

**CSSA B-3 BIOREACTOR OPERATIONS
PERFORMANCE STATUS REPORT
(QUARTER 1)**

OCTOBER 1, 2007

This status report summarizes the operation of a bioreactor at Solid Waste Management Unit (SWMU) B-3 from April 16, 2007 through July 29, 2007; comprising the first quarter of bioreactor operations and monitoring since system start-up. This status report includes descriptions of current conditions, field observations, analytical results, and an anticipated schedule of activities for the next reporting period. Photos and analytical results from the initial baseline sampling, monthly, and quarterly regulatory and performance sampling through July 2007 are attached for reference. Parsons site personnel working on this project during the reporting period include Ken Rice, Kyle Caskey, Samantha Elliott, and Adrien Lindley

Executive Summary

Site conditions remained unseasonably cooler and wetter than normal, with frequent and significant rain events continuing through the quarter. Bioreactor operations were initiated on April 24, 2007 with injection of groundwater from CS-MW16-LGR and CS-MW16-CC into bioreactor trench 1. Injection continued daily (Monday through Friday) during the quarter until the bioreactor filled due to high levels of precipitation in the latter part of July 2007. Approximately 575,500 gallons of groundwater extracted from CS-MW16-LGR and CS-MW16-CC have been injected into bioreactor trench 1 since the start of injection. Monthly Underground Injection Control (UIC) reports were submitted to the Texas Commission on Environmental Quality (TCEQ) on June 25, 2007 and July 20, 2007.

Data from monitoring efforts indicate that the B-3 bioreactor has achieved appropriate geochemical conditions for effective anaerobic dechlorination of chlorinated aliphatic hydrocarbons (CAHs) to occur. Geochemical parameters indicating optimal conditions include the following:

- Concentrations of dissolved oxygen (DO) are less generally than 0.5 milligrams per liter (mg/L) and oxidation-reduction potential (ORP) values are less than -100 millivolts (mV), indicating an anaerobic environment conducive to dechlorination of CAHs within the trenches;
- Production of methane indicating that fermentation is occurring; and
- Hydrogen concentrations are greater than 1.0 nanomoles per liter (nmol/L), indicating that there is sufficient electron donor present to stimulate anaerobic dechlorination of CAHs.

Evidence of that anaerobic dechlorination of trichloroethene (TCE) has been stimulated includes the production of the intermediate dechlorination products *cis*-1,2-dichloroethene (*cis*-DCE) and vinyl chloride (VC). However, the dechlorination end products ethene and ethane are not currently being produced.

Summary of Bioreactor Operation

Characterization of baseline groundwater conditions began in January 2007 with sampling of monitoring wells surrounding the B-3 bioreactor, as well as multi-port Westbay[®] wells at the site. Baseline sampling of the bioreactor trench sumps was conducted between April 16 and April 23, 2007.

Initial baseline and quarter 1 analytical results from monitoring of the bioreactor sumps indicate that the SWMU B-3 trenches contain significant levels of *cis*-DCE as well as lesser concentrations of other dechlorination products (e.g., VC). In addition, benzene, toluene, and other fuel related

compounds were identified during monitoring of bioreactor trench 1 sumps. A summary of the analytical data collected for the reporting period is included in Table 1. A summary of initial baseline, monthly and quarter 1 monitoring results from the surrounding wells and bioreactor trench sumps are attached. Analytical results of the surrounding SWMU B-3 multi-port Westbay monitoring points and monitoring wells are also attached.

Results of VOC analysis from monitoring data indicate that injected groundwater from CS-MW16-LGR & CC, and the uppermost saturated zones of the Westbay® wells contain < 100 micrograms per liter ($\mu\text{g/L}$) of TCE/PCE and *cis*-DCE. Quarterly data from the bioreactor trench sumps indicate that precipitation has mobilized contaminant mass into the trenches, with concentrations of *cis*-DCE exceeding 2,000 $\mu\text{g/L}$ and concentrations of VC exceeding 40 $\mu\text{g/L}$, during the latter part of July 2007.

Water quality field measurements from the bioreactor sumps generally indicate that DO remains low (< 0.5 mg/L), ORP averages less than -180 mV, pH ~ 6.5, temperatures ranges from 25 °C to 34 °C, and specific conductivity ranges from 0.6 to 4.43 millisiemens per centimeter (mS/cm). Other observations regarding the data collected during this reporting period are listed below.

From July 15, 2007 through July 29, 2007 an additional 9.9 inches of rainfall was measured at the B-3 bioreactor site with an approximate 11.5 feet of water thickness in trench 1 sump 3 observed, and an average trench 1 thickness of 10.8 feet. Trench 6 contained ~ 11 feet of water thickness as measured by a flashflow device during the July 21, 2007 rainfall event. Quarterly performance samples were collected from Trench 6 sump 2 and are included in the attached tables summarizing analytical data collected during quarter 1.

Due to these significant rain events occurring during the quarterly period, saturated conditions were maintained in Trench 1, therefore requiring less contribution from groundwater than originally anticipated. On June 21, 2007, the bioreactor was completely filled and the bioreactor injection system was ceased.

Attached are graphs including a cumulative total volume of recovered groundwater from CS-MW16-LGR and CS-MW16-CC applied into trench 1, the B-3 Trench 1 average water thickness with rainfall data and average water applied daily to trench 1, and the water level elevations in the defined uppermost saturated zone (zone LGR-03B) of the B-3 multi-port monitoring wells with rainfall data.

Analytical Data Observations

1. Arsenic (As) and manganese (Mn) were reported in bioreactor trench water samples at concentrations ranging from Non-Detect (ND) to 75 $\mu\text{g/L}$ for As and from 3,000 to 4,000 $\mu\text{g/L}$ for Mn. The surrounding multi-point monitoring wells contain less elevated levels of As and Mn, but As and Mn are not present in elevated concentrations within the surrounding monitoring wells (see Figure 1). The elevated levels are likely due to changing pH conditions of the groundwater and the reduction of naturally occurring As and Mn within the limestone media to more soluble forms. Results of a study on the possible source(s) of elevated levels of As and Mn are presented in a separate technical memorandum.
2. Even with significant rainfall events, the values of DO and ORP in water samples from the trenches did not change significantly, indicating that anaerobic reducing conditions were maintained even with the addition of groundwater and significant contributions of precipitation that likely had a concentration of DO of several mg/L or higher.
3. The ratio of VC to DCE remains low, indicating that the rate at which DCE is being produced is greater than the rate at which is reduced to VC. An increasing trend in concentrations of VC in trench 1 from the July 2007 sampling event indicate that *cis*-DCE is being reduced to VC, and that *Dehalococcoides* (DHC) bacteria capable of

reducing *cis*-DCE to VC are likely to be gradually building up. There is no evidence of VC being reduced to ethene at this time.

4. During background sampling, no ethene, VC, or DHC populations were detected in well (multi-port and monitoring) samples. VC and DHC were detected in the baseline and quarterly trench samples.
5. The dissolved hydrogen concentration of the sump samples was in the range consistent with reductive dechlorination of CAHs by DHC.
6. Saturated conditions are being maintained within the bioreactor.

Anticipated Schedule for Next Period:

- Continue monitoring and maintenance activities for delivery of groundwater to the bioreactor trenches.
- Continue bioreactor system controls installation.
- Monthly monitoring event (Month 4) for bioreactor system.
- Continue UIC monitoring and reporting.

Photos of the bioreactor system are provided below and include descriptions.



Bioreactor Trenches looking north



Bioreactor Trenches looking north (Quarter 1 sampling event 8/2/2007)



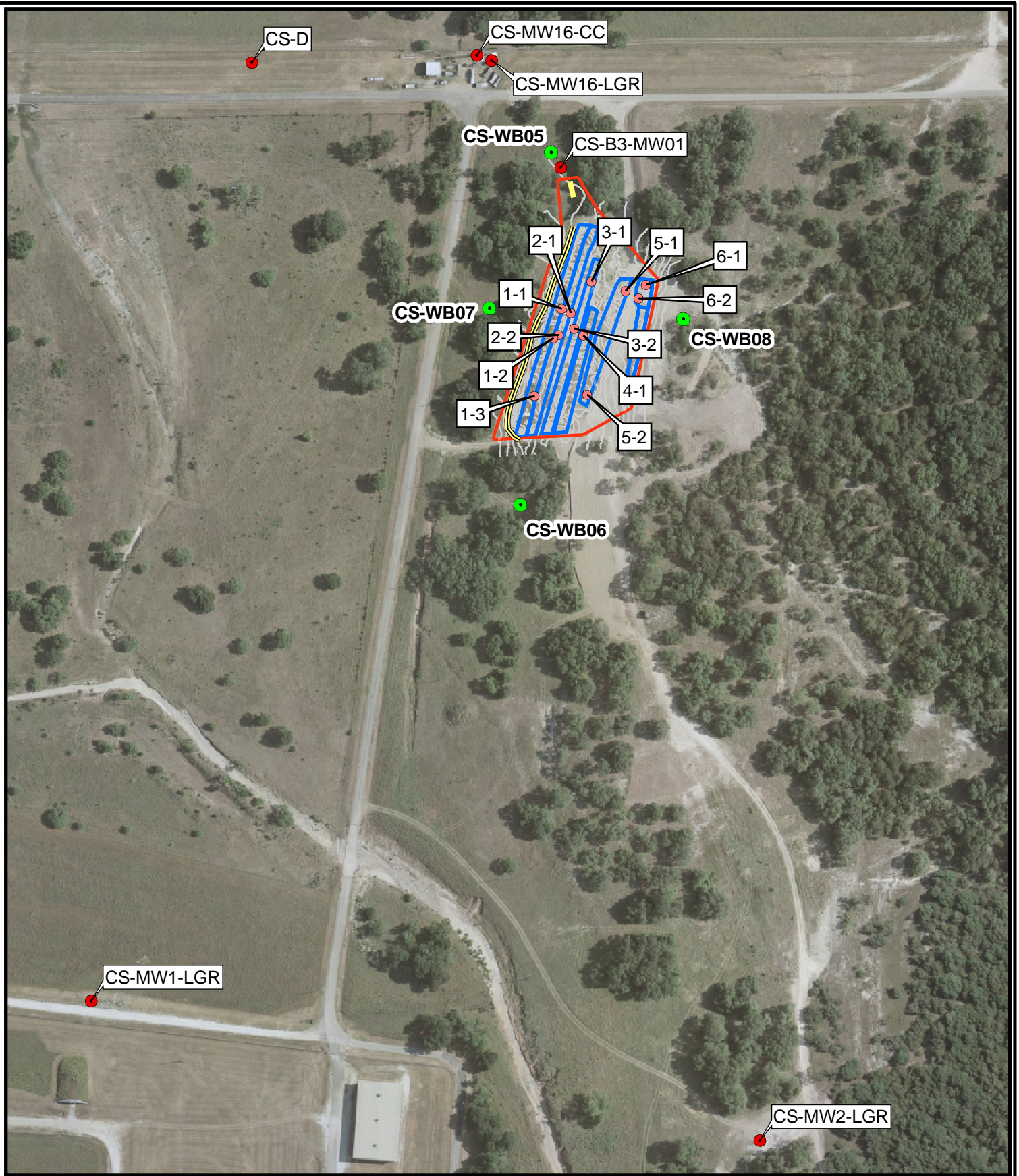
Bioreactor Trench 1 & 2 looking south
(7/23/2007)



B-3 trench 1 & 2 sump sampling
Boat rides anyone?

Specific Data Observation Notes for Attachments

- Baseline Trench Sump Field Measured Data are provided in Table 1.1.1.
- Table 0.1.2 shows elevated cis DCE and Toluene values present in sump groundwater prior to injection of recovered groundwater from CS-MW16-LGR and CS-MW16-CC wells. This data provides evidence that fractured formation surrounding SWMU B-3 contains residual contamination which is leached into bioreactor trenches during recharge events. This is further verified through analytical results from the August 3, 2007, B-3 Trench 1 Sump samples shown in Table 1.1.2 which presents data from the quarter 1 sampling event. Elevated concentration of cis-DCE (up to 2100 µg/l) were detected in Trench 1 sump samples with the bioreactor filled by precipitation in the latter part of July, 2007.
- Table 0.3.1 shows field parameters for the surrounding monitoring wells with dissolved oxygen concentrations at less than 0.5 mg/l for B3-MW01 and CS-MW2-LGR. Of note; CS-MW2-LGR also contained groundwater with a pH of 11.75 and is unlikely to be the result of the reduction process from the bioreactor. The elevated pH of CS-MW2-LGR is suspected to be from well installation activities and/or surrounding influence of nearby AOCs. The elevated pH in CS-MW2-LGR has been observed since it was installed.
- Table 1.1.1 for Trench 1 Sump 1-2 dated 7/24/07 indicates a water thickness of 10.68 feet and Trench 6 Sump 6-2 contained a water thickness of 4.4 feet. This represents a completely filled bioreactor.
- Table 1.1.2 indicates that VC was present at low concentrations within the bioreactor trench 1 sump samples until VC concentrations increased within the quarter 1 sampling event in Trench 1 Sump 1-1 to 52 µg/l of VC.
- Table 1.3.3 indicates that vinyl chloride was present (5.3 µg/l) in the sample taken on 7/27/2007 in monitoring well CS-B3-MW01, which is the first time VC has shown up in any well monitoring data.
- Table 1.4.4 indicates that the *Dehalococcoides* bacteria are reducing in concentrations from baseline to quarter 1 in all locations. This may be a function of the rapid influx of precipitation that occurred prior to the sampling event.
- The changes in molar fraction and total molar concentrations shown in graphs of quarter 1 trench 1 sump also indicates significant influx of residual contaminants into the bioreactor from the surrounding formation since most of the water in the trenches during the period were from the formation and not from injected groundwater (pump was idle from 7/20 to 8/27).
- Figure 1.2.5 shows that the water levels in Westbay wells are influenced by precipitation an pumping at CS-MW16-LGR.
- Arsenic levels in Trench 1 sump samples have been significantly reduced.



