	19.5	1.0	0	0.3			

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by:

Phoster System Notes= s**ystem is currently off**
Methane being injected? Yes No If so, at what rate?
Nitrogen being injected? Yes No If so, at what rate?
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 10/03/05 3:30 PM
WEATHER: partly cloudy, 77°

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
Porta John is bad need of cleaning

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? ____Yes __√__No
If not, what parts/work needs be done to get in good working order?
System is off because the power is off
Are pipes leaking or broken? ___Yes __√__No
Are all sample ports in good working order: __√__Yes ___No
Is the sump pump working properly?: Yes No **No, only because the power is off and therefore the pump is not on.**

Safety checklist:
Are fire extinguishers in good working order: __√__Yes ___No
Are chemicals stored properly: __√__Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = 1,617,260 gallons
Chelating Agent Holding Tank= 17 gallons
Activities Performed:
Weekly air monitoring with PID and Gem 500; air pump and sample bag, general hands tools, Chevy Blazer

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 10/103/05

		CES Landtec GEM-500 & MultiRAE Plus PID								
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0	0	17.1	0.6	0	2.1			
SVE-B		0	0	17.2	1.5	0	1.9			
SVE-C		0	0	18.5	0.1	0	1.9			
SVE-D		0	0	15.6	0.1	0	2.9			
SVE-E		0	0	16.0	0.0	0	2.6			
SVE-F		0	0	17.7	0.4	0	1.4			
SVE-G		0	0	16.4	1.0	0	3.0			
SVE-H		0	0	20.5	0.4	0	0.0			

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Robert Derrick and Frank Mahalski

Phoster System Notes= **system is currently off**
Methane being injected? Yes No If so, at what rate?
Nitrogen being injected? Yes No If so, at what rate?
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 10/10/05 9:00 AM
WEATHER: cloudy, 60°

General condition of site (anything in need, ie. Porta John need cleaning, etc..):

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? ____Yes __√__No
If not, what parts/work needs be done to get in good working order?
System is off because the power is off
Are pipes leaking or broken? ___Yes __√__No
Are all sample ports in good working order: __√__Yes ___No
Is the sump pump working properly?: Yes No **No, only because the power is off and therefore the pump is not on.**
Safety checklist:
Are fire extinguishers in good working order: __√__Yes ___No
Are chemicals stored properly: __√__Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = 1,617,270 gallons
Chelating Agent Holding Tank= 15 gallons
Activities Performed:
Vapor monitoring of SVE wells with PID& GEM 500

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 10/10/05

		CES Landtec GEM-500 & MultiRAE Plus PID								
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0	0	16.5	1.1	0	3.3			
SVE-B		0	0	15.7	9.8	0	2.7			
SVE-C		0	0	14.8	0.0	0	3.5			
SVE-D		0	0	15.8	0.0	0	2.9			
SVE-E		0	5	20.7	0.5	0	2.0			
SVE-F		0	0	16.8	0.5	0	1.5			
SVE-G		0	0	16.2	0.3	0	2.9			
SVE-H		0	0	17.8	0.4	0	1.7			

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick, Frank Mahalski

Phoster System Notes=
Methane being injected? √ Yes No If so, at what rate? 44 psi (1900 psi left on tank)
Nitrogen being injected? √ Yes No If so, at what rate? 50 psi (500 psi left on tank)
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 10/17/05, 10:30 AM
WEATHER: sunny, windy, 65°F

General condition of site (anything in need, ie. Porta John need cleaning, etc..):

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? ____Yes __X__No
If not, what parts/work needs be done to get in good working order?
Power is off.
Are pipes leaking or broken? ___Yes _X__No
Are all sample ports in good working order: __X__Yes ___No
Is the sump pump working properly?: Yes X No **(Power is off so pump is off).**
Safety checklist:
Are fire extinguishers in good working order: ___X___Yes ___No
Are chemicals stored properly: ___X__Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank=_____ gallons
Activities Performed:

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date:10/17/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.1	0	18	13	0	1			
SVE-B		0.1	0	20.5	6.2	0	1.7			
SVE-C		0.8	0	11.7	116	0	5.2			
SVE-D		0.1	0	15.4	7.7	0	2.8			
SVE-E		0	0	18.8	1.5	0	0.7			
SVE-F		0	0	17.9	1.0	0	1.5			
SVE-G		0	0	18.8	0.9	0	1.3			
SVE-H		0	0	19.5	0.6	0	0.5			

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Robert Derrick/Frank Mahalski

