

**CSSA B-3 BIOREACTOR OPERATIONS
PERFORMANCE STATUS REPORT
(QUARTER 3, MONTH 9 – JANUARY 2008)**

FEBRUARY 28, 2008

This status report summarizes the operation of a bioreactor at Solid Waste Management Unit (SWMU) B-3 from November 1, 2007 through January 31, 2008; comprising the third 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. Analytical results from monthly and quarterly regulatory and performance sampling through January 2008 are attached for reference. Parsons site personnel working on this project during the reporting period include Ken Rice, Kyle Caskey, Samantha Elliott, Eric Tennyson, and Adrien Lindley.

Executive Summary

Site conditions were somewhat drier than normal with few significant rain events through the quarter. Injection of extracted groundwater continued through the quarter with few interruptions resulting from the automated injection system installation. Approximately 1,929,677 gallons of groundwater extracted from CS-MW16-LGR and CS-MW16-CC have been injected into bioreactor trench 1 since the start of injection. A total of 883,278 gallons of extracted groundwater from wells CS-MW16-LGR and CS-MW16-CC were injected into the bioreactor during quarter 3. The majority of extracted groundwater, 690,036 gallons, was from the CS-MW16-CC well, while 193,242 gallons was extracted from the CS-MW16-LGR well after the pump was replaced prior to automation of the injection system late in the quarter. Monthly Underground Injection Control (UIC) reports for the third quarter were submitted to the Texas Commission on Environmental Quality (TCEQ) on December 7, 2007, January 10, 2008, and February 21, 2008.

Data from monitoring efforts indicate that the B-3 bioreactor has continued to maintain 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 that anaerobic dechlorination of trichloroethene (TCE) appears to have been stimulated with the production of the intermediate dechlorination products *cis*-1,2-dichloroethene (*cis*-DCE) and vinyl chloride (VC). The dechlorination end products ethene and ethane are not currently present in analytical results for samples collected within the trenches or any of the multipoint monitoring wells.

Summary of Bioreactor Operation

Initial baseline and quarter 1 through quarter 3 analytical results from monitoring of the bioreactor sumps indicate that the SWMU B-3 trenches contain significant levels of *cis*-DCE as well as significant concentrations of other dechlorination products (e.g., VC). In addition, toluene, naphthalene, and other fuel related compounds were identified during monitoring of bioreactor trench 1 sumps during the quarter. A summary of the analytical data collected for the reporting period is included in Table 1. A summary of monthly and quarter 3 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 contaminant mass is being reduced, as *cis*-DCE concentrations have remained low and significant VC concentrations in the trench sumps have been maintained. Reductions in contaminant concentrations within the bioreactor trench 1, and the subsequent reductions in VC concentrations may stem from the lack of significant rain events through the quarter, which have previously (June, 2007 and August, 2007) preceded large influxes of contaminant mass.

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 ~ 6.3, temperatures range from 20.6°C to 25.1 °C, and specific conductivity ranges from 0.611 to 1.008 millisiemens per centimeter (mS/cm). Other observations regarding the data collected during this reporting period are listed below.

Through the 3rd quarter, 1.3 inches of rainfall was measured at the B-3 bioreactor site. Average water thickness in Trench 1 during this period is approximately 2 feet, however, during the latter part of the quarter, the B-3 injection system automation was completed. Average water thickness prior to the automation of the system was approximately 1.5 feet. After the automation was complete, the system was operating twenty-four hours daily, seven days a week, which led to an average water thickness of approximately 3 feet.

The scheduled bioaugmentation was completed on February 5, 2008, in which 21 liters of KB-1 culture were injected into the Trench 1 sumps. The injection procedure included the use of compressed nitrogen gas to ensure that the culture was not exposed to oxygen during the injection, which could kill the DHC within the culture.

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 11.6 $\mu\text{g/L}$ for As (MCL is 10 $\mu\text{g/L}$) and from 303 to 1,740 $\mu\text{g/L}$ for Mn (MCL is 50 $\mu\text{g/L}$). 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.