- Bioreactor Trench Sumps
- B-3 Monitoring Wells
- Westbay Wells
- B3 Boundary
- Elevation Contours (1' interval)
- Berm Location
- Tank
- Former Trench Locations

Figure 1

B-3 Bioreactor System
Camp Stanley Storage Activity

Parsons

Analytical Summary Data

Table 1 Summary of Analysis Presented for Reporting Period

Event	VOCs	TDS	TOC	DOC	MEE & CO ₂	SO ₃ ⁻	Chloride, Sulfate	Alkalinity	N, NO ₃ & NO ₂	Fe ²⁺	Mn	Metals	H ⁺	DHC
Quarterly Sampling ^a (0)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Regulatory Sampling ^b (1)	✓	✓												
Regulatory Sampling (2)	✓	✓												
Monthly Sampling ^c (1)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Regulatory Sampling (3)	✓	✓												
Regulatory Sampling (4)	✓	✓												
Monthly Sampling (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Regulatory Sampling (5)	✓	✓												
Regulatory Sampling (6)	✓	✓												
Quarterly Sampling (1)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

a - Quarterly sampling includes samples from B3-trench sumps, Monitoring Wells, and Multi-port (Westbay) wells.

b - Regulatory sampling includes samples from the B3 groundwater injection system.

c - Monthly sampling includes samples from B3-trench sumps, the uprmost saturated intervals of the multi-port wells (Zone 03B).

Key for table numbering

First digit (Sample Event)	0 = Baseline 1 = Quarter 1 (or Baseline through quarter 1)
Second digit (Well/Sump Sampled)	1 = Trench Sumps 2 = Westbay Wells 3 = Monitoring Wells 4 = Combination of Wells and Sumps
Third digit (Sampled for)	1 = Field Parameters 2 = VOC Analytical Data 3 = Other Analytical Data 4 = Microbial Data
Third digit qualifier (Westbay Identifier)	a = CS-WB05 b = CS-WB06 c = CS-WB07 d = CS-WB08

Table 0.1.2 SWMU B-3 Bioreactor Trench 1 Sump Baseline Performance Data

		B3					
Well ID		B3 T-1-1		B3 T-1-2		B3 T-1-3	
Sample Date		4/18/2007		4/18/2007		4/18/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	252		276		158	
Total Organic Carbon	mg/L	284		303		182	
Methane	µg/L	9730		21800		14700	
Ethene	µg/L	0		0		0	
Ethane	µg/L	0		0		0	
Carbon Dioxide	µg/L	628		2480		1520	
Alkalinity, Total (as CaCO ₃)	mg/L	1610		1800		1130	
Nitrate/Nitrite	mg/L						
Sulfate	mg/L	6.1	J	5.5	J	1.3	J
Chloride	mg/L	77.4		109		31.9	
Ferrous Iron	mg/L	16.4		22.1		28.1	
Manganese	µg/L	2960		2780		4280	
Hydrogen	nM	6.1		9.6		6.3	
Hydrogen Sulfide							
Total Dissolved Solids	mg/L	2290		2720		1660	
Benzene	µg/L	0.29	J	0.59		0.16	J
Bromodichloromethane	µg/L	0		0		0	
Bromoform	µg/L	0		0		0	
Chloroform	µg/L	0		0		0	
Dibromochloromethane	µg/L	0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0	
Dichloroethene, cis-1,2-	µg/L	230		290		35	
Dichloroethene, trans-1,2-	µg/L	3.9		5.7		2.8	
Methylene chloride	µg/L	0.38	BJ	0		0.35	BJ
Naphthalene	µg/L	2.4		2.5		1.3	
Tetrachloroethene	µg/L	0		0		0	
Toluene	µg/L	500		970		320	
Trichloroethene	µg/L	2.7		3.5		1.5	
Vinyl chloride	µg/L	6.2		5.8		0.29	J
Arsenic	µg/L	75.1		54.4		32.2	J
Barium	µg/L	658		702		455	
Cadmium	µg/L	0		0		0	
Chromium	µg/L	0		0		0	
Copper	µg/L	0		0		0	
Lead	µg/L	0		0		0	
Mercury	µg/L	0		0		0	
Nickel	µg/L	0		0		0	
Zinc	µg/L	0		0		0	

Note: 0 sample value indicates a non-detect analyte value

Table 0.2.2a

SWMU B-3 Bioreactor Multi-port Well CS-WB05 - Baseline Performance Data

		CS-WB05											
Well ID		CS-WB05-LGR03B		CS-WB05-LGR04A		CS-WB05-LGR04B		CS-WB05-BS01		CS-WB05-CC01		CS-WB05-CC02	
Sample Date		1/3/2007		1/4/2007		1/3/2007		1/3/2007		1/3/2007		1/2/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	1.3		1		0.44	J	0.76		1.6		1.1	
Total Organic Carbon	mg/L	1.1		1.1		0.56		0.75		1.4		0.93	
Methane	µg/L	15		8.8	J	0		0		0		34	
Ethene	µg/L	0		0		0		0		0		0	
Ethane	µg/L	0		0		0		0		0		0	
Carbon Dioxide	µg/L	46000		36000		48000		23000		22000		23000	
Alkalinity, Total (as CaCO ₃)	mg/L	312		267		275		277		276		265	
Nitrate/Nitrite	mg/L	0.087	J	0.036	J	1.1		0.051	J	0.07		0.46	
Sulfate	mg/L	68.5		32.3		14.8		39.1		54.4		80.7	
Chloride	mg/L	12.8		11		11.7		12.7		15.7		17.5	
Ferrous Iron	mg/L	0		0.66	J	0		0		0.63	J	0	
Manganese	µg/L	2.3	J	6.7		0		0		2.4	J	1.4	J
Hydrogen	nM												
Hydrogen Sulfide													
Total Dissolved Solids	mg/L	435		348		328		346		374		418	
Benzene	µg/L	0		0		0		0		0		0	
Bromodichloromethane	µg/L	0		0		0		0		0		0	
Bromoform	µg/L	0		0		0		0		0		0	
Chloroform	µg/L	0		0		0.22	J	0		0		0	
Dibromochloromethane	µg/L	0		0		0		0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0.38	J	0	
Dichloroethene, cis-1,2-	µg/L	37		29		350		31		190		170	
Dichloroethene, trans-1,2-	µg/L	1.5		0.44	J	0.65		0.56	J	3.8		2.3	
Methylene chloride	µg/L	0		0		0		0		0		0	
Naphthalene	µg/L	0		0		0		0		0		0	
Tetrachloroethene	µg/L	0.71	J	0.24	J	330		0.47	J	180		72	
Toluene	µg/L	0		0		0		0		0		0	
Trichloroethene	µg/L	76		37		340		42		170		92	
Vinyl chloride	µg/L	0		0		0		0		0		0	
Arsenic	µg/L	9.2											

Note: 0 sample value indicates a non-detect analyte value

Table 0.2.2b

SWMU B-3 Bioreactor Multi-port Well CS-WB06 - Baseline Performance Data

		CS-WB06									
Well ID		CS-WB06-LGR01		CS-WB06-LGR02		CS-WB06-LGR03A		CS-WB06-LGR03B		CS-WB06-LGR04	
Sample Date		1/10/2007		1/5/2007		1/5/2007		1/4/2007		1/4/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	0.69		1.6		1		1.3		3.2	
Total Organic Carbon	mg/L	0.54		0.84		0.9		0.95		3.9	
Methane	µg/L	0		0		0		0		0	
Ethene	µg/L	0		0		0		0		0	
Ethane	µg/L	0		0		0		0		0	
Carbon Dioxide	µg/L	9620		7080		27300		42000		32000	
Alkalinity, Total (as CaCO ₃)	mg/L	251		270		268		278		259	
Nitrate/Nitrite	mg/L	0.52		0.24		0.5		0.12		1.3	
Sulfate	mg/L	12.6		32.6		16.3		16.6		8.9	
Chloride	mg/L	10.4		10.7		12.1		12		11.8	
Ferrous Iron	mg/L	0		0		0		0		0	
Manganese	µg/L	0		0		2.1	J	0		1.6	J
Hydrogen	nM										
Hydrogen Sulfide											
Total Dissolved Solids	mg/L			355		337		333		315	
Benzene	µg/L			0		0		0		0	
Bromodichloromethane	µg/L			0		0		0		0	
Bromoform	µg/L			0		0		0		0	
Chloroform	µg/L			0		0		0		0.29	J
Dibromochloromethane	µg/L			0		0		0		0	
Dichlorodifluoromethane	µg/L			0		0		0		0	
Dichloroethene, 1,1-	µg/L			0		0		0		0.34	J
Dichloroethene, cis-1,2-	µg/L			8.6		260		160		260	
Dichloroethene, trans-1,2-	µg/L			0.53	J	2.8		2.2		2.7	
Methylene chloride	µg/L			0		0		0		0	
Naphthalene	µg/L			0		0		0		0	
Tetrachloroethene	µg/L			2.2		160		63		140	
Toluene	µg/L			0		0		0		0	
Trichloroethene	µg/L			3.6		190		91		220	
Vinyl chloride	µg/L			0		0		0		0	
Arsenic	µg/L							12.8			

Note: 0 sample value indicates a non-detect analyte value

Table 0.2.2c

SWMU B-3 Bioreactor Multi-port Well CS-WB07 - Baseline Performance Data

		CS-WB07									
Well ID		CS-WB07-LGR01		CS-WB07-LGR-02		CS-WB07-LGR-03A		CS-WB07-LGR-03B		CS-WB07-LGR-04	
Sample Date		1/9/2007		1/8/2007		1/8/2007		1/8/2007		1/8/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	0.64		0.56		0.43	J	0.38	J	0.28	J
Total Organic Carbon	mg/L	0.7		0.51		0.46	J	0.54		0.39	J
Methane	µg/L	0		0		0		1.95		0	
Ethene	µg/L	0		0		0		0		0	
Ethane	µg/L	0		0		0		0		0	
Carbon Dioxide	µg/L	40800		55100		7130		26900		33400	
Alkalinity, Total (as CaCO ₃)	mg/L	335		279		281		278		266	
Nitrate/Nitrite	mg/L	0.036	J	0.87		0.051	J	0.046	J	0.8	
Sulfate	mg/L	47.5		24		19.5		19.5		9.7	
Chloride	mg/L	12.2		11.4		10.3		10.3		12.4	
Ferrous Iron	mg/L	0		0		0		0		0	
Manganese	µg/L	0		0		2.1	J	0		0	
Hydrogen	nM										
Hydrogen Sulfide											
Total Dissolved Solids	mg/L	461		350		333		326		321	
Benzene	µg/L	0		0		0		0		0	
Bromodichloromethane	µg/L	0		0		0		0		0	
Bromoform	µg/L	0		0		0		0		0	
Chloroform	µg/L	0		0		0		0		0.29	J
Dibromochloromethane	µg/L	0		0		0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0.66	J
Dichloroethene, cis-1,2-	µg/L	0.88	J	1.4		27		28		330	
Dichloroethene, trans-1,2-	µg/L	0		0		0.97		0.86		5.5	
Methylene chloride	µg/L	0		0		0		0.42	J	0.35	J
Naphthalene	µg/L	0		0		0		0		0	
Tetrachloroethene	µg/L	0.94	J	4.3		2		3.6		120	
Toluene	µg/L	0		0		0		0		0	
Trichloroethene	µg/L	3.8		8.2		5.2		4.4		74	
Vinyl chloride	µg/L	0		0		0		0		0	
Arsenic	µg/L							4.5	J		

Note: 0 sample value indicates a non-detect analyte value

Table 0.2.2d

SWMU B-3 Bioreactor Multi-port Well CS-WB08 - Baseline Performance Data

		CS-WB08							
Well ID		CS-WB08-LGR01		CS-WB08-LGR02		CS-WB08-LGR03B		CS-WB08-LGR04	
Sample Date		1/10/2007		1/9/2007		1/9/2007		1/9/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	0.67		1.2		0.46	J	6.3	
Total Organic Carbon	mg/L	0.57		1.3		0.66		6.3	
Methane	µg/L	1.71		6.58		0		0	
Ethene	µg/L	0		0		0		0	
Ethane	µg/L	0		0		0		0	
Carbon Dioxide	µg/L	55900		34600		14400		91900	
Alkalinity, Total (as CaCO ₃)	mg/L	374		326		275		294	
Nitrate/Nitrite	mg/L	0.035	J	0.034	J	0.091	J	0.55	
Sulfate	mg/L	122		59.5		30.2		58.4	
Chloride	mg/L	12.7		10.7		10.4		20.8	
Ferrous Iron	mg/L	0		0		0		0	
Manganese	µg/L	2.7	J	2.2	J	0		0	
Hydrogen	nM								
Hydrogen Sulfide									
Total Dissolved Solids	mg/L	611		444		361		455	
Benzene	µg/L	0		0		0		0	
Bromodichloromethane	µg/L	0		0		0		0	
Bromoform	µg/L	0		0		0		0	
Chloroform	µg/L	0		0		0		0	
Dibromochloromethane	µg/L	0		0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0	
Dichloroethene, 1,1-	µg/L	0.44	J	0		0		0	
Dichloroethene, cis-1,2-	µg/L	70		45		58		200	
Dichloroethene, trans-1,2-	µg/L	2		0		1.4		1.3	
Methylene chloride	µg/L	0		0		0		0	
Naphthalene	µg/L	0		0		0		0	
Tetrachloroethene	µg/L	2.6		0		38		75	
Toluene	µg/L	1	J	1.5		0		0	
Trichloroethene	µg/L	25		0		49		56	
Vinyl chloride	µg/L	0		0		0		0	
Arsenic	µg/L					3.3	J		