Phoster System Notes= s**ystem is currently off**
Methane being injected? Yes X No If so, at what rate? Tank is empty
Nitrogen being injected? Yes X No If so, at what rate? Tank is empty
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 10/20/05 09:30- 11:00
WEATHER:
Personnel: James Kearns
General condition of site (anything in need, ie. Porta John need cleaning, etc..):

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? ____Yes _X__No
If not, what parts/work needs be done to get in good working order? System shut down on 10-20-05. James Kearns was on site today running a new power cord for the P&T sump to the Phoster System. Sump was working properly upon departure. Compressors were shut down, drains were unplugged, air dryer was unplugged, and power was turned back on so that the sump pump could operate while the Phoster system was offline.

Are pipes leaking or broken? _X_Yes ___No Leak in copper pipin near the triethylphosphate (at an elbow).
Are the SVE blower belts in good condition? ___ Yes ___ No
Are all sample ports in good working order: ____Yes ___No
Is the sump pump working properly?: ___ Yes ___ No
Safety checklist:
Are fire extinguishers in good working order: _____Yes ___No
Are chemicals stored properly: _____Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank= gallons
Activities Performed:
Vapor monitoring of SVE wells,

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: /05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A										
SVE-B										
SVE-C										
SVE-D										
SVE-E										
SVE-F										
SVE-G										
SVE-H										

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by:

Phoster System Notes=

Methane being injected? Yes No If so, at what rate?
Nitrogen being injected? Yes No If so, at what rate?
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 10/24/05 9:30 AM
WEATHER: partly cloudy, 52°

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
Shitter needs to be cleaned

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? Yes √ No
If not, what parts/work needs be done to get in good working order?
System is off.
Are pipes leaking or broken? Yes √ No
Are all sample ports in good working order: √ Yes No
Is the sump pump working properly?: √ Yes No

Safety checklist:
Are fire extinguishers in good working order: √ Yes No
Are chemicals stored properly: √ Yes No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank= gallons
Activities Performed:
Vapor monitoring of SVE wells with PID& GEM 500

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 10/24/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0	1	19.1	0.0	0	0.4			
SVE-B		0	0	20.6	0.0	0	1.5			
SVE-C		0	0	16.4	0.0	0	2.7			
SVE-D		0.1	0	17.3	0.0	0	2.1			
SVE-E		0	7	18.1	0.1	0	1.2			
SVE-F		0.1	0	20.9	0.0	0	0.0			
SVE-G		0.1	0	18.5	0.0	0	1.5			
SVE-H		0.1	0	20.1	0.0	0	0.2			

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick, Frank Mahalski

Phoster System Notes=

Methane being injected? Yes √ No If so, at what rate?
Nitrogen being injected? Yes √ No If so, at what rate?
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 10/31/05, 9:00 AM
WEATHER: sunny, 59°F

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
PortaJohn needs a good cleaning

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? ____Yes __X__No
If not, what parts/work needs be done to get in good working order?
Both systems are off
Are pipes leaking or broken? ___Yes _X__No
Are all sample ports in good working order: __X__Yes ___No
Is the sump pump working properly?: Yes X No **(Power is off so pump is off).**

Safety checklist:
Are fire extinguishers in good working order: ___X___Yes ___No
Are chemicals stored properly: ___X__Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank=_____ gallons
Activities Performed:

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date:10/31/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1*										
AS-2								15.35		
AS-3								15.07		
AS-4								15.81	33.62	17.81
AS-5								15.64		
AS-6								15.74		
AS-7								15.97		
AS-8								15.76		
AS-9								15.59		
AS-10								15.20		
AS-11								15.44		
AS-12								15.36		
SVE-A		0	0	18.5	0.0	0	1.1			
SVE-B		0	0	20.9	0.0	0	1.7			
SVE-C		0	0	20.6	0.0	0	2.7			
SVE-D		0	0	17.7	0.0	0	1.9			
SVE-E		0	0	19.2	0.1	0	1.0			
SVE-F		0	0	20.1	0..0	0	0.1			
SVE-G		0	1	18.9	0.5	0	1.1			
SVE-H		0.1	0	20.1	0.0	0	0.1			

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Robert Derrick/Frank Mahalski

*AS-1 is blocked by metal beams

Phoster System Notes= **system is currently off**
Methane being injected? Yes X No If so, at what rate? Tank is empty
Nitrogen being injected? Yes X No If so, at what rate? Tank is empty
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 11/16/05, 10:00 AM
WEATHER: cloudy 55°F

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
PortaJohn needs a good cleaning