2. Even with a significant increase in the volume of water injected daily, due to the continuous operation of the automatic injection system, the values of DO and ORP in water samples from the trenches did not change significantly, indicating that anaerobic reducing conditions were maintained. Although DO and ORP levels in monitoring wells and nearby Westbay wells are significantly higher than those in the Trench sumps, these measurements were not collected *in situ* and may not be representative of actual conditions, they may however be used to detect changes in subsurface conditions.
3. The VC to DCE molar fraction ratio remained high through month 8, as the total molar concentration was comprised of approximately 80 to 90% VC. This ratio dropped during month 9, as the total molar concentration contained between 15 to 35% VC. This may be due to the increased pumping and subsequent injection of CS-MW16-LGR into trench 1. Overall, through the 3rd quarter, a reducing trend in the total molar concentration of chlorinated contaminants was observed. Prior to the bioaugmentation, *Dehalococcoides* (DHC) bacterial samples collected from the trench sumps indicate an overall decreasing trend in microbial population growth. There is no evidence of VC being reduced to ethene in the trenches at this time.
4. No DHC populations were detected in well (multi-port and monitoring) samples and only low levels of VC were detected. VC and DHC were detected in the baseline and quarterly trench samples; however no ethene or ethane were detected in trench sump samples.
5. The dissolved hydrogen concentration in trench 1 sump samples was in the range consistent with reductive dechlorination of CAHs by DHC.
6. Saturated conditions are being maintained within bioreactor Trench 1 with an average water thickness for the quarter of approximately 2 feet.

Anticipated Schedule for Next Period (February, 2008 – April, 2008):

- Continue monitoring and maintenance activities for delivery of groundwater to the bioreactor trenches.
- Continue bioreactor system controls installation and automation.
- Monthly monitoring event (Month 10) for bioreactor system.
- Continue UIC monitoring and reporting.

Photos of the bioaugmentation event in the bioreactor trench 1 sumps are provided below and include descriptions.



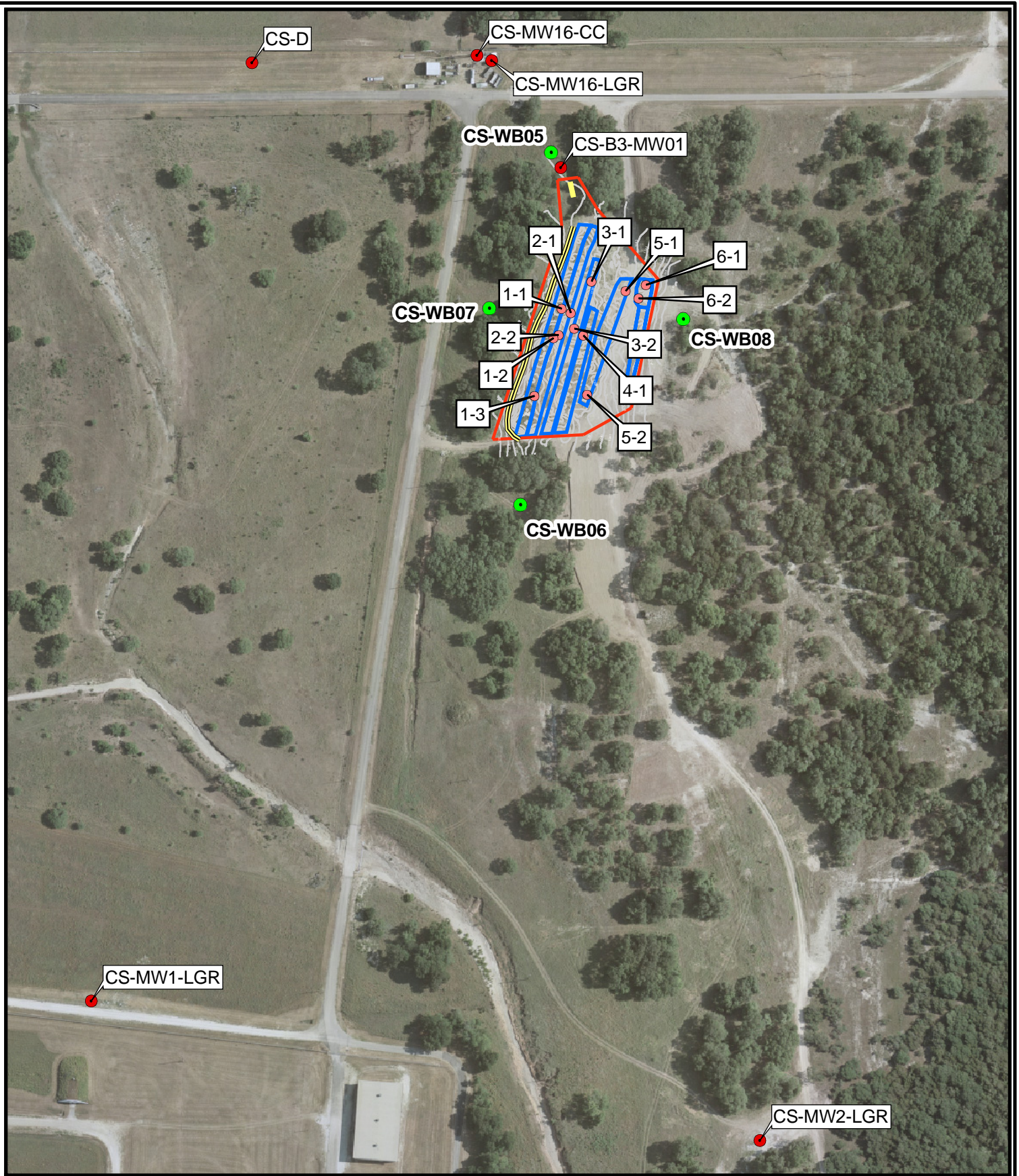
Bioaugmentation at Trench 1 sumps on 1/29/08. KB-1 canister at left, nitrogen tank in ATV, sump at right.