Note: 0 sample value indicates a non-detect analyte value

Table 0.3.1

Baseline Monitoring Well Field Parameters

Monitoring Well	Sample Date	Sample Time	pH	Temp.	Sp. Cond.	ORP	DO
B3-MW01	1/4/2007	1120	6.75	20.54	2.844	-152.7	0.48
CS-MW1-LGR	1/11/2007	1415	7.12	20.98	0.495	-12.9	4.4
CS-MW2-LGR	1/11/2007	1310	11.75	20.57	1.162	-222.6	0.49
CS-D	1/11/2007	1130	7.27	19.79	0.432	-11.7	3.99
CS-MW16-LGR	1/10/2007	1500	7.11	21.26	0.524	-26.5	1.69
CS-MW16-CC	1/10/2007	no electricity					

Table 0.3.2

SWMU B-3 Monitoring Well VOC Analytical Summary Table

	CS-MW16-LGR	CS-MW1-LGR	CS-MW2-LGR	CS-MW16-CC	B3-MW1
Date	1/10/07	1/11/07	1/11/07	January	1/4/07
PCE (µg/L)	65	10	0.19	NA	0.24
TCE (µg/L)	68	25	0	NA	0.45
cisDCE (µg/L)	67	15	1.5	NA	23
transDCE (µg/L)	2.3	0	0	NA	0.2
Vinyl Chloride (µg/L)	0	0	0	NA	0
Ethene (µg/L)	0	0	0	NA	0
PCE (nM/L)	391.968	60.303	1.146		1.447
TCE (nM/L)	517.543	190.273	0		3.425
cisDCE (nM/L)	691.078	154.719	15.472		237.236
transDCE (nM/L)	23.724	0	0		2.063
Vinyl Chloride (nM/L)	0	0	0		0
Ethene (nM/L)	0	0	0		0
Total Molar Conc. (nM/L)	1624.312	405.295	16.618		244.171
% moles PCE	24.131	14.879	6.895		0.593
% moles TCE	31.862	46.947	0		1.403
% moles cisDCE	42.546	38.174	93.105		97.160
% moles transDCE	1.461	0	0		0.845
% moles Vinyl Chloride	0	0	0		0
% moles Ethene	0	0	0		0
sum % moles	100	100	100		100

NA = Not Available

Note: 0 sample value indicates a non-detect analyte value

Table 0.3.3

SWMU B-3 Bioreactor Monitoring Wells Baseline Performance Data

		Monitoring Wells											
Well ID		CS-MW16-LGR		CS-MW1-LGR		CS-MW2-LGR		CS-B3-MW01		CS-MW16-CC		B3-UIC	
Sample Date		1/10/2007		1/11/2007		1/11/2007		1/4/2007				4/26/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	0.56		0.6		2.7		403					
Total Organic Carbon	mg/L	0.39	J	0.51		2.6		369					
Methane	µg/L	0		0		0.312	J	22000					
Ethene	µg/L	0		0		0		0					
Ethane	µg/L	0		0		0		0					
Carbon Dioxide	µg/L	38300		33700		0		440000					
Alkalinity, Total (as CaCO ₃)	mg/L	237		224		258		1730					
Nitrate/Nitrite	mg/L	1		0.63		0		0.073	J				
Sulfate	mg/L	19.9		13		20.7		0.71	J				
Chloride	mg/L	10.9		9.3		7.5		33.8					
Ferrous Iron	mg/L	0		0		0		11					
Manganese	µg/L	11.7		7.6		8.7		193					
Hydrogen	nM	0.98		0.8				1.5					
Hydrogen Sulfide													
Total Dissolved Solids	mg/L	320		307		331		2140				347	
Benzene	µg/L	0		0		0.17	J	0				0	
Bromodichloromethane	µg/L	0		0		0		0				0	
Bromoform	µg/L	0		0		0		0				0	
Chloroform	µg/L	0		0		0		0				0	
Dibromochloromethane	µg/L	0		0		0		0				0	
Dichlorodifluoromethane	µg/L	0		0		0		0				0	
Dichloroethene, 1,1-	µg/L	0		0		0		0				0	
Dichloroethene, cis-1,2-	µg/L	67		15		1.5		23				41	
Dichloroethene, trans-1,2-	µg/L	2.3		0		0		0.2	J			0.42	J
Methylene chloride	µg/L	0		0		0		0				0	
Naphthalene	µg/L	0		0		0		0				0	
Tetrachloroethene	µg/L	65		10		0.19	J	0.24	J			35	
Toluene	µg/L	0		0		1.5		0				0	
Trichloroethene	µg/L	68		25		0		0.45	J			41	
Vinyl chloride	µg/L	0		0		0		0				0	
Arsenic	µg/L	0											

Note: 0 sample value indicates a non-detect analyte value

Table 0.4.4

SWMU B-3 Sump and Monitoring Well Baseline Microbial Data

Sample date: 12/19/2006		CS B-3 MW01	CS-MW 16-LGR	B3 Sump 1-3
Dechlorinating Bacteria	units			
<i>Dehalococcoides spp (1)</i>	(cells/mL)	2.37E+01	6.90E+01	2.46E+03
Functional Genes	units			
TCE R-Dase (1)	(cells/mL)	<1.11E+00	<2.5E-01	<1E+00
BAV1 VC R-Dase (1)	(cells/mL)	<1.11E+00	<2.5E-01	<1E+00
VC R-Dase	(cells/mL)	<1.11E+00	<2.5E-01	<1E+00

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 1								
Sump 1-1								
Sump Depth: 12.9 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
10/19/2006	NA							
11/16/2006	NA							
12/19/2006	NA							
1/12/2007	NA	12.90	6.57	29.32	3.324	0.30	-206.9	0.00
4/11/2007	1400	8.90	6.70	27.20	3.440	0.50	-186.6	4.00
4/12/2007	1130	8.85	6.64	27.75	3.210	0.68	-203.8	4.05
4/18/2007	940	9.30	6.62	27.48	3.040	0.44	-190.0	3.60
4/25/2007	1330	9.49	6.61	26.48	2.870	0.81	-196.9	3.41
4/26/2007	1430	9.42	6.36	25.27	1.305	1.15	-192.3	3.48
4/27/2007	1200	9.60						3.30
4/30/2007	730	10.41						2.49
5/1/2007	1600	9.23						3.67
5/2/2007	930	9.42						3.48
5/3/2007	1800	8.10						4.80
5/4/2007	830	8.65	6.45	23.90	1.230	0.87	-178.9	4.25
5/7/2007	920	9.30						3.60
5/9/2007	900	8.63						4.27
5/14/2007	940	9.86	6.47	23.82	1.090	0.93	-155.7	3.04
5/16/2007	930	8.06	6.67	23.65	0.813	1.69	-183.3	4.84
5/21/2007	830	10.45	6.53	24.02	1.410	1.04	-182.4	2.45
5/29/2007	900	5.64	6.65	29.53	2.397	1.45	-201.1	7.26
6/6/2007	1043	7.60	6.57	29.15	2.559	2.39	-191.0	5.30
6/14/2007	1520	9.05	6.54	23.38	2.420	0.78	-198.1	3.85
6/21/2007	850	9.03	6.25	26.73	1.633	0.74	-187.9	3.87
6/28/2007	1530	3.55	6.51	34.00	1.900	0.36	-188.9	9.35
6/29/2007	950	4.00	6.75	32.99	1.783	0.59	-213.2	8.90
7/3/2007	1030	4.33	6.47	29.78	1.373	0.88	-200.2	8.57
7/11/2007	1000	4.18	6.35	28.49	1.387	0.80	-190.2	8.72
7/20/2007	905	6.95	6.44	30.78	2.068	0.68	-190.4	5.95
7/24/2007		Wtr. Too Deep						

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 1								
Sump 1-2								
Sump Depth: 12.4 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
	NA							
	NA							
	NA							
1/12/2007	NA	12.40	6.53	29.18	2.409	0.45	-210.2	0.00
4/11/2007	1400	8.55	6.58	28.10	3.140	0.50	-172.6	3.85
4/12/2007	1130	8.50	6.56	29.22	2.970	0.50	-198.1	3.90
4/18/2007	1030	9.08	6.63	28.23	3.470	0.40	-166.3	3.32
4/25/2007	1333	9.35	6.58	28.58	3.470	0.56	-199.8	3.05
4/26/2007	1430	9.31	6.65	28.01	3.612	1.44	-190.8	3.09
4/27/2007	1200	9.28						3.12
4/30/2007	730	10.14						2.26
5/1/2007	1600	8.86						3.54
5/2/2007	930	9.06						3.34
5/3/2007	1800	8.48						3.92
5/4/2007	830	8.37	6.55	27.21	3.050	0.95	-189.5	4.03
5/7/2007	920	8.00						4.40
5/9/2007	900	8.28						4.12
5/14/2007	945	9.45	6.60	25.98	1.133	0.77	-181.1	2.95
5/16/2007	1020	7.75	6.70	24.90	0.903	1.89	-193.7	4.65
5/21/2007	835	10.04	6.61	24.99	1.445	1.04	-180.3	2.36
5/29/2007	915	5.32	6.62	26.68	1.653	1.44	-196.1	7.08
6/6/2007	1050	7.25	6.54	28.66	2.403	1.77	-179.9	5.15
6/14/2007	1522	8.70	6.54	27.08	2.460	0.69	-190.0	3.70
6/21/2007	930	8.69	6.29	26.73	2.131	0.45	-197.3	3.71
6/28/2007	1530	3.65	6.51	33.15	2.230	0.43	-202.1	8.75
6/29/2007	950	3.72	6.62	33.33	1.817	0.50	-205.6	8.68
7/3/2007	1030	4.01	6.49	32.95	2.049	0.55	-188.9	8.39
7/11/2007	1000	3.88	6.36	29.00	2.058	0.50	-207.8	8.52
7/20/2007	905	6.63	6.40	29.75	1.722	0.49	-174.0	5.77
7/24/2007	1000	1.72	6.98	28.14	1.210	0.37	-188.8	10.68

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 1								
Sump 1-3								
Sump Depth: 12.85 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
10/19/2006	1150		6.72	27.40	2.107	2.75	-118.0	12.85
11/16/2006	NA		6.81	26.67	2.161	3.80	-114.4	12.85
12/19/2006	1500		6.70	27.40	2.495	1.35	-166.0	12.85
1/12/2007	NA							
4/11/2007	1400	8.92	6.46	23.50	2.100	0.80	-147.7	3.93
4/12/2007	1130	8.20	6.47	24.23	2.110	0.48	-147.6	4.65
4/18/2007	1300	8.60	6.58	24.17	2.970	0.36	-166.3	4.25
4/25/2007	1336	9.19	6.47	24.35	2.290	0.45	-193.8	3.66
4/26/2007	1430	9.19	6.65	24.14	2.310	1.74	-136.9	3.66
4/27/2007	1200	9.05						3.80
4/30/2007	730	9.64						3.21
5/1/2007	1600	8.51						4.34
5/2/2007	930	8.66						4.19
5/3/2007	1800	8.82						4.03
5/4/2007	830	8.28	6.46	24.65	2.300	0.95	-129.0	4.57
5/7/2007	920	8.10						4.75
5/9/2007	900	7.82						5.03
5/14/2007	949	8.92	6.43	24.37	2.206	0.96	-155.5	3.93
5/16/2007	1130	7.11	6.55	24.52	1.059	1.26	-191.4	5.74
5/21/2007	840	9.51	6.49	24.42	1.566	1.04	-150.8	3.34
5/29/2007	930	5.35	6.65	27.54	1.674	1.05	-147.5	7.50
6/6/2007	1054	7.02	6.48	28.42	1.843	1.69	-164.8	5.83
6/14/2007	15	8.44	6.53	26.21	1.820	0.66	-155.5	4.41
6/21/2007	1000	8.21	6.16	26.25	1.789	0.40	-194.2	4.64
6/28/2007	1530	3.42						9.43
6/29/2007	950	3.40	6.88	26.78	0.888	0.55	-139.4	9.45
7/3/2007	1030	3.67	6.81	29.29	1.047	0.48	-212.7	9.18
7/11/2007	1000	3.60	6.82	30.14	1.128	0.47	-204.8	9.25
7/20/2007	905	6.37	6.57	29.53	1.149	0.42	-199.2	6.48
7/24/2007		Wtr. Too Deep						