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? ____Yes __X__No
If not, what parts/work needs be done to get in good working order?
Phoster system is off (the power is off) after being turned back on on 11/14/05

Are all sample ports in good working order: __X__Yes ___No
Is the sump pump working properly?: Yes X No **(Power is off so pump is off).**

Safety checklist:
Are fire extinguishers in good working order: ___X___Yes ___No
Are chemicals stored properly: ___X__Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-___
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank=_____ gallons
Activities Performed:
___Vapor monitoring of SVE wells with Multirae PID and GEM

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date:10/31/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1*										
AS-2										
AS-3										
AS-4										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.0	0	20.9	0.1	0	0.0			
SVE-B		4.9	0	16.3	241	0	2.5			
SVE-C		0.0	4	17.5	0.0	0	2.1			
SVE-D		0.1	0	15.9	0.1	0	2.7			
SVE-E		0.2	0	17.2	0.4	0	1.6			
SVE-F		0.1	0	18.5	1.2	0	0.8			
SVE-G		0.4	0	17.2	46.5	0	2.0			
SVE-H		0.2	0	20.0	0.0	0	0.3			

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Robert Derrick/Frank Mahalski

Phoster System Notes= s**ystem is currently off**
Methane being injected? Yes X No If so, at what rate? Tank is empty
Nitrogen being injected? Yes X No If so, at what rate? Tank is empty
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME: SMS
DATE / TIME: 12/1/05, 10:45 AM
WEATHER: cloudy 42°F

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
PortaJohn needs a good cleaning

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? X Yes No
If not, what parts/work needs be done to get in good working order?
Phoster system was off upon arrival because power was off. The power was turned on again and the phoster system started back up
Are all sample ports in good working order: X Yes No
Is the sump pump working properly?: X Yes No

Safety checklist:
Are fire extinguishers in good working order: X Yes No
Are chemicals stored properly: X Yes No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank= gallons
Activities Performed:
Vapor monitoring of SVE wells with Multirae PID and GEM
some of the wells had new concrete around them

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date:10/31/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1*										
AS-2										
AS-3										
AS-4										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.0	0	17.8	0.4	0	1.5			
SVE-B		0.0	0	18.8	22.6	0	1.7			
SVE-C		0.0	0	17.7	0.4	0	2.1			
SVE-D		0.0	0	17.0	1.4	0	2.4			
SVE-E		0.0	0	20.4	0.6	0	1.8			
SVE-F		0.0	0	19.0	0.0	0	0.4			
SVE-G		0.0	0	19.1	3.1	0	1.3			
SVE-H		0.0	0	19.0	0.1	0	0.9			

CFH: Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Robert Derrick/Frank Mahalski

Phoster System Notes= s**ystem is currently on**
Methane being injected? Yes X No If so, at what rate? Tank is empty
Nitrogen being injected? Yes X No If so, at what rate? Tank is empty
Triethylposphate being injected? Yes No If so, at what rate?

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME : SMS
DATE / TIME: 12/5/05 9:45 a.m.
WEATHER : cloudy 33°

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
John need to be cleaned

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? X Yes No
If not, what parts/work needs be done to get in good working order?
System is off. Turned power back on.
Are pipes leaking or broken? Yes X No
Are all sample ports in good working order: X Yes No
Is the sump pump working properly?: X Yes No

Safety checklist:
Are fire extinguishers in good working order: X Yes No
Are chemicals stored properly: X Yes No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank= gallons
Activities Performed:
Air Monitoring, System off on arrival- turned power back on, sump pump hose frozen- thawed hose and drained water

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 12/5/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.0	0	18.5	0.0	0	0.5			
SVE-B		0.0	0	18.1	3.7	0	1.4			
SVE-C		0.0	0	17.2	0.0	0	2.0			
SVE-D		0.0	0	16.8	0.0	0	0.2			
SVE-E		0.0	0	19.3	0.3	0	1.7			
SVE-F		0.0	0	18.8	0.0	0	1.0			
SVE-G		0.0	0	18.6	1.4	0	1.2			
SVE-H		0.0	0	19.1	0.0	0	0.7			

SCFH:Standard Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Frank Mahalski, James Kearns

Phoster System Notes= **System is on.**
Methane being injected? Yes X No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)_tank empty_
Methane SCFH Flow Reading
Nitrogen being injected? X Yes No If so, at what rate("Hg/PSI)? 100 Amount left in tank("Hg)_475
Nitrogen SCFH Flow Reading 1
Triethylphosphate being injected? X Yes No If so, at what rate? 30 SCFH Amount left in tank("Hg)___33
Triethylphosphate SCFH Flow Reading
Phoster System SCFH Flow 450 System Hours 4362

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME : SMS
DATE / TIME: 12/12/05 9:50 a.m.
WEATHER : partly sunny 36°

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
Porta John needs to be cleaned.