Close-up view of KB-1 canister used in the bioaugmentation effort.

Specific Data Observation Notes for Attachments

- Analytical results from the B-3 Trench 1 Sump samples, shown in Table 3.1.2, presents data from the quarter 3 sampling event, that suggest the residual contamination that leached into the bioreactor from the fractured formation surrounding the bioreactor during recharge events in quarter 2 have either been reduced or have migrated away from trench 1.
- Table 3.1.1 indicates a water thickness of approximately 1.5 feet in trench 1 was maintained prior to the automation of the injection system. Following the injection system automation, the average water thickness rose to approximately 3 feet.
- Table 3.1.2 indicates that VC was present at moderate to high concentrations in trench 1 sumps (between 27 and 48 $\mu\text{g/L}$) in the first two months of the quarter then fell to lower concentrations (between 3.9 and 7.1 $\mu\text{g/L}$) in the latter part of the quarter.
- Table 3.3.3 indicates that vinyl chloride was present (4.0 $\mu\text{g/L}$) in the sample taken on 1/21/2008 in monitoring well CS-B3-MW01, which is the third time VC has been detected in this monitoring well. VC was not been observed in any other monitoring well in this quarter.
- Table 3.4.4 indicates that the *Dehalococcoides* bacteria are slightly increasing in trench 1 sump 3, but a two order of magnitude decrease has been observed in trench 1 sump 2 over the same period.
- The changes in molar fraction and total molar concentrations shown in graphs of quarter 3 trench 1 sumps indicate a continued reduction in contaminant mass, with downward trending total molar concentrations. The reduction of DCE to VC has been maintained through the quarter, though, due to increased injection of extracted groundwater into trench 1, an overall increase in the DCE concentrations was observed in the trench sumps in the month 9 sampling event.
- Figure 3.2.5 shows that the water levels in Westbay wells are significantly influenced by precipitation, or lack there of, and pumping at CS-MW16-LGR.



- 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 (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Regulatory Sampling ^b (13)	✓	✓												
Regulatory Sampling (14)	✓	✓												
Monthly Sampling ^c (7)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Regulatory Sampling (15)	✓	✓												
Regulatory Sampling (16)	✓	✓												
Monthly Sampling (8)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Regulatory Sampling (17)	✓	✓												
Regulatory Sampling (18)	✓	✓												
Quarterly Sampling (3)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

☐ - Not Sampled

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 uppermost saturated intervals of the multi-port wells (Zone 03B).