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 2								
Sump 2-1								
Sump Depth: 9.67 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
1/12/2007	NA	9.67	6.99	31.93	3.373	0.25	-244.8	0.00
4/11/2007	1400	9.20						0.47
4/12/2007	1130	9.67						0.00
4/18/2007	NA	9.15						0.52
4/25/2007	1333	9.12						0.55
4/26/2007	NA	9.67						0.00
4/27/2007	NA	9.67						0.00
4/30/2007	730	9.67						0.00
5/1/2007	1600	8.95						0.72
5/2/2007	930	9.67						0.00
5/3/2007	1800	9.67						0.00
5/4/2007	830	9.67						0.00
5/7/2007	920	9.67						0.00
5/9/2007	900	9.60						0.07
5/14/2007	1000	9.06	6.75	30.19	2.570	0.70	-180.9	0.61
5/16/2007	900	9.03						0.64
5/21/2007	NA	9.14						0.53
5/29/2007	945	7.05	6.76	30.79	2.429	0.96	-202.0	2.62
6/6/2007	1045	8.98						0.69
6/14/2007	1516	9.12						0.55
6/21/2007	NA	8.95	6.43	31.56	2.330	0.48	-170.7	0.72
6/28/2007	1530	4.88						4.79
6/29/2007	NA	5.47	6.67	32.62	1.326	0.50	-194.6	4.20
7/3/2007	1030	5.69	6.48	32.73	1.767	0.63	-207.5	3.98
7/11/2007	1000	5.60	6.47	31.07	2.095	0.64	-216.8	4.07
7/20/2007	905	8.35	6.48	31.35	2.084	0.57	-197.9	1.32
7/24/2007	1000	3.57	6.57	30.02	1.430	0.47	-210.2	6.10

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 2								
Sump 2-2								
Sump Depth: 10.01 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
1/12/2007	NA	10.01	6.93	30.43	4.435	0.33	-240.2	0.00
4/11/2007	1400	9.01	6.70	29.40	3.860	0.53	-188.2	1.00
4/12/2007	1130	8.82	6.74	28.64	3.640	0.48	-164.8	1.19
4/18/2007	1350	8.95	6.82	29.82	3.590	0.41	-192.2	1.06
4/25/2007	1332	9.14						0.87
4/26/2007	NA	9.10						0.91
4/27/2007	1200	9.13						0.88
4/30/2007	730	9.17						0.84
5/1/2007	1600	8.81						1.20
5/2/2007	930	10.01						0.00
5/3/2007	1800	10.01						0.00
5/4/2007	830	8.90	6.65	29.85	3.700	0.85	-148.8	1.11
5/7/2007	920	10.01						0.00
5/9/2007	900	9.00						1.01
5/14/2007	954	9.08	6.76	30.44	3.585	0.73	-175.3	0.93
5/16/2007	900	8.98						1.03
5/21/2007	NA	9.12						0.89
5/29/2007	1000	7.38	6.83	29.90	3.412	1.08	-160.9	2.63
6/6/2007	1051	8.85						1.16
6/14/2007	1523	9.00						1.01
6/21/2007	NA	8.95	6.50	31.21	3.258	0.45	-224.3	1.06
6/28/2007	1530	5.45	6.49	34.87	1.640	0.43	-121.9	4.56
6/29/2007	950	5.77	6.67	32.95	3.443	0.43	-200.8	4.24
7/3/2007	1030	6.02	6.73	32.77	3.304	0.44	-210.4	3.99
7/11/2007	1000	5.96	6.52	30.88	3.567	0.54	-207.8	4.05
7/20/2007	905	8.51	6.54	30.75	3.506	0.47	-192.6	1.50
7/24/2007	1000	3.90	6.72	30.49	2.688	0.40	-182.3	6.11

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 3								
Sump 3-1								
Sump Depth: 9.96 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
1/12/2007	NA	9.96	6.63	29.06	1.506	0.27	-162.4	0.00
4/11/2007	1400	8.84	6.70	29.90	1.540	0.60	-192.3	1.12
4/12/2007	1130	8.85	6.59	25.38	1.486	0.58	-153.4	1.11
4/18/2007	1400	8.95	6.61	26.03	1.520	0.44	-176.8	1.01
4/25/2007	NA	9.96						0.00
4/26/2007	NA	9.12						0.84
4/27/2007	1200	9.12						0.84
4/30/2007	730	9.12						0.84
5/1/2007	1600	8.46						1.50
5/2/2007	930	9.96						0.00
5/3/2007	1800	9.96						0.00
5/4/2007	830	8.75	6.49	26.46	1.560	0.80	-179.8	1.21
5/7/2007	920	9.96						0.00
5/9/2007	900	9.06						0.90
5/14/2007	1002	9.13	6.58	26.82	1.535	0.63	-179.5	0.83
5/16/2007	900	9.12						0.84
5/21/2007	NA	9.18						0.78
5/29/2007	1015	7.59	6.82	26.63	1.425	1.25	-172.0	2.37
6/6/2007	1046	8.91						1.05
6/14/2007	1518	9.20						0.76
6/21/2007	NA	9.12						0.84
6/28/2007	1530	5.55	6.45	25.46	0.670	0.45	-158.5	4.41
6/29/2007	950	7.31	6.80	26.88	0.675	0.95	-175.6	2.65
7/3/2007	1030	7.86	6.63	27.15	0.795	0.45	-184.0	2.10
7/11/2007	1000	7.51	6.39	27.06	1.017	0.51	-167.2	2.45
7/20/2007	8905	8.88	6.41	27.64	1.118	0.46	-180.9	1.08
7/24/2007	1000	6.15	6.60	25.42	0.887	0.52	-227.2	3.81

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 3								
Sump 3-2								
Sump Depth: 7.4 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
1/12/2007	NA	7.40						0.00
4/11/2007	1400	7.20						0.20
4/12/2007	1130	7.40						0.00
4/18/2007	NA	7.40						0.00
4/25/2007	NA	7.40						0.00
4/26/2007	NA	7.40						0.00
4/27/2007	NA	7.40						0.00
4/30/2007	730	7.40						0.00
5/1/2007	1600	7.40						0.00
5/2/2007	930	7.40						0.00
5/3/2007	1800	7.40						0.00
5/4/2007	830	7.40						0.00
5/7/2007	920	7.40						0.00
5/9/2007	900	7.40						0.00
5/14/2007	1000	7.40						0.00
5/16/2007	900	7.40						0.00
5/21/2007	NA	7.40						0.00
5/29/2007	1030	7.08	6.95	29.87	1.865	1.05	-146.8	0.32
6/6/2007	1047	7.33						0.07
6/14/2007	1519	7.40						0.00
6/21/2007	NA	7.10	6.37	28.58	1.350	0.68	-153.6	0.30
6/28/2007	1530	5.96	6.57	33.30	1.600	0.44	-162.6	1.44
6/29/2007	950	6.96						0.44
7/3/2007	1030	7.02						0.38
7/11/2007	1000	7.08						0.32
7/20/2007	905	7.13						0.27
7/24/2007	1000	5.88	6.73	28.46	1.192	0.44	-223.6	1.52

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 4								
Sump 4-1								
Sump Depth: 6.32 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
1/12/2007	NA	6.32						0.00
4/11/2007	1400	6.30						0.02
4/12/2007	1130	6.32						0.00
4/18/2007	NA	6.30						0.02
4/25/2007	NA	6.32						0.00
4/26/2007	NA	6.32						0.00
4/27/2007	NA	6.32						0.00
4/30/2007	730	6.32						0.00
5/1/2007	1600	6.20						0.12
5/2/2007	930	6.32						0.00
5/3/2007	1800	6.32						0.00
5/4/2007	830	6.32						0.00
5/7/2007	920	6.32						0.00
5/9/2007	900	6.30						0.02
5/14/2007	1001	6.10						0.22
5/16/2007	900	6.30						0.02
5/21/2007	NA	6.32						0.00
5/29/2007	1045	6.14						0.18
6/6/2007	1048	6.17						0.15
6/14/2007	1520	6.17						0.15
6/21/2007	NA	6.15						0.17
6/28/2007	1530	4.73	6.52	31.72	1.470	0.42	-113.3	1.59
6/29/2007	950	5.8						0.52
7/3/2007	1030	6.1						0.22
7/11/2007	1000	6.15						0.17
7/20/2007	905	6.18						0.14
7/24/2007	1000	4.90	6.73	28.84	1.064	0.49	-204.5	1.42

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 5								
Sump 5-1								
Sump Depth: 9.33 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
1/12/2007	NA	9.33						0.00
4/11/2007	1400	9.20						0.13
4/12/2007	1130	9.33						0.00
4/18/2007	NA	9.30						0.03
4/25/2007	NA	9.33						0.00
4/26/2007	NA	9.33						0.00
4/27/2007	NA	9.33						0.00
4/30/2007	730	9.33						0.00
5/1/2007	1600	9.10						0.23
5/2/2007	930	9.33						0.00
5/3/2007	1800	9.33						0.00
5/4/2007	830	9.33						0.00
5/7/2007	920	9.33						0.00
5/9/2007	900	9.30						0.03
5/14/2007	1003	9.33						0.00
5/16/2007	900	9.14						0.19
5/21/2007	NA	9.33						0.00
5/29/2007	1050	9.14						0.19
6/6/2007	1100	9.14						0.19
6/14/2007	1530	9.10						0.23
6/21/2007	NA	9.12						0.21
6/28/2007	1530	6.62						2.71
6/29/2007	950	8.80						0.53
7/3/2007	1030	9.08						0.25
7/11/2007	1000	9.08						0.25
7/20/2007	905	9.08						0.25
7/24/2007	1000	7.40	6.81	24.95	0.750	0.54	-230.1	1.93

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 5								
Sump 5-2								
Sump Depth: 7.98 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
1/12/2007	NA	7.98						0.00
4/11/2007	1400	7.65						0.33
4/12/2007	1130	7.98						0.00
4/18/2007	NA	7.90						0.08
4/25/2007	1340	7.31						0.67
4/26/2007	NA	7.72						0.26
4/27/2007	NA	7.98						0.00
4/30/2007	730	7.98						0.00
5/1/2007	1600	7.32						0.66
5/2/2007	930	7.98						0.00
5/3/2007	1800	7.98						0.00
5/4/2007	830	7.98						0.00
5/7/2007	920	7.98						0.00
5/9/2007	900	7.90						0.08
5/14/2007	1005	7.82						0.16
5/16/2007	900	7.85						0.13
5/21/2007	NA	7.98						0.00
5/29/2007	1055	6.79						1.19
6/6/2007	1059	7.83						0.15
6/14/2007	1528	7.90						0.08
6/21/2007	NA	7.04	6.22	26.40	0.905	0.61	-157.7	0.94
6/28/2007	1530	3.80	6.53	24.53	0.453	1.79	-50.3	4.18
6/29/2007	950	5.57	6.56	26.41	0.755	0.64	-167.3	2.41
7/3/2007	1030	7.35						0.63
7/11/2007	1000	7.02	6.26	26.37	0.919	0.51	-169.0	0.96
7/20/2007	905	7.75						0.23
7/24/2007	1000	3.65	6.55	26.40	0.874	0.59	-192.1	4.33

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 6								
Sump 6-1								
Sump Depth: 11.45 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
10/19/2006	1150	11.45	6.38	24.50	0.773	2.91	-91.8	0.00
11/16/2006	NA	11.45	6.36	28.74	0.774	3.29	-79.6	0.00
1/12/2007	NA	11.45	6.19	30.12	0.682	0.39	752.3	0.00
4/11/2007	1400	11.20						0.25
4/12/2007	1130	11.45						0.00
4/18/2007	NA	11.45						0.00
4/25/2007	NA	11.45						0.00
4/26/2007	NA	11.45						0.00
4/27/2007	NA	11.45						0.00
4/30/2007	730	11.45						0.00
5/1/2007	1600	11.15						0.30
5/2/2007	930	11.45						0.00
5/3/2007	1800	11.45						0.00
5/4/2007	830	11.45						0.00
5/7/2007	920	11.45						0.00
5/9/2007	900	11.15						0.30
5/14/2007	1004	11.45						0.00
5/16/2007	900	11.27						0.18
5/21/2007	NA	11.45						0.00
5/29/2007	1100	11.08						0.37
6/6/2007	1102	11.12						0.33
6/14/2007	1532	11.15						0.3
6/21/2007	NA	11.14						0.31
6/28/2007	1530	7.7	6.59	34.52	1.38	0.46	-151.4	3.75
6/29/2007	950	11.1						0.35
7/3/2007	1030	11.1						0.35
7/11/2007	1000	11.11						0.34
7/20/2007	905	11.23						0.22
7/24/2007	1000	8.24	6.85	25.66	1.044	0.68	-228.8	3.21

Table 1.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data

TRENCH 6								
Sump 6-2								
Sump Depth: 12.34 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level (feet BTOC)	pH	Temperature (°C)	Specific Conductivity (m-mho/cm)	Dissolved Oxygen (mg/L)	ORP (eV)	Sump H ₂ O Thickness (feet)
10/19/2006	NA	12.34						0.00
11/16/2006	NA	12.34						0.00
1/12/2007	NA	12.34						0.00
4/11/2007	1400	12.15						0.19
4/12/2007	1130	12.34						0.00
4/18/2007	NA	12.08						0.26
4/25/2007	NA	12.34						0.00
4/26/2007	NA	12.34						0.00
4/27/2007	NA	12.34						0.00
4/30/2007	730	12.34						0.00
5/1/2007	1600	12.15						0.19
5/2/2007	930	12.34						0.00
5/3/2007	1800	12.34						0.00
5/4/2007	830	12.34						0.00
5/7/2007	920	12.34						0.00
5/9/2007	900	12.15						0.19
5/14/2007	1006	12.34						0.00
5/16/2007	900	12.05						0.29
5/21/2007	NA	12.34						0.00
5/29/2007	1105	12.08						0.26
6/6/2007	1103	12.08						0.26
6/14/2007	1535	12.15						0.19
6/21/2007	NA	12.08						0.26
6/28/2007	1530	7.43	7.06	24.02	0.476	0.56	-155.5	4.91
6/29/2007	950	11.8						0.54
7/3/2007	1030	12.02						0.32
7/11/2007	1000	12						0.34
7/20/2007	905	12.05						0.29
7/24/2007	1000	7.94	6.68	24.75	0.888	0.58	-223.6	4.4