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? ____Yes _√__No
If not, what parts/work needs be done to get in good working order?
System is off. The power is on but the Phoster system was off.
Are pipes leaking or broken? ___Yes __√__No
Are all sample ports in good working order: __√___Yes ___No
Is the sump pump working properly?: ___√__ Yes ____ No

Safety checklist:
Are fire extinguishers in good working order: __√___Yes ___No
Are chemicals stored properly: ____√__Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank=_____gallons
Activities Performed:

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 12/12/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1								blocked		
AS-2								16.09		
AS-3								16.79		
AS-4*								16.56		
AS-5								16.48		
AS-6								16.34		
AS-7								blocked		
AS-8								16.45		
AS-9								16.26		
AS-10								15.89		
AS-11								16.09		
AS-12								16.70		
SVE-A		0.0	0	20.5	0.1	0	0			
SVE-B		0.5	4	16.1	743.0	0	2.8			
SVE-C		0.0	0	16.3	0.0	0	2.6			
SVE-D		0.0	0	16.5	0.0	0	2.6			
SVE-E		0.0	0	17.4	1.3	0	2.0			
SVE-F		0.0	0	19.1	1.1	0	1.0			
SVE-G		0.0	0	17.9	2.6	0	1.9			
SVE-H		0.0	0	19.5	0.3	0	0.4			

SCFH:Standard Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick, Frank Mahalski

Phoster System Notes= System was off.

Methane being injected? Yes √ No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)____0_____
Methane SCFH Flow Reading _____
Nitrogen being injected? Yes √ No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)_____
Nitrogen SCFH Flow Reading_____
Triethylphosphate being injected? Yes √ No If so, at what rate? Amount left in tank("Hg)_____
Triethylphosphate SCFH Flow Reading_____
Phoster System SCFH Flow_____ System Hours_____

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME : SMS
DATE / TIME: 12/21/05 10:00 a.m.
WEATHER : sunny 35°

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
Porta John needs to be cleaned.

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? √ Yes No
If not, what parts/work needs be done to get in good working order?

Are pipes leaking or broken? Yes √ No
Are all sample ports in good working order: √ Yes No
Is the sump pump working properly?: √ Yes No

Safety checklist:
Are fire extinguishers in good working order: √ Yes No
Are chemicals stored properly: √ Yes No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank= gallons
Activities Performed:

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 12/21/05

	CES Landtec GEM-500 & MultiRAE Plus PID										
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.1	0	18.1	220.0	0	1.1			
SVE-B		2.5	0	16.7	2249.0	0	2.2			
SVE-C		0.0	0	14.9	0.2	0	3.4			
SVE-D		0.0	0	15.4	0.0	0	3.5			
SVE-E		0.0	0	18.6	5.7	0	1,9			
SVE-F		0.1	0	15.9	>96	0	1.2			
SVE-G		0.0	N/A	16.1	N/A	N/A	2.7			
SVE-H		0.0	N/A	18.6	N/A	N/A	0.8			

SCFH:Standard Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick, Frank Mahalski

Phoster System Notes= System was on. Randy was in the process of changing the tanks.
Methane being injected? Yes √ No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)____0_____
Methane SCFH Flow Reading _____
Nitrogen being injected? √ Yes No If so, at what rate("Hg/PSI)? 56 Amount left in tank("Hg)__575_____
Nitrogen SCFH Flow Reading___9.5_____
Triethylphosphate being injected? Yes √ No If so, at what rate? Amount left in tank("Hg)_____
Triethylphosphate SCFH Flow Reading_____
Phoster System SCFH Flow____375_____ System Hours_____4644_____

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME : SMS
DATE / TIME: 1/10/06 1:30 p.m.
WEATHER : sunny 50°

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
Porta John needs to be cleaned.

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? √ Yes No
If not, what parts/work needs be done to get in good working order?

Are pipes leaking or broken? Yes √ No
Are all sample ports in good working order: √ Yes No
Is the sump pump working properly?: Yes No Was'nt plugged in- plugged it into Phoster system trailer.

Safety checklist:
Are fire extinguishers in good working order: √ Yes No
Are chemicals stored properly: √ Yes No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank= gallons
Activities Performed:
Bi-weekly air/system monitoring.