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	11.19	6.4	24.68	0.968	0.68	-138.0	1.71
11/12/2007	1405	11.31	6.18	24.37	0.993	0.49	-179.3	1.59
11/19/2007	920	12.05	6.26	24.48	0.957	0.55	-176.0	0.85
11/26/2007	1300	11.78	6.37	24.32	1.008	0.77	-151.5	1.12
12/7/2007	1000	10.74	6.38	22.78	0.87	0.64	-188.7	2.16
12/18/2007	945	11.54	6.25	22.15	0.827	0.68	-181.6	1.36
12/27/2007	1245	11.85	6.28	22.16	0.833	0.58	-152.8	1.05
1/4/2008	1300	11.88	6.29	21.77	0.856	0.57	-186.0	1.02
1/10/2008		11.03	6.31	22.03	0.793	0.46	-176.3	1.87
1/16/2008	1345	11.51	6.37	21.58	0.817	0.67	-159.1	1.39
1/22/2008	900	12.38	6.19	22.44	1.001	0.41	-167.5	0.52
1/25/2008	830	7.65	6.30	21.53	0.941	0.35	-244.8	5.25
1/28/2008		11.11						1.79
1/29/2008	1430	8.69						4.21
1/30/2008	1400	9.97	6.40	21.62	0.733	0.40	-217.6	2.93
1/31/2008	815	10.70	6.32	21.70	0.782	0.48	-154.4	2.20

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	10.97	6.37	25.11	0.963	0.45	-196.9	1.43
11/12/2007	1405	11.13	6.17	24.51	0.948	0.58	-166.8	1.27
11/19/2007	1000	11.55	6.34	24.7	0.939	0.51	-164.5	0.85
11/26/2007	1300	11.61	6.42	24.51	0.993	0.5	-184.3	0.79
12/7/2007	1000	10.28	6.38	22.26	0.845	0.48	-202.9	2.12
12/18/2007	1300	11.10	6.35	22.52	0.869	0.6	-160.1	1.30
12/27/2007	1245	11.40	6.26	22.77	0.935	0.41	-171.9	1.00
1/4/2008	1300	11.44	6.28	22.27	0.926	0.51	-149.3	0.96
1/10/2008		10.67	6.35	22.17	0.819	0.54	-163.6	1.73
1/16/2008	1345	11.22	6.33	22.22	0.855	0.53	-150.0	1.18
1/22/2008	900	12.08	6.15	22.57	0.923	0.27	-173.9	0.32
1/25/2008	830	7.46	6.35	21.59	1.001	0.26	-243.9	4.94
1/28/2008		10.72						1.68
1/29/2008	1430	8.43						3.97
1/30/2008	1400	9.58	6.48	21.60	0.876	0.47	-213.8	2.82
1/31/2008	815	10.32	6.35	21.70	0.842	0.42	-214.1	2.08

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	10.8	6.37	24.85	0.876	0.41	-205.6	2.05
11/12/2007	1405	11.01	6.15	24.51	0.877	0.34	-189.4	1.84
11/19/2007	1050	11.2	6.42	24.56	0.897	0.52	-190.6	1.65
11/26/2007	1300	11.41	6.42	24.29	0.917	0.42	-168.1	1.44
12/7/2007	1000	9.89	6.38	22.97	0.881	0.47	-220.7	2.96
12/18/2007	1310	10.73	6.30	22.45	0.866	0.51	-156.1	2.12
12/27/2007	1245	11.1	6.28	22.35	0.879	0.40	-175.8	1.75
1/4/2008	1300	11.11	6.30	22.19	0.927	0.46	-150.8	1.74
1/10/2008		10.35	6.35	21.29	0.860	0.40	-171.7	2.50
1/16/2008	1345	11.09	6.35	21.87	0.855	0.36	-147.9	1.76
1/22/2008	900	11.82	6.21	21.67	0.796	0.32	-149.1	1.03
1/25/2008	830	7.2	6.55	20.67	0.611	0.34	-183.2	5.65
1/28/2008		10.31						2.54
1/29/2008	1430	7.98						4.87
1/30/2008	1400	9.11	6.67	20.86	0.651	0.68	-157.2	3.74
1/31/2008	815	9.83	6.39	21.05	0.662	0.35	-195.2	3.02

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	9.53						0.14
11/12/2007	1405	9.59						0.08
11/19/2007	845	9.56						0.11
11/26/2007	1300	9.62						0.05
12/7/2007	1000	9.67						0.00
12/18/2007	945	9.67						0.00
12/27/2007	1245	9.67						0.00
1/4/2008	1300	9.67						0.00
1/10/2008		9.67						0.00
1/16/2008	1345	9.67						0.00
1/30/2008	1400	9.67						0.00