Table 1.1.2

B-3 Trench 1 VOC Analytical Summary

Date	B3-T1-1				B3-T1-2				B3-T1-3			
	4/7/07	5/16/07	6/21/07	8/2/07	4/7/07	5/16/07	6/21/07	8/2/07	4/7/07	5/16/07	6/21/07	8/2/07
PCE (µg/L)	0	0.53	0	0	0	0.15	0	0	0	0.17	0	0
TCE (µg/L)	2.7	1.4	1.1	0.88	3.5	0.44	0.46	1.6	1.5	1.4	0.61	2.1
cis-1,2-DCE (µg/L)	230	130	55	230	290	120	68	2100	35	61	49	210
trans-1,2-DCE (µg/L)	3.9	0.46	0.22	3.4	5.7	0.57	0.32	41	2.8	0.39	0.55	1.7
Vinyl Chloride (µg/L)	6.2	0.28	0.76	52	5.8	0	0.6	11	0.29	0	0.63	4
Ethene (µg/L)	0	0	0	0	0	0	0	0	0	0	0	0

PCE (nM/L)	0.000	3.196	0.000	0.000	0.000	0.905	0.000	0.000	0.000	1.025	0.000	0.000
TCE (nM/L)	20.550	10.655	8.372	6.698	26.638	3.349	3.501	12.177	11.416	10.655	4.643	15.983
cis-1,2-DCE (nM/L)	2372.357	1340.897	567.303	2372.357	2991.233	1237.751	701.392	21660.650	361.011	629.190	505.415	2166.065
trans-1,2-DCE (nM/L)	40.227	4.745	2.269	35.070	58.793	5.879	3.301	422.898	28.881	4.023	5.673	17.535
Vinyl Chloride (nM/L)	99.184	4.479	12.158	831.867	92.785	0.000	9.598	175.972	4.639	0.000	10.078	63.990
Ethene (nM/L)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Total Molar Conc. (nM/L) 2,532.317 1,363.973 590.102 3,245.991 3,169.449 1,247.884 717.793 22,271.698 405.947 644.893 525.809 2,263.573

% moles PCE	0.000%	0.234%	0.000%	0.000%	0.000%	0.072%	0.000%	0.000%	0.000%	0.159%	0.000%	0.000%
% moles TCE	0.811%	0.781%	1.419%	0.206%	0.840%	0.268%	0.488%	0.055%	2.812%	1.652%	0.883%	0.706%
% moles cis-1,2-DCE	93.683%	98.308%	96.136%	73.086%	94.377%	99.188%	97.715%	97.256%	88.930%	97.565%	96.121%	95.692%
% moles trans-1,2-DCE	1.589%	0.348%	0.385%	1.080%	1.855%	0.471%	0.460%	1.899%	7.114%	0.624%	1.079%	0.775%
% moles Vinyl Chloride	3.917%	0.328%	2.060%	25.628%	2.927%	0.000%	1.337%	0.790%	1.143%	0.000%	1.917%	2.827%
% moles Ethene	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

sum % moles 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%

Note: 0 sample value indicates a non-detect analyte value

Table 1.1.3

B-3 Bioreactor Analytical Summary

Q1		B3																															
Well ID		B3 T-1-1								B3 T-1-2								B3 T-1-3								B3 T-6-1				B3 T-6-2			
Sample Date		4/18/2007		5/16/2007		6/21/2007		8/2/2007		4/18/2007		5/16/2007		6/21/2007		8/2/2007		4/18/2007		5/16/2007		6/21/2007		8/2/2007		7/24/2007		8/2/2007		7/24/2007		8/2/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	252		41.2		23.1		7.0		276		48.1		40.1		11.3		158		54.1		63.3		22								34.5	
Total Organic Carbon	mg/L	284		40.7		23.6		8.2		303		49		48.5		NA		182		54.2		56.4		NA								40.8	
Methane	µg/L	9730		12500		6418.9		2070		21800		10100		6713.3		1380		14700		4060		8877.6		3950								11900	
Ethene	µg/L	0		0		0		0		0		0		0		0		0		0		0		0								0	
Ethane	µg/L	0		0		0		0		0		0		0		0		0		0		0		0								0	
Carbon Dioxide	µg/L	628000		323000		542481.4		82300		2480000		274000		695756.8		49200		1520000		23600		1103141		132000								314000	
Alkalinity, Total (as CaCO3)	mg/L	1610		426		526		336		1800		444		652		410		1130		418		808		489								515	
Nitrate/Nitrite	mg/L	0		0.029	J	0.095	J	0		0		0.054	J	0.21		0		0		0.087	J	0.3		0								0	
Sulfate	mg/L	6.1	J	2.2		16.3		5.4		5.5	J	2.1		4.1		4.8		1.3	J	8.1		2		8.2								0.97	J
Chloride	mg/L	77.4		13.3		14.5		7.8		109		14.2		17.6		13.5		31.9		12.5		17.6		11.1								13.5	
Ferrous Iron	mg/L	16.4		10.8		14.1		5.1		22.1		7.9		15.6		1.5		28.1		5.7		25.1		7.1								9.4	
Manganese	µg/L	2960		1020		1220		471		2780		1010		1540		726		4280		1680		3300		1210								1120	
Hydrogen	nM	6.1		6.0		9.2		14.0		9.6		1.9		4.2		4.7		6.3		4.3		3.2		60.0				2.0					
Hydrogen Sulfide																																	
Total Dissolved Solids	mg/L	2290				763		414		2720				922		509		1660				1150		632								662	
Benzene	µg/L	0.29	J	0		0		0		0.59		0		0		0		0.16	J	0.18	J	0		0						0		0	
Bromodichloromethane	µg/L	0		0		0		0		0		0		0		0		0		0		0		0						0		0	
Bromoform	µg/L	0		0		0		0		0		0		0		0		0		0		0		0						0		0	
Chloroform	µg/L	0		0		0		0		0		0		0		0		0		0		0		0						0		0	
Dibromochloromethane	µg/L	0		0		0		0		0		0		0		0		0		0		0		0						0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0		0		0		0		0		0		0						0		0	
Dichloroethene, 1,1-	µg/L	0		0.31	J	0		0.33	J	0		0		0		3.8		0		0		0		0.42	J	1.9				0.31	J	0.49	J
Dichloroethene, cis-1,2-	µg/L	230		130		55		230		290		120		68		2100		35		61		49		210		1500				150		480	
Dichloroethene, trans-1,2-	µg/L	3.9		0.46	J	0.22	J	3.4		5.7	J	0.57	J	0.32	J	41		2.8		0.39	J	0.55	J	1.7		1.5		0.27	J	4.8			
Methylene chloride	µg/L	0.38	BJ	0		0		0		0		0		0		0		0.35	BJ	1.3		0		0						0		0	
Naphthalene	µg/L	2.4		32		2.9		1.7		2.5		3.9		1.1		0.39	J	1.3		1.7		0		0		0.53				0.55		0.41	
Tetrachloroethene	µg/L	0		0.53	J	0		0		0		0.15	J	0		0		0		0.17	J	0		0		10				2.5		0	
Toluene	µg/L	500		150		340		11		970		170		190		8.7		320		280		34		4.3		1.1				29		15	
Trichloroethene	µg/L	2.7		1.4		1.1		0.88	J	3.5		0.44	J	0.46	J	1.6		1.5		1.4		0.61	J	2.1		14				15		0.18	J
Vinyl chloride	µg/L	6.2		0.28	J	0.76	J	52		5.8		0		0.6	J	11		0.29	J	0		0.63	J	4		0.67	J			0		5.4	
Arsenic	µg/L	75.1		11.7		0		0		54.4		13.1		0		0		32.2	J	10.2		0		3.5	J							10.5	
Barium	µg/L	658		133		252		87.3		702		180		314		122		455		157		356		172								151	
Cadmium	µg/L	0		0		0		0		0		0		0		0		0		0		0		0								0	
Chromium	µg/L	0		0		2.2	J	0		0		3.5	J	0		0		0		0		4.9	J	0								1.5	J
Copper	µg/L	0		0		1.7	J	2.3	J	0		0		1.1	J	2.0	J	0		2.5	J	1.8	J	2.2	J							4.8	J
Lead	µg/L	0		0		0		0		0		0		2.1	J	0		0		7.5		3.7	J	0								6.8	
Mercury	µg/L	0		0.1	J	0		0.12	J	0		0.065	J	0		0.1	J	0		0		0		0.095	J							0	
Nickel	µg/L	0		4.2	J	4.4	J	0		0		5.4		5.8		0		0		7.9		13.2		0								7.6	
Zinc	µg/L	0		6.8	J	0		2.8	J	0		14.3	J	0		184		0		13.1	J	0		21.5	J							12.3	J

Note: 0 sample value indicates a non-detect analyte value

Table 1.2.1a

SWMU B-3 Bioreactor Multi-port Well CS-WB05 Field Parameter Data

WB05							
Zone	Sample Date	Sample Time	pH	Temp. (°C)	Sp. Cond. (mS/cm)	ORP (mV)	DO (mg/L)
LGR-01	1/4/2007	dry					
	6/18/2007	1302	7.14	24.41	0.970	-36.5	3.40
	7/17/2007	1500	7.07	24.73	0.998	-21.1	4.80
LGR-02	1/4/2007	dry					
	6/18/2007	1252	7.14	27.16	0.796	-65.9	3.20
	7/17/2007	1415	7.08	26.23	0.873	-58.0	4.26
LGR-03A	1/4/2007	dry					
	6/18/2007	1117	7.19	24.46	0.667	-45.3	4.00
	7/17/2007	1315	7.23	25.58	0.711	-32.9	5.24
LGR-03B	1/31/2006	1049	7.26	19.50	0.599	153.6	7.65
	5/4/2006	1600	6.89	27.93	0.720	26.9	5.10
	6/5/2006	1750	7.17	27.39	0.778	-25.0	3.95
	8/9/2006	1754	6.89	28.55	0.817	-40.9	5.78
	10/12/2006	1000	7.56	22.36	0.675	-131.4	6.43
	1/3/2007	1510	7.30	18.53	0.633	-79.9	5.01
	4/23/2007	1000	7.15	22.10	0.670	-40.2	6.35
	5/14/2007	1445	6.95	23.71	0.599	-90.7	6.52
	6/18/2007	1030	7.13	24.58	0.689	-50.2	5.31
	7/17/2007	1045	7.18	23.59	0.688	-51.5	7.27
	LGR-04A	1/30/2006	1535	7.17	20.77	0.563	-39.9
5/4/2006		1925	7.05	24.69	0.561	-79.6	4.09
6/5/2006		1555	7.15	29.84	0.716	-97.5	4.17
8/9/2006		1600	6.99	28.78	0.685	-119.6	4.47
10/11/2006		1600	7.33	24.49	0.565	-95.4	5.75
1/4/2007		1030	7.27	18.86	0.528	-104.4	6.23
6/18/2007		1014	7.23	24.51	0.612	-99.2	3.13
7/17/2007		930	7.18	23.24	0.616	-116.3	6.57
LGR-04B		1/30/2006	1400	7.06	24.22	0.578	166.9
	5/5/2006	1740	6.96	28.21	0.575	129.0	6.45
	6/5/2006	1130	7.07	25.69	0.598	52.9	6.68
	8/9/2006	1225	6.82	26.41	0.615	60.9	9.71
	10/11/2006	1430	7.06	25.83	0.574	31.2	8.72
	1/3/2007	1440	7.19	17.77	0.491	13.8	9.48
	6/18/2007	1001	7.00	23.08	0.571	-22.7	4.63
	7/16/2007	1600	6.94	24.02	0.597	5.7	5.85
	LGR-BS-01	1/30/2006	1225	7.68	22.28	0.568	69.4
8/9/2006		1025	7.24	25.97	0.649	-34.1	8.30
10/11/2006		1015	7.20	20.96	0.515	-66.7	8.23
1/3/2007		1130	7.31	17.57	0.519	-36.3	7.76
6/18/2007		945	7.16	23.17	0.570	-59.7	5.36
7/16/2007		1445	7.15	25.02	0.612	-38.8	5.40
LGR-CC-01	1/30/2006	953	7.33	17.93	0.542	47.8	9.89
	8/8/2006	1505	7.07	28.06	0.732	-63.1	8.73
	10/10/2006	1630	7.60	22.41	0.521	-111.5	8.05
	1/3/2007	1000	7.46	17.64	0.555	-64.7	8.66
	6/18/2007	933	7.09	23.50	0.617	-68.0	5.09
	7/16/2007	1125	7.11	24.28	0.656	-74.8	4.73
LGR-CC-02	1/27/2006	1505	7.12	21.79	0.607	60.4	8.54
	8/8/2006	1232	7.29	26.19	0.754	-60.7	8.99
	10/10/2006	1136	7.54	21.24	0.554	-87.5	10.24
	1/2/2007	1415	7.34	19.48	0.630	-56.0	9.35
	6/18/2007	917	6.85	23.52	0.626	-80.3	5.25
	7/16/2007	1015	6.97	24.90	0.671	-58.4	4.96