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 1/10/06

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.6	0	20.5	200.0	0	1.9			
SVE-B		4.0	0	16.4	841.0	0	2.2			
SVE-C		0.0	0	16.1	1.1	0	2.7			
SVE-D		0.1	0	15.8	50.1	0	3.3			
SVE-E		0.0	0	18.2	0.0	0	6.0			
SVE-F		0.0	0	20.3	0.0	0	1.4			
SVE-G		0.0	0	18.2	0.0	0	1.4			
SVE-H		0.0	0	19.9	0.0	0	0.8			

SCFH:Standard Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick

Phoster System Notes= System was on.
Methane being injected? Yes √ No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)____0_____
Methane SCFH Flow Reading _____
Nitrogen being injected? Yes √ No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)__0_____
Nitrogen SCFH Flow Reading___9.5_____
Triethylphosphate being injected? Yes √ No If so, at what rate? Amount left in tank("Hg)___0_____
Triethylphosphate SCFH Flow Reading_____
Phoster System SCFH Flow____355_____ System Hours_____4989_____

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME : SMS
DATE / TIME: 1/25/06
WEATHER : 50°F/cloudy

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
Porta John needs cleaning

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? X Yes No (Phoster system only system that is on).
If not, what parts/work needs be done to get in good working order?

Are pipes leaking or broken? ___Yes __X__No
Are all sample ports in good working order: __X__Yes ___No
Is the sump pump working properly?: ___X__ Yes ____ No

Safety checklist:
Are fire extinguishers in good working order: __X___Yes ___No
Are chemicals stored properly: __X__Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank=_____gallons
Activities Performed:
Air monitoring with GEM 500, Multirae

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 12/12/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.0	0	19.4	20.7	0	0.5			
SVE-B		0.5	0	16.9	186	0	2.4			
SVE-C		0.0	0	16.7	0.6	0	2.6			
SVE-D		0.0	0	17.1	4.3	0	2.6			
SVE-E		0.0	0	20.9	1.4	0	1.0			
SVE-F		0.0	0	19.3	2.0	0	0.5			
SVE-G		0.0	0	19.5	0.1	0	0.8			
SVE-H		0.0	0	20.4	1.0	0	0.1			

SCFH:Standard Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick, Ryan Mentzer

Phoster System Notes=
Methane being injected? X Yes X No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)____100_____
Methane SCFH Flow Reading ___methane isnt always being injected, never got to read the flow_____
Nitrogen being injected? XYes No If so, at what rate("Hg/PSI)? 1130 Amount left in tank("Hg)__30_____
Nitrogen SCFH Flow Reading___3.75_____
Triethylphosphate being injected? XYes No If so, at what rate? 12 Amount left in tank("Hg)__100_____
Triethylphosphate SCFH Flow Reading__75_____
Phoster System SCFH Flow___370_____ System Hours_52289_____

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME : SMS
DATE / TIME: 2/23/06
WEATHER :

General condition of site (anything in need, ie. Porta John need cleaning, etc..):

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order?____Yes ___No
system that is on).
If not, what parts/work needs be done to get in good working order?

Are pipes leaking or broken? ___Yes ____No
Are all sample ports in good working order: ___Yes ___No
Is the sump pump working properly?: _____ Yes ____ No

Safety checklist:
Are fire extinguishers in good working order: _____Yes ___No
Are chemicals stored properly: ____Yes ___No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank=_____gallons
Activities Performed:_____

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 12/12/05

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A										
SVE-B										
SVE-C										
SVE-D										
SVE-E										
SVE-F										
SVE-G										
SVE-H										

SCFH:Standard Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick, Ryan Mentzer

Phoster System Notes=
Methane being injected? Yes No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)_____
Methane SCFH Flow Reading ___methane isnt always being injected, never got to read the flow_____
Nitrogen being injected? Yes No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)_____
Nitrogen SCFH Flow Reading_____
Triethylphosphate being injected? Yes No If so, at what rate? Amount left in tank("Hg)_____
Triethylphosphate SCFH Flow Reading_____
Phoster System SCFH Flow_____ System Hours_____

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME : SMS
DATE / TIME: 3/6/06/1:00 PM
WEATHER : 40°F/sunny

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
good

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? X Yes No
system that is on).
If not, what parts/work needs be done to get in good working order?
System is off, Phoster system is on
Are pipes leaking or broken? Yes X No
Are all sample ports in good working order: X Yes No
Is the sump pump working properly?: X Yes No