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	9.69						0.32
11/12/2007	1405	9.68						0.33
11/19/2007	845	9.69						0.32
11/26/2007	1300	9.68						0.33
12/7/2007	1000	9.8						0.21
12/18/2007	945	9.75						0.26
12/27/2007	1245	9.77						0.24
1/4/2008	1300	9.76						0.25
1/10/2008		9.76						0.25
1/16/2008	1345	9.82						0.19
1/30/2008	1400	10.01						0.00

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

TRENCH 3								
Sump 3-1								
Sump Depth: 9.96 feet BTOC								
Sample Date	Sample Time	Sump H ₂ O Level <i>(feet BTOC)</i>	pH	Temperature <i>(°C)</i>	Specific Conductivity <i>(m-mho/cm)</i>	Dissolved Oxygen <i>(mg/L)</i>	ORP <i>(eV)</i>	Sump H ₂ O Thickness <i>(feet)</i>
11/5/2007	1405	9.11	6.47	29.34	1.186	0.48	-184.8	0.85
11/12/2007	1405	9.09	6.25	29.13	1.288	0.29	-209.5	0.87
11/19/2007	845	9.11	6.55	29.23	1.299	0.45	-195.7	0.85
11/26/2007	1300	9.10	6.60	28.14	1.316	0.4	-166.1	0.86
12/7/2007	1000	9.14	6.52	27.94	1.356	0.38	-145.5	0.82
12/18/2007	945	9.14						0.82
12/27/2007	1245	9.18						0.78
1/4/2008	1300	9.17	6.70	26.41	1.335	0.64	-81.7	0.79
1/10/2008		9.19						0.77
1/16/2008	1345	9.21						0.75
1/30/2008	1400	9.96						0.00

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	7.40						0.00
11/12/2007	1405	7.40						0.00
11/19/2007	945	7.40						0.00
11/26/2007	1300	7.40						0.00
12/7/2007	1000	7.40						0.00
12/18/2007	945	7.40						0.00
12/27/2007	1245	7.40						0.00
1/4/2008	1300	7.40						0.00
1/10/2008		7.40						0.00
1/16/2008	1345	7.40						0.00
1/30/2008	1400	7.40						0.00

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	6.32						0.00
11/12/2007	1405	6.32						0.00
11/19/2007	845	6.32						0.00
11/26/2007	1300	6.32						0.00
12/7/2007	1000	6.32						0.00
12/18/2007	945	6.32						0.00
12/27/2007	1245	6.32						0.00
1/4/2008	1300	6.32						0.00
1/10/2008		6.32						0.00
1/16/2008	1345	6.32						0.00
1/30/2008	1400	6.32						0.00

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	9.15						0.18
11/12/2007	1405	9.20						0.13
11/19/2007	845	9.22						0.11
11/26/2007	1300	9.26						0.07
12/7/2007	1000	9.28						0.05
12/18/2007	945	9.31						0.02
12/27/2007	1245	9.33						0.00
1/4/2008	1300	9.33						0.00
1/10/2008		9.33						0.00
1/16/2008	1345	9.33						0.00
1/30/2008	1400	9.33						0.00

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	7.72						0.26
11/12/2007	1405	7.74						0.24
11/19/2007	845	7.77						0.21
11/26/2007	1300	7.98						0.00
12/7/2007	1000	7.86						0.12
12/18/2007	945	7.9						0.08
12/27/2007	1245	7.97						0.01
1/4/2008	1300	7.98						0.00
1/10/2008		7.98						0.00
1/16/2008	1345	7.98						0.00
1/30/2008	1400	7.98						0.00

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	11.16						0.29
11/12/2007	1405	11.17						0.28
11/19/2007	845	11.18						0.27
11/26/2007	1300	11.19						0.26
12/7/2007	1000	11.17						0.28
12/18/2007	945	11.15						0.30
12/27/2007	1245	11.17						0.28
1/4/2008	1300	11.13						0.32
1/10/2008		11.15						0.30
1/16/2008	1345	11.15						0.30
1/30/2008	1400	11.45						0.00