Table 1.2.1b SWMU B-3 Multi-port Well CS-WB06 Field Parameter Data

Zone	WB06						
	Sample Date	Sample Time	pH	Temp. (°C)	Sp. Cond. (mS/cm)	ORP (mV)	DO (mg/L)
UGR-01	12/27/2005	dry					
	1/5/2007	dry					
	6/18/2007	1451	7.01	22.90	0.614	-11.7	4.02
	7/25/2007	1015	6.84	21.20	0.663	20.4	4.84
LGR-01	12/27/2005	1621	7.22	24.30	0.622	NA	NA
	1/10/2007	1045	7.27	18.78	0.518	-13.3	5.08
	6/18/2007	1436	7.06	23.34	0.678	-23.2	3.55
	7/25/2007	930	7.11	21.08	0.660	15.0	5.85
LGR-02	1/27/2005	1515	7.22	23.40	0.680	NA	NA
	1/25/2006	1230	7.18	19.74	0.602	201.8	6.18
	1/5/2007	1350	7.27	22.63	0.596	-33.4	4.04
	6/18/2007	1426	7.17	23.25	0.596	-20.1	4.62
	7/23/2007	1420	7.04	25.44	0.628	-3.3	5.79
LGR-03A	1/27/2005	1448	7.20	23.60	0.631	NA	NA
	1/5/2007	1015	7.37	20.59	0.555	-15.4	4.77
	6/18/2007	1415	7.06	23.82	0.593	-13.8	4.42
	7/23/2007	1310	6.97	27.61	0.639	0.7	5.35
LGR-03B	1/27/2005	1420	7.15	24.70	0.647	NA	NA
	1/25/2006	955	7.28	17.78	0.544	122.3	8.55
	1/4/2007	1600	7.11	19.87	0.547	4.1	6.70
	5/15/2007	1420	7.15	23.95	0.595	-12.0	7.08
	6/18/2007	1353	7.06	24.94	0.606	-8.1	4.55
	7/23/2007	1045	6.99	23.51	0.587	-9.5	6.36
LGR-04	1/27/2005	1352	7.10	25.10	0.608	NA	NA
	1/25/2006		6.92	20.94	0.542	117.0	8.73
	1/4/2007	1500	7.22	20.28	0.514	-14.6	7.23
	6/18/2007	1337	6.99	25.24	0.606	-10.6	4.65
	7/23/2007	1000	6.79	23.56	0.579	-9.0	4.30

Table 1.2.1c SWMU B-3 Multi-port Well CS-WB07 Field Parameter Data

Zone	WB07						
	Sample Date	Sample Time	pH	Temp. (°C)	Sp. Cond. (mS/cm)	ORP (mV)	DO (mg/L)
UGR-01	12/28/2005	dry					
	1/9/2007	dry					
	6/19/2007	1030	6.67	22.89	0.997	-124.0	3.45
	7/19/2007	1040	6.49	22.98	1.210	-105.9	3.95
LGR-01	12/28/2005	1248	7.13	21.50	0.672	NA	NA
	1/9/2007	915	7.26	17.05	0.646	-3.0	4.20
	6/19/2007	1020	7.15	23.15	0.735	-23.5	3.41
	7/19/2007	940	6.98	23.31	0.730	-9.5	4.09
LGR-02	12/28/2005	1224	7.10	21.40	0.642	NA	NA
	1/24/2006		7.15	21.68	0.599	202.9	7.98
	1/8/2007	1430	7.27	19.93	0.555	-2.3	4.84
	6/19/2007	1012	7.22	23.27	0.634	-48.0	4.88
	7/18/2007	1500	7.02	22.67	0.626	-36.9	6.52
LGR-03A	12/28/2005	1159	7.21	20.70	0.576	NA	NA
	1/8/2007	1310	7.67	19.02	0.523	-71.1	3.10
	6/19/2007	1000	7.20	23.02	0.573	-67.5	3.63
	7/18/2007	1345	7.07	23.88	0.583	-44.9	5.11
LGR-03B	12/28/2005	1133	7.15	20.30	0.571	NA	NA
	1/24/2006		7.24	21.54	0.544	113.9	9.21
	1/8/2007	1030	7.31	19.01	0.522	-45.2	6.66
	4/23/2007	1350	7.17	22.65	0.589	-39.1	7.75
	5/15/2007	1010	7.15	24.32	0.590	-45.6	6.21
	6/19/2007	900	7.14	23.86	0.585	-50.7	7.63
	7/18/2007	1050	7.16	23.34	0.057	-34.8	8.08
LGR-04	12/28/2005	1106	6.98	19.60	0.537	NA	NA
	1/24/2006		7.08	21.54	0.537	177.8	7.95
	1/8/2007	1000	7.17	19.22	0.507	13.5	7.23
	6/19/2007	842	7.13	23.99	0.568	-12.5	5.34
	7/18/2007	1000	6.99	23.02	NS	NS	NS

Table 1.2.1d SWMU B-3 Multiport Well CS-WB08 Field Parameter Data

Zone	WB08						
	Sample Date	Sample Time	pH	Temp. (°C)	Sp. Cond. (mS/cm)	ORP (mV)	DO (mg/L)
UGR-01	1/10/2007	dry	6.70	23.40	0.650	15.9	4.36
	6/19/2007	dry					
	7/26/2007	1500					
LGR-01	12/28/2005	925	7.05	20.40	0.888	NA	NA
	1/10/2007	930	7.34	17.25	0.743	-59.9	4.37
	6/19/2007	1419	7.21	24.05	0.901	-80.2	3.20
	7/26/2007	1410	6.86	24.15	0.831	-17.3	3.77
LGR-02	12/29/2005	952	7.08	18.10	0.331	NA	NA
	1/26/2006	1130	7.26	20.65	0.716	77.9	7.87
	1/9/2007	1510	7.26	20.49	0.665	-87.6	2.86
	6/19/2007	1408	7.18	24.44	0.825	-54.2	3.69
	7/26/2007	1330	6.92	25.39	0.884	-6.9	4.95
LGR-03A	1/9/2007	1422	dry	25.02	0.620	-17.8	4.62
	6/19/2007	1356	7.13				
	7/26/2007	1055	6.90				
LGR-03B	12/28/2005	1546	7.04	24.60	0.629	NA	NA
	1/26/2006	1655	7.20	21.22	0.562	218.9	7.35
	1/9/2007	1345	7.28	20.81	0.573	-43.6	3.28
	5/15/2007	920	6.98	22.84	0.580	6.0	8.08
	6/19/2007	1340	7.03	26.10	0.638	-11.3	5.56
	7/26/2007	1020	6.44	23.57	0.608	18.0	5.86
LGR-04	12/28/2005	1518	6.89	25.10	0.629	NA	NA
	1/26/2006	1500	7.07	24.55	0.596	200.1	8.64
	1/9/2007	1030	7.04	18.93	0.639	4.9	5.97
	6/19/2007	1326	6.94	25.76	0.660	-5.3	5.67
	7/26/2007	945	7.02	22.86	0.542	5.7	6.45

Table 1.2.2a

SWMU B-3 Bioreactor Multi-port Well CS-WB05 - Quarter 1 Performance Data

Q1		WB05																					
Well ID		CS-WB05-LGR01		CS-WB05-LGR02		CS-WB05-LGR03A		CS-WB05-LGR03B						CS-WB05-LGR04A		CS-WB05-LGR04B		CS-WB05-BS-01		CS-WB05-CC-01		CS-WB05-CC-02	
Sample Date		7/17/2007		7/17/2007		7/17/2007		5/14/2007		6/18/2007		7/17/2007		7/17/2007		7/16/2007		7/16/2007		7/16/2007		7/16/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	1.2		1.1		0.78		0.21	J	0	U	1.2		1.3		1.4		0.74		0.82		0.99	
Total Organic Carbon	mg/L	0.85		0.79		0.59		0.41	J	0.82		0.93		1.2		0.65		0.77		0.55		1	
Methane	µg/L	4741.7		2706.8		3212.9		13.4		7.1		1.9		751.2		409.5		8592.5		0		3638.6	
Ethene	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Ethane	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Carbon Dioxide	µg/L	48378.5		63812.4		48678.8		16100		51418.8		10646.6		52479.4		43115.4		16531.2		10189.5		34322.8	
Alkalinity, Total (as CaCO3)	mg/L	358		312		279		311		305		280		260		251		258		252		266	
Nitrate/Nitrite	mg/L	0		0		0		0		0.094	U	0		0.031	J	1.1		0		0		0	
Sulfate	mg/L	155		110		48.5		48		74.7		48.9		26.6		9.2		25.6		42		37.6	
Chloride	mg/L	14.5		12		10.8		13.7		11		11.3		11.6		12.6		11.3		14.6		14.8	
Ferrous Iron	mg/L	0		0		0		0		0	U	0		0		0		0		0.51		0	
Manganese	µg/L	6.8		3.8	J	2.5	J	5.1		1.4	J	3.2	J	8.3		2.1		1.4		1.9		1.6	
Hydrogen	nM																						
Hydrogen Sulfide																							
Total Dissolved Solids	mg/L	585		522		387		312		401		403		346		346		338		362		364	
Benzene	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Bromodichloromethane	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Bromoform	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Chloroform	µg/L	0		0		0		0		0	U	0		0		0.37		0		0		0	
Dibromochloromethane	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0	U	0		0		0.63		0		0.38		0.74	
Dichloroethene, cis-1,2-	µg/L	0.64	J	5.6		63		41		36		47		150		560		66		280		270	
Dichloroethene, trans-1,2-	µg/L	0		0.25	J	1.8		1.6		1.3		1.6		0.8		0.63		0.32		3.2		2.5	
Methylene chloride	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Naphthalene	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Tetrachloroethene	µg/L	2.8		0.41	J	40		0.94	J	0.28	J	2.4		1.3	J	380		0.21		180		63	
Toluene	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Trichloroethene	µg/L	1.6		6.4		87		75		67		79		150		440		43		280		210	
Vinyl chloride	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Arsenic	µg/L	0		6.3		5.3		8.9		0	U	5.9		3.4	J	0		0		12.1		6.6	
Barium	µg/L	42.7		44.3		30.3		28.4		28.3		29.2		32.8		29.1		26.1		29.2		18.4	
Cadmium	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Chromium	µg/L	0		2.3	J	0		5.8		1.5	J	3.5	J	2.1	J	4		6.3		2.1		2.1	
Copper	µg/L	0		39.7		1.0	J	0.0		1.1	J	1.1	J	1.2	J	0		0		0		0	
Lead	µg/L	0		0		0		0		0	U	0		0		0		0		0		0	
Mercury	µg/L	0.11	J	0.13	J	0.16	J	0		0	U	0.19	J	0		0		0		0		0	
Nickel	µg/L	6.8		17.1		9.6		13.8		10.8		11.2		0		0		3.9		11.9		0	
Zinc	µg/L	16.4	J	26.4	J	31.6	J	39.2	J	45.6	J	46.2	J	23.6	J	16.3		6.2		13		9.9	

Note: 0 sample value indicates a non-detect analyte value

Table 1.2.2b

SWMU B-3 Bioreactor Multi-port Well CS-WB06 - Quarter 1 Performance Data

Q1		WB06															
Well ID		CS-WB06-UGR01		CS-WB06-LGR01		CS-WB06-LGR02		CS-WB06-LGR03A		CS-WB06-LGR03B						CS-WB06-LGR04	
Sample Date		7/25/2007		7/25/2007		7/23/2007		7/23/2007		5/15/2007		6/18/2007		7/23/2007		7/23/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	2.8		3.1		0.88		0.83						0.83		0.93	
Total Organic Carbon	mg/L	1.8		2.8		0.69		0.58						0.62		1.1	
Methane	µg/L	0		1.74		0		0						0		0	
Ethene	µg/L	0		0		0		0						0		0	
Ethane	µg/L	0		0		0		0						0		0	
Carbon Dioxide	µg/L	17400		54500		9700		60300						31600		59300	
Alkalinity, Total (as CaCO3)	mg/L	338		348		289		279						388		268	
Nitrate/Nitrite	mg/L	0.94		0		0		0.18						0.14		1.1	
Sulfate	mg/L	20		28.7		30.5		16.2						16.4		9.3	
Chloride	mg/L	15.4		13.2		10		11.9						11.7		12.1	
Ferrous Iron	mg/L	0		0		0		0						0		0	
Manganese	µg/L	1.9	J	9.4		4.3	J	2	J					1.4	J	3	J
Hydrogen	nM																
Hydrogen Sulfide																	
Total Dissolved Solids	mg/L	558		470		341		325		329		338		332		335	
Benzene	µg/L	0		0		0		0		0		0	U	0		0	
Bromodichloromethane	µg/L	0		0		0		0		0		0	U	0		0	
Bromoform	µg/L	0		0		0		0		0		0	U	0		0	
Chloroform	µg/L	0		0		0		0		0		0.094	J	0.11	J	0.19	J
Dibromochloromethane	µg/L	0		0		0		0		0		0	U	0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0	U	0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0.32	J	0		0	U	0.36	J	0.5	J
Dichloroethene, cis-1,2-	µg/L	40		87		24		270		270		260		240		410	
Dichloroethene, trans-1,2-	µg/L	0.21	J	4		1.6		2.6		2.7		1.9		2.4		4.2	
Methylene chloride	µg/L	0		0		0		0		0		0	U	0		0	
Naphthalene	µg/L	0		0		0		0		0		0	U	0		0	
Tetrachloroethene	µg/L	11		16		5.5		170		140		120		98		260	
Toluene	µg/L	0		0		0		0		0		0	U	0		0	
Trichloroethene	µg/L	4.8		23		8.4		200		180		170		150		240	
Vinyl chloride	µg/L	0		0		0		0.26	J	0		0	U	0.26	J	0	
Arsenic	µg/L	0		0		0		4.9	J					4.7	J	0	
Bromide	µg/L	35.1		92.3		56.2		29.8						27.5		29	
Cadmium	µg/L	0		0		0		0						0		0	
Chromium	µg/L	9.4		16		4.6	J	3.1	J					1.7	J	0	
Copper	µg/L	0		0		0		0						0		0	
Lead	µg/L	0		0		0		0						0		0	
Mercury	µg/L	0		0		0		0						0		0.083	J
Nickel	µg/L	5.6		11.8		6.7		6.7						5		0	
Zinc	µg/L	9.7	J	10.3	J	8.4	J	25	J					20.3	J	13.4	J