Safety checklist:
Are fire extinguishers in good working order: X Yes No
Are chemicals stored properly: X Yes No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank= gallons
Activities Performed:
Bi-weekly air monitoring and O and M inspection

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 3/6/06

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.0	0	19.4	28.9	0	0.5			
SVE-B		0	0	17.0	0.1	0	2.2			
SVE-C		4.9	0	17.5	819	0	2.1			
SVE-D		0.1	0	16.9	43.7	0	2.5			
SVE-E		0.0	0	20.9	0.0	0	1.6			
SVE-F		0.0	0	18.0	0.0	0	2.0			
SVE-G		0.0	0	16.7	28.1	0	2.2			
SVE-H		0.0	0	18.9	0.0	0	0.9			

SCFH:Standard Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick, Chuck Fernald

Phoster System Notes=
Methane being injected? √Yes No If so, at what rate("Hg/PSI)? 50 Amount left in tank("Hg)_325
Methane SCFH Flow Reading 27
Nitrogen being injected? √ Yes No If so, at what rate("Hg/PSI)? 40 Amount left in tank("Hg)__800__
Nitrogen SCFH Flow Reading__25
Triethylphosphate being injected? √Yes No If so, at what rate? 16 Amount left in tank("Hg)
Triethylphosphate SCFH Flow Reading 90
Phoster System SCFH Flow 370 System Hours_58309

DAILY OPERATIONS WORK SHEET/SUB-GRADE VAPOR MONITORING

SITE NAME : SMS
DATE / TIME: 3/22/06/ 3:45 PM
WEATHER : 45°F/sunny

General condition of site (anything in need, ie. Porta John need cleaning, etc..):
good

Operational condition of the site:
Is the system operational and are all system components and sensors in good working order? X Yes No
system that is on).
If not, what parts/work needs be done to get in good working order?
System is off, Phoster system is on
Are pipes leaking or broken? Yes X No
Are all sample ports in good working order: X Yes No
Is the sump pump working properly?: X Yes No

Safety checklist:
Are fire extinguishers in good working order: X Yes No
Are chemicals stored properly: X Yes No

Summary of Work Performed and Equipment Used:
Phoster Sparge wells Online (circle which apply)-
AS1 AS2 AS3 AS4 AS5 AS6 AS7 AS8 AS9 AS10 AS11 AS12

P&T Totalizer Reading = gallons
Chelating Agent Holding Tank= gallons
Activities Performed:
Bi-weekly air monitoring and O and M inspection

SMS INSTRUMENTS SITE
PHOSTER SYSTEM MONITORING LOG

Date: 3/22/06

	CES Landtec GEM-500 & MultiRAE Plus PID									
	Phoster Air Sparge Well Flow Rate (CFH)	Methane % (GEM)	CO (MultiRAE)	Oxygen % (MultiRAE)	VOC (MultiRAE PID)	H2S (MultiRAE)	CO2% (GEM)	Depth to Water (ft)	Well Depth (ft)	Column of Water (ft)
AS-1										
AS-2										
AS-3										
AS-4*										
AS-5										
AS-6										
AS-7										
AS-8										
AS-9										
AS-10										
AS-11										
AS-12										
SVE-A		0.0	0	16.4	3.0	0	1.5			
SVE-B		0	0	17.4	0.0	0	2.1			
SVE-C		0.5	0	17.6	205	0	1.8			
SVE-D		0.0	0	17	0.0	0	2.5			
SVE-E		0.0	0	18.1	0.0	0	1.3			
SVE-F		0.0	0	18.4	0.0	0	1.2			
SVE-G		0.2	0	17.5	0.0	0	1.4			
SVE-H		0.0	0	19.2	0.0	0	0.5			

SCFH:Standard Cubic Feet per Hour
Methane, CO, PID, H2S concentrations in ppm
CO: Carbon Monoxide
ppm: parts per million

Monitoring performed by: Rob Derrick,Ryan Metzer

Phoster System Notes=
Methane being injected? Yes √No If so, at what rate("Hg/PSI)? Amount left in tank("Hg)_0
Methane SCFH Flow Reading 27
Nitrogen being injected? √ Yes No If so, at what rate("Hg/PSI)? 60 Amount left in tank("Hg)_45
Nitrogen SCFH Flow Reading_25
Triethylphosphate being injected? √Yes No If so, at what rate? 18 Amount left in tank("Hg)
Triethylphosphate SCFH Flow Reading_80
Phoster System SCFH Flow_400 System Hours_61,778