Table 3.1.1

SWMU B-3 Bioreactor Trenches - Field Measurement Data Baseline - Quarter 3

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)
11/5/2007	1405	12.09						0.25
11/12/2007	1405	12.09						0.25
11/19/2007	845	12.1						0.24
11/26/2007	1300	12.04	7.27	22.65	0.593	5.85	-62.7	0.30
12/7/2007	1000	12.08						0.26
12/18/2007	945	11.99						0.35
12/27/2007	1245	12.02						0.32
1/4/2008	1300	12.02						0.32
1/10/2008		12.01						0.33
1/16/2008	1345	12.02						0.32
1/30/2008	1400	12.34						0.00

Table 3.1.2

SWMU B-3 Trench 1 Quarter 3 - VOC Analytical Summary Table

Quarter 3	B3-T1-1			B3-T1-2			B3-T1-3		
Date	11/19/07	12/18/07	1/29/08	11/19/07	12/18/07	1/29/08	11/19/07	12/18/07	1/29/08
PCE (µg/L)	0	0	0.3	0	0	0	0	0	0.17
TCE (µg/L)	0	0.77	18	0	0.27	1.1	0	0.21	6.2
cis-1,2-DCE (µg/L)	2.4	7.9	41	11	6.9	11	9.6	5.7	18
trans-1,2-DCE (µg/L)	11	3.1	0.2	2.1	1.1	0	0.94	0.76	0
Vinyl Chloride (µg/L)	38	37	7.1	38	48	3.9	27	29	6.8
Ethene (µg/L)	0	0	0	0	0	0	0	0	0
PCE (nM/L)	0.000	0.000	1.809	0.000	0.000	0.000	0.000	0.000	1.025
TCE (nM/L)	0.000	5.860	136.997	0.000	2.055	8.372	0.000	1.598	47.188
cis-1,2-DCE (nM/L)	24.755	81.485	422.898	113.461	71.171	113.461	99.020	58.793	185.663
trans-1,2-DCE (nM/L)	113.461	31.975	2.063	21.661	11.346	0.000	9.696	7.839	0.000
Vinyl Chloride (nM/L)	607.903	591.905	113.582	607.903	767.877	62.390	431.931	463.926	108.783
Ethene (nM/L)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Molar Conc. (nM/L)	746.118	711.226	677.349	743.024	852.449	184.223	540.647	532.156	342.658
% moles PCE	0.000%	0.000%	0.267%	0.000%	0.000%	0.000%	0.000%	0.000%	0.299%
% moles TCE	0.000%	0.824%	20.225%	0.000%	0.241%	4.545%	0.000%	0.300%	13.771%
% moles cis-1,2-DCE	3.318%	11.457%	62.434%	15.270%	8.349%	61.589%	18.315%	11.048%	54.183%
% moles trans-1,2-DCE	15.207%	4.496%	0.305%	2.915%	1.331%	0.000%	1.793%	1.473%	0.000%
% moles Vinyl Chloride	81.475%	83.223%	16.769%	81.815%	90.079%	33.867%	79.892%	87.178%	31.747%
% moles Ethene	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%
	Month 7	Month 8	Month 9	Month 7	Month 8	Month 9	Month 7	Month 8	Month 9