Note: 0 sample value indicates a non-detect analyte value

Table 1.2.2c

SWMU B-3 Bioreactor Multi-port Well CS-WB07 - Quarter 1 Performance Data

Q1		WB07															
Well ID		CS-WB07-UGR01		CS-WB07-LGR01		CS-WB07-LGR-02		CS-WB07-LGR-03A		CS-WB07-LGR-03B						CS-WB07-LGR-04	
Sample Date		7/19/2007		7/19/2007		7/18/2007		7/18/2007		5/15/2007		6/19/2007		7/18/2007		7/18/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	43.3		1.5		0.73		0.39	J	0		0	U	0.58		0.91	
Total Organic Carbon	mg/L	46.7		1.1		0.59		0.54		0.27	J	0.59		0.52		0.55	
Methane	µg/L	9436		0		3.3		1306.2		10.2		7.3		1851.9		0	
Ethene	µg/L	0		0		0		0		0		0	U	0		0	
Ethane	µg/L	0		0		0		0		0		0	U	0		0	
Carbon Dioxide	µg/L	1020000		25600		35707		37833.7		29500		40991.7		7981.3		10378.1	
Alkalinity, Total (as CaCO3)	mg/L	638		315		278		266		280		280		279		262	
Nitrate/Nitrite	mg/L	0		0		0		0		0		0.095	J	0		1.1	
Sulfate	mg/L	11.2		71.3		43		19.3		20.3		19.4		19.7		9.1	
Chloride	mg/L	27.7		12.6		13.1		10.3		12.8		10		10.3		12.1	
Ferrous Iron	mg/L	23.5		0		0		0		0		0	U	0		0	
Manganese	µg/L	4520		0		3.1	J	0		0		0	U	0		0	
Hydrogen	nM																
Hydrogen Sulfide																	
Total Dissolved Solids	mg/L	852		448		390		341		321		329		328		331	
Benzene	µg/L	0		0		0		0		0		0	U	0		0	
Bromodichloromethane	µg/L	0		0		0		0		0		0	U	0		0	
Bromoform	µg/L	0		0		0		0		0		0	U	0		0	
Chloroform	µg/L	0		0		0		0		0		0	U	0		0.28	J
Dibromochloromethane	µg/L	0		0		0		0		0		0	U	0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0	U	0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0		0	U	0		0.38	J
Dichloroethene, cis-1,2-	µg/L	280		0.19	J	0.2	J	24		33		30		30		360	
Dichloroethene, trans-1,2-	µg/L	1.4		0		0		0.5	J	0.96		0.65		0.71		2.4	
Methylene chloride	µg/L	0		0		0		0		0		0	U	0		0	
Naphthalene	µg/L	0.68		0		0		0		0		0	U	0		0	
Tetrachloroethene	µg/L	0		0.36	J	0.5	J	0.26	J	0.20	J	0	U	0		270	
Toluene	µg/L	8.6		0		0		0		0		0	U	0		0	
Trichloroethene	µg/L	0.83	J	0.78	J	0.86	J	1.3		1.6		1.2		1.2		310	
Vinyl chloride	µg/L	33		0		0		0		0		0	U	0		0	
Arsenic	µg/L	0		0		0		0		9.3		0	U	0		0	
Barium	µg/L	219		71.6		85.4		33.9		34.8		33.8		33.8		27.9	
Cadmium	µg/L	0		0		0		0		0		0	U	0		0	
Chromium	µg/L	4.3	J	1.9	J	5.1		0		0		2.3	J	1.7	J	1.4	J
Copper	µg/L	1.9	J	1.4	J	0		0		0		0	U	0		1.4	J
Lead	µg/L	0		0		0		0		0		0	U	0		0	
Mercury	µg/L	0.098	J	0.17	J	0		0		0		0	U	0		0	
Nickel	µg/L	54		7.1		5.7		0		0		0	U	0		0	
Zinc	µg/L	18.9	J	16.3	J	14.4	J	8.5	J	18.4	J	5	J	9.4	J	18.1	J

Note: 0 sample value indicates a non-detect analyte value

Table 1.2.2d

SWMU B-3 Bioreactor Multi-port Well CS-WB08 - Quarter 1 Performance Data

Q1		WB08															
Well ID		CS-WB08-UGR01		CS-WB08-LGR01		CS-WB08-LGR02		CS-WB08-LGR03A		CS-WB08-LGR03B						CS-WB08-LGR04	
Sample Date		7/26/2007		7/26/2007		7/26/2007		7/26/2007		5/15/2007		6/19/2007		7/26/2007		7/26/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	2.1		1.6		2.4		1.8						1.6		2.3	
Total Organic Carbon	mg/L	1.7		1.2		0.87		0.84						1.1		3	
Methane	µg/L	0		9.42		2.73		0						0		0	
Ethene	µg/L	0		0		0		0						0		0	
Ethane	µg/L	0		0		0		0						0		0	
Carbon Dioxide	µg/L	88700		48100		35500		50700						41600		6890	
Alkalinity, Total (as CaCO3)	mg/L	326		358		354		298						297		260	
Nitrate/Nitrite	mg/L	0.28		0.15		0.067	J	0.66						0.66		0.89	
Sulfate	mg/L	9.7		83.3		102		19.4						19.1		14.2	
Chloride	mg/L	5.7		11.2		11.5		11.9						11.9		10.7	
Ferrous Iron	mg/L	0		0		0		0						0		0	
Manganese	µg/L	3.2	J	5.2		0		0						3.1	J	0	
Hydrogen	nM																
Hydrogen Sulfide																	
Total Dissolved Solids	mg/L	562		595		606		461		342		352		426		418	
Benzene	µg/L	0		0		0		0		0		0	U	0		0	
Bromodichloromethane	µg/L	0		0		0		0		0		0	U	0		0	
Bromoform	µg/L	0		0		0		0		0		0	U	0		0	
Chloroform	µg/L	0		0		0		0.1	J	0		0.11	J	0.096	J	0	
Dibromochloromethane	µg/L	0		0		0		0		0		0	U	0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0	U	0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0		0	U	0		0	
Dichloroethene, cis-1,2-	µg/L	110		140		8.3		170		240		170		180		7.3	
Dichloroethene, trans-1,2-	µg/L	0.46	J	2.2		0		1.3		1.4		1.6		1		0	
Methylene chloride	µg/L	0		0		0		0		0		0	U	0		0	
Naphthalene	µg/L	0		0		0		0		0		0	U	0		0	
Tetrachloroethene	µg/L	50		4.3		0.18	J	90		180		100		90		1.6	
Toluene	µg/L	0		0		0.17	J	0		0		0	U	0		0	
Trichloroethene	µg/L	28		21		1.1		110		180		120		110		1.3	
Vinyl chloride	µg/L	0		0		0		0		0		0	U	0		0	
Arsenic	µg/L	0		0		0		0						0		0	
Bromide	µg/L	24.6		79.3		64.3		29.6						33.4		30.4	
Cadmium	µg/L	0		0		0		0						0		0	
Chromium	µg/L	8.5		4.8	J	2.4	J	2.9	J					7.9		4.5	J
Copper	µg/L	0		0		0		0						0		0	
Lead	µg/L	0		0		0		0						0		0	
Mercury	µg/L	0		0.08	J	0		0						0		0	
Nickel	µg/L	6.2		0		0		8.4						10.9		0	
Zinc	µg/L	10.7	J	8.6	J	12.8	J	17.8	J					20.8	J	10.2	J

Table 1.2.3

SWMU B-3 Westbay Monitoring Wells
Upper Saturated Zone (Zone LGR03B) Analytical Results

Date	CS-WB05-LGR03B					CS-WB06-LGR03B				CS-WB07-LGR03B				CS-WB08-LGR03B			
	1/3/07	4/23/07	5/14/07	6/18/07	7/17/07	1/4/07	5/15/07	6/18/07	7/23/07	1/8/07	5/15/07	6/19/07	7/18/07	1/9/07	5/15/07	6/19/07	7/26/07
PCE (µg/L)	0.71	5.3	0.94	0.28	2.4	63	140	120	98	3.6	0.2	0	0	38	180	100	90
TCE (µg/L)	76	75	75	67	79	91	180	170	150	4.4	1.6	1.2	1.2	49	180	120	110
cis-1,2-DCE (µg/L)	36	46	41	36	47	160	270	260	240	28	33	30	30	58	240	170	180
trans-1,2-DCE (µg/L)	1.5	1.6	1.6	1.3	1.6	2.2	2.7	1.9	2.4	0.86	0.96	0.65	0.71	1.4	1.4	1.6	1
Vinyl Chloride (µg/L)	0	0	0	0	0	0	0	0	0.26	0	0	0	0	0	0	0	0
Ethene (µg/L)	0	0	0	0	0	0	NA	NA	0	0	0	0	0	0	NA	NA	0
PCE (nM/L)	4.281	31.960	5.668	1.688	14.473	379.907	844.238	723.633	590.967	21.709	1.206	0.000	0.000	229.150	1085.449	603.027	542.724
TCE (nM/L)	578.431	570.820	570.820	509.932	601.263	692.595	1369.967	1293.858	1141.639	33.488	12.177	9.133	9.133	372.936	1369.967	913.312	837.202
cis-1,2-DCE (nM/L)	371.325	474.471	422.898	371.325	484.786	1650.335	2784.941	2681.795	2475.503	288.809	340.382	309.438	309.438	598.247	2475.503	1753.481	1856.627
trans-1,2-DCE (nM/L)	15.472	16.503	16.503	13.409	16.503	22.692	27.849	19.598	24.755	8.871	9.902	6.704	7.323	14.440	14.440	16.503	10.315
Vinyl Chloride (nM/L)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.159	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ethene (nM/L)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Molar Conc. (nM/L)	969.509	1,093.755	1,015.890	896.355	1,117.025	2,745.529	5,026.995	4,718.883	4,237.023	352.876	363.667	325.275	325.894	1,214.773	4,945.359	3,286.323	3,246.868
% moles PCE	0.442%	2.922%	0.558%	0.188%	1.296%	13.837%	16.794%	15.335%	13.948%	6.152%	0.332%	0.000%	0.000%	18.864%	21.949%	18.350%	16.715%
% moles TCE	59.662%	52.189%	56.189%	56.890%	53.827%	25.226%	27.252%	27.419%	26.944%	9.490%	3.349%	2.808%	2.802%	30.700%	27.702%	27.791%	25.785%
% moles cis-1,2-DCE	38.300%	43.380%	41.628%	41.426%	43.400%	60.110%	55.400%	56.831%	58.426%	81.844%	93.597%	95.131%	94.950%	49.248%	50.057%	53.357%	57.182%
% moles trans-1,2-DCE	1.596%	1.509%	1.625%	1.496%	1.477%	0.827%	0.554%	0.415%	0.584%	2.514%	2.723%	2.061%	2.247%	1.189%	0.292%	0.502%	0.318%
% moles Vinyl Chloride	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.098%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
% moles Ethene	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%			0.000%	0.000%	0.000%	0.000%	0.000%	0.000%			0.000%
sum % moles	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

NA = Not Available

Note: 0 sample value indicates a non-detect analyte value

Table 1.3.3

B-3 Bioreactor Monitoring Well Analytical Summary

Q1		Monitoring Wells									
Well ID		CS-MW16-LGR		CS-MW1-LGR		CS-D		CS-B3-MWO1		CS-MW16-CC	
Sample Date		7/27/2007		7/27/2007		7/27/2007		7/27/2007		7/27/2007	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	0.64		2.5		1.0		467		0.87	
Total Organic Carbon	mg/L	0.31	J	3.3		0.63		452		0.56	
Methane	µg/L	0		0		0		20900		14.4	
Ethene	µg/L	0		0		0		0		0	
Ethane	µg/L	0		0		0		0		0	
Carbon Dioxide	µg/L	34100		26800		18600		1540000		21700	
Alkalinity, Total (as CaCO3)	mg/L	271		263		258		1910		281	
Nitrate/Nitrite	mg/L	1.2		1.4		0.65		0		0	
Sulfate	mg/L	17.1		19.2		15.2		0.83	J	49.8	
Chloride	mg/L	11.4		10.2		10.7		36.5		14.1	
Ferrous Iron	mg/L	0		0		0		19.1		0	
Manganese	µg/L	0		0		0		359		3.0	J
Hydrogen	nM			3.1		2.9		3.5			
Hydrogen Sulfide											
Total Dissolved Solids	mg/L	324		302		314		2580		372	
Benzene	µg/L	0		0		0		0		0	
Bromodichloromethane	µg/L	0		0		0		0		0	
Bromoform	µg/L	0		0		0		0		0	
Chloroform	µg/L	0.16	J	0.14	J	0.2	J	0		0	
Dibromochloromethane	µg/L	0		0		0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		1.0	J
Dichloroethene, cis-1,2-	µg/L	110		82		92		200		110	
Dichloroethene, trans-1,2-	µg/L	1.2		2.9		4.1		2.9		9.1	
Methylene chloride	µg/L	0		0		0		0		0	
Naphthalene	µg/L	0		0		0		0		0	
Tetrachloroethene	µg/L	120		50		71		0.21	J	17	
Toluene	µg/L	0		0		0		0		2.8	
Trichloroethene	µg/L	140		68		120		0.45	J	110	
Vinyl chloride	µg/L	0		0		0		5.3		0.33	J
Arsenic	µg/L	0		0		0		3.0	J	0	
Barium	µg/L	38.4		33.3		30.6		201		23.9	
Cadmium	µg/L	0		0		0		0		0	
Chromium	µg/L	0		1.8	J	0		0		0	
Copper	µg/L	2.7	J	1.7	J	2.6	J	3.6	J	7.8	
Lead	µg/L	0		0		0		0		0	
Mercury	µg/L	0		0.15	J	0		0.096		0.11	J
Nickel	µg/L	0		23.8		0		7.8		4.0	J
Zinc	µg/L	131		0		10.5	J	5.5	J	592	

Note: 0 sample value indicates a non-detect analyte value

Table 1.4.4

SWMU B-3 Sump and Monitoring Well Baseline and Quarter 1 Microbial Data

Q1		CS B-3 MW01		CS-MW 16-LGR		B3 T1-3		B3-T6-1
Sample date:		12/19/2006	8/3/2007	12/19/2006	8/3/2007	12/19/2006	8/3/2007	8/3/2007
Dechlorinating Bacteria	units							
<i>Dehalococcoides spp (1)</i>	(cells/mL)	2.37E+01	4.50E-01	6.90E+01	1.31E-01	2.46E+03	7.62E+00	1.45E+02
Functional Genes	units							
TCE R-Dase (1)	(cells/mL)	<1.11E+00	<2.5E-01	<2.5E-01	<5E-01	<1E+00	<4.55E-01	<9.09E-01
BAV1 VC R-Dase (1)	(cells/mL)	<1.11E+00	<2.5E-01	<2.5E-01	<5E-01	<1E+00	<4.55E-01	<9.09E-01
VC R-Dase	(cells/mL)	<1.11E+00	<2.5E-01	<2.5E-01	<5E-01	<1E+00	<4.55E-01	<9.09E-01

Graphs

Figure 1.1.2T1-1

B-3 Bioreactor Quarter 1 Trench 1 Sump 1 VOC Summary

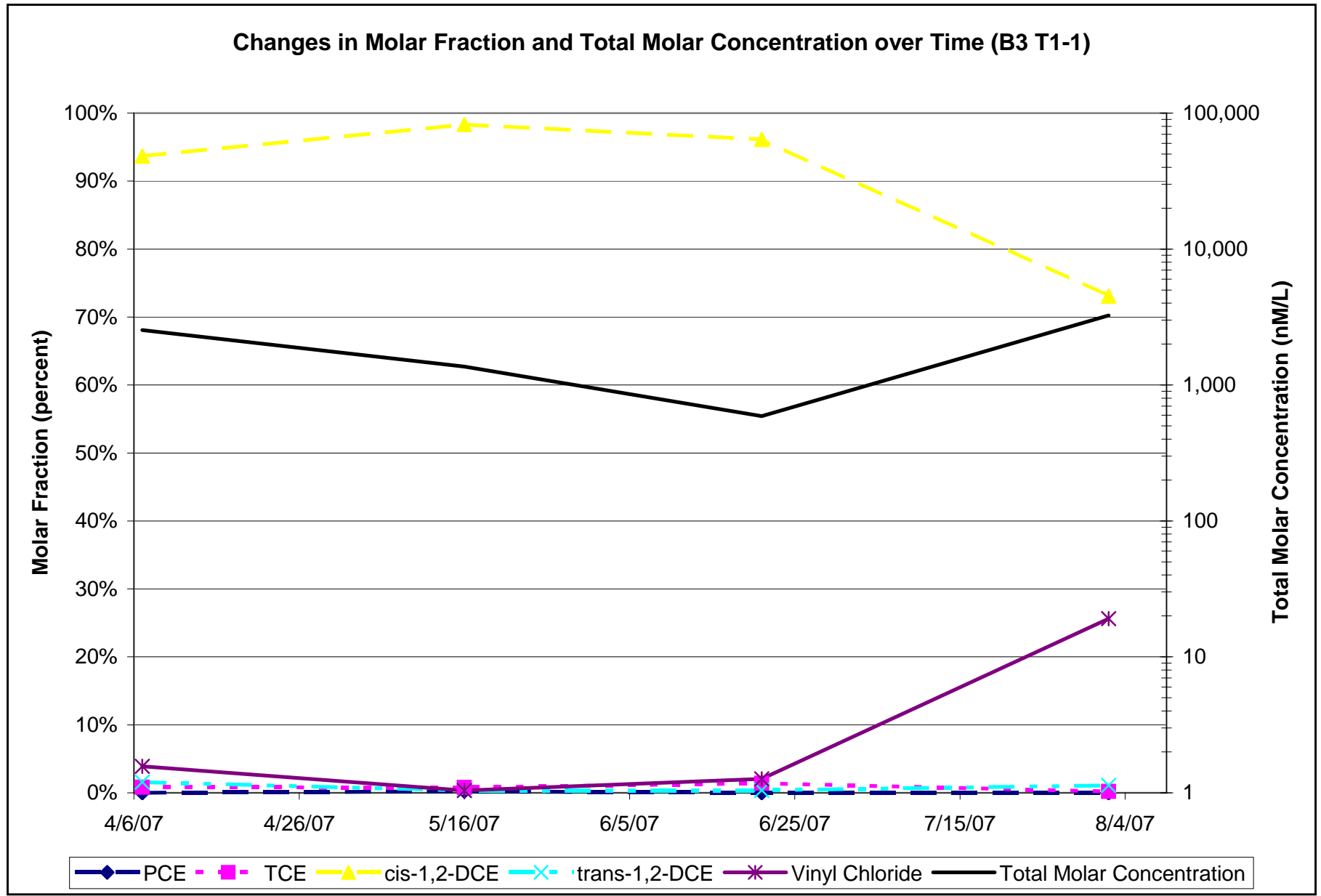


Figure 1.1.2T1-2

B-3 Bioreactor Quarter 1 Trench 1 Sump 2 VOC Summary

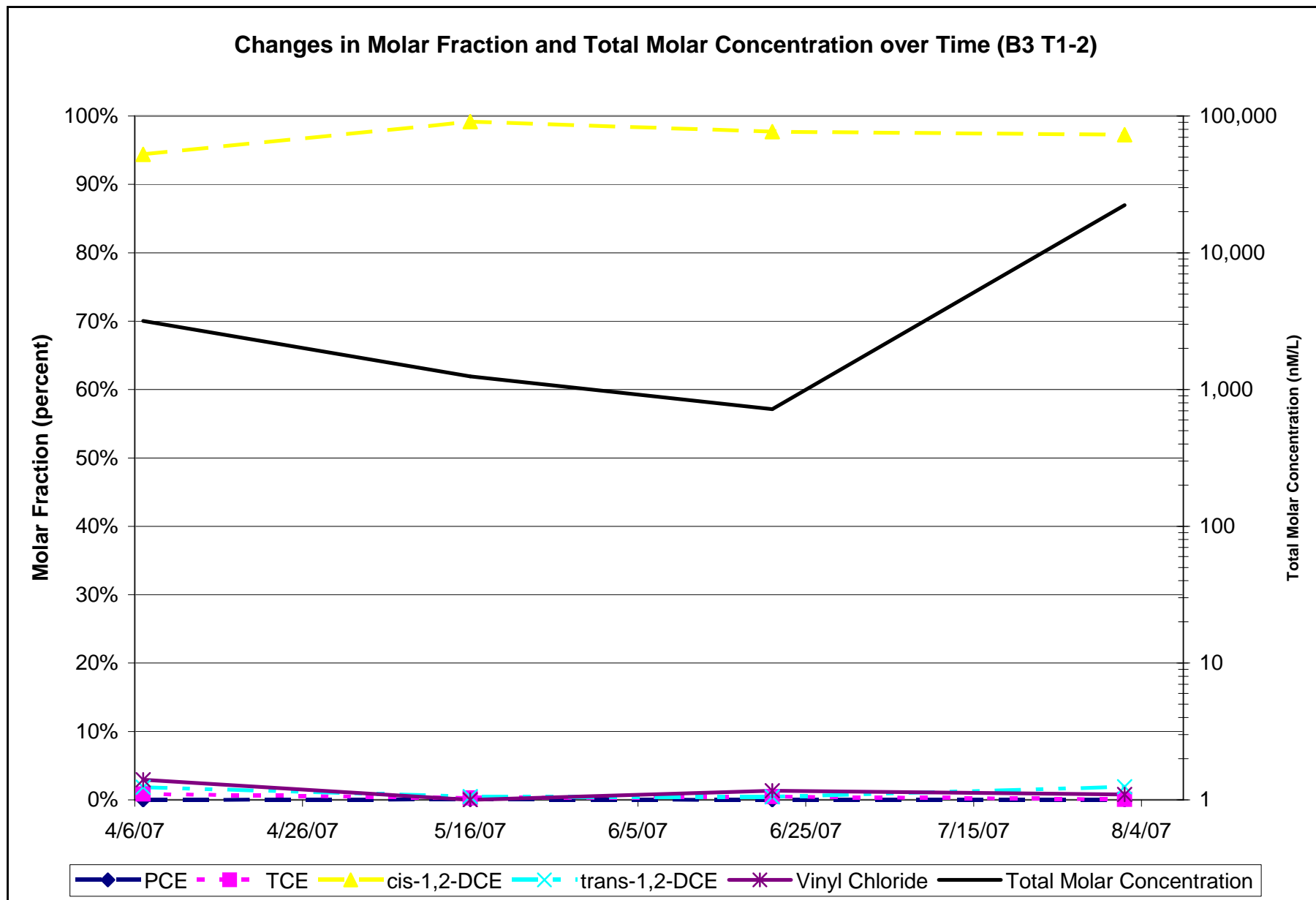


Figure 1.1.2T1-3

B-3 Bioreactor Quarter 1 Trench 1 Sump 3 VOC Summary

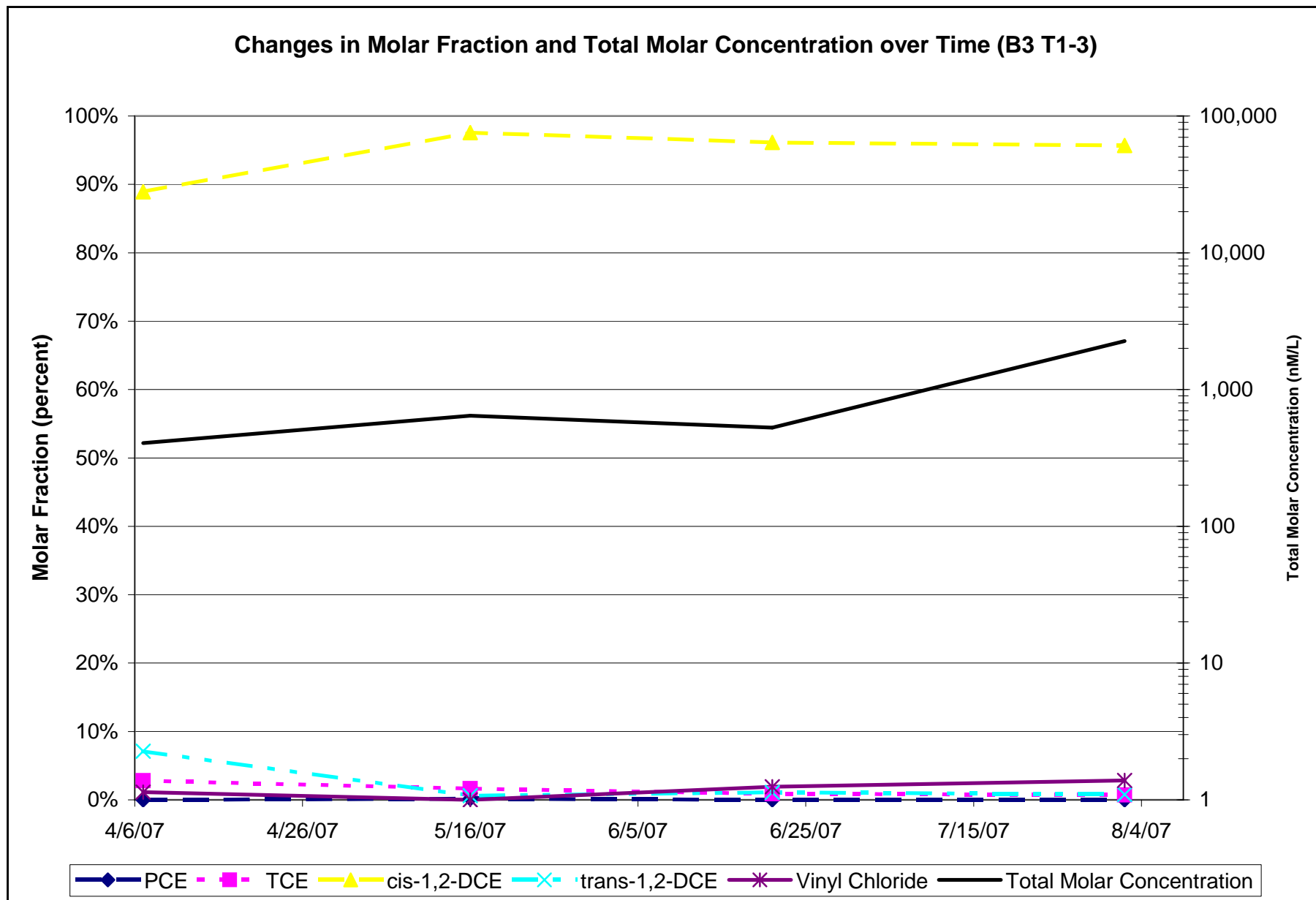


Figure 1.2.5

Lower Glen Rose Groundwater Elevations (feet above MSL) Measured in Westbay Wells