Note: 0 sample indicates a non-detect analyte value

WB05 Field Parameters

Zone	WB05						
	Sample Date	Sample Time	pH	Temp. (°C)	Sp. Cond. (mS/cm)	ORP (mV)	DO (mg/L)
LGR-01 30 - 107 ft bgs	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
	8/22/2007	1400	6.86	23.67	0.934	-24.2	4.22
	9/21/2007	1045	6.86	22.45	0.903	-39.7	2.52
	10/24/2007	1045	7.40	21.86	0.863	10.9	4.12
	1/24/2008	1330	7.00	13.27	0.670	-39.6	5.14
LGR-02 112 - 190 ft bgs	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	5.24
	8/22/2007	1350	6.88	24.57	0.811	-45.5	4.03
	9/21/2007	1030	6.92	22.60	0.714	-41.2	3.92
	10/24/2007	1000	7.40	19.46	0.703	20.3	4.60
	1/24/2008	945	7.38	14.97	0.583	-42.2	6.61
LGR-03A 195 - ft bgs	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
	8/22/2007	1341	6.96	26.36	0.720	6.5	5.20
	9/21/2007	1015	7.00	22.71	0.661	-58.0	4.39
	10/24/2007	930	7.46	18.67	0.590	35.1	4.84
	1/23/2008	1130	7.10	13.55	0.500	-43.3	6.30
LGR-03B - 270 ft bgs	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
	8/22/2007	1045	7.11	34.34	0.848	-5.2	3.98
	9/18/2007	1430	6.96	23.97	0.680	-10.8	5.91
	10/15/2007	1030	7.37	22.53	0.601	-19.2	5.80
	11/20/2007	915	6.93	21.53	0.579	2.8	5.52
	12/17/2007	1015	7.68	18.31	0.583	-27.0	6.80
1/21/2008	945	6.97	14.47	0.507	-19.3	5.48	
LGR-04A 275 - 284 ft bgs	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
	8/22/2007	1034	7.06	23.47	0.603	-99.0	3.85
	9/21/2007	1007	6.96	22.45	0.591	-84.0	4.51
	10/23/2007	1500	7.19	22.25	0.586	-102.7	3.98
	1/23/2008	1045	7.25	14.27	0.462	-111.7	6.53
	LGR-04B 289 - 340 ft bgs	5/5/2006	1740	6.96	28.21	0.575	129.0
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
8/22/2007		1025	6.85	23.06	0.567	1.9	4.90
9/21/2007		958	7.01	22.45	0.565	-26.0	6.03
10/23/2007		1410	6.87	23.80	0.601	-10.9	4.60
1/23/2008		945	6.93	16.58	0.785	-26.0	5.76
LGR-BS-01 345 - 388 ft bgs		8/9/2006	1025	7.24	25.97	0.649	-34.1
	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
	8/22/2007	1013	7.01	23.29	0.576	-59.5	5.23
	9/21/2007	950	7.13	22.48	0.568	-67.7	7.76
	10/23/2007	1110	7.11	20.32	0.537	-21.3	8.04
	1/22/2008	1420	6.97	18.35	0.468	-46.7	7.84
LGR-CC-01 393 - 442 ft bgs	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
	8/22/2007	1004	6.95	23.41	0.623	-86.2	4.40
	9/21/2007	938	7.14	22.65	0.621	-76.0	4.22
	10/23/2007	1040	7.25	18.82	0.570	-22.1	6.07
	1/22/2008	1305	6.95	21.47	0.588	-65.9	5.23
LGR-CC-02 447 - 473 ft bgs	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
	8/22/2007	954	6.86	23.96	0.635	-74.3	5.94
	9/21/2007	928	7.46	22.73	0.631	-88.0	4.73
	10/23/2007	945	7.06	16.07	0.529	-53.1	7.28
	1/22/2008	1045	6.73	21.38	0.584	-90.5	4.67

Note: elevation for LGR-03A is the top of the LGR zone and LGR-03B is the base of the LGR zone

Table 3.2.1b

SWMU B-3 Multiport Well CS-WB06 Field Parameter Data

WB06 Field Parameters

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
UGR-01 9.5 - 27.5 ft bgs	8/21/2007	1445	6.87	25.07	0.715	13.0	3.37
	9/20/2007	1450	6.84	24.30	0.651	-6.5	4.10
	10/17/2007	1445	6.49	26.30	1.075	7.5	2.80
	1/29/2008	1425	7.06	22.60	0.994	-23.3	3.68
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	0.606	15.0	5.85
LGR-01 32.5 - 100.5 ft bgs	8/21/2007	1435	7.00	24.42	0.645	12.8	4.37
	9/20/2007	1440	6.93	23.96	0.662	-14.2	4.28
	10/17/2007	1355	7.08	25.97	0.636	-6.0	3.45
	1/29/2008	1330	7.27	21.57	0.677	-25.1	3.72
LGR-02 105.5 - 181.5 ft bgs	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	-303.0	5.79
	8/21/2007	1425	7.10	24.28	0.622	2.8	3.64
	9/20/2007	1430	6.96	23.68	0.617	-20.6	4.89
	10/17/2007	1310	7.10	25.80	0.635	-11.8	3.93
	1/29/2008	1130	7.14	20.99	0.539	-25.4	3.65
LGR-03A 186.5 - ft bgs	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
	8/21/2007	1415	7.03	24.26	0.605	21.9	6.27
	9/20/2007	1415	6.89	22.57	0.586	-21.3	5.49
	10/17/2007	1045	6.80	22.80	0.581	19.9	6.79
	1/29/2008	1025	7.06	20.83	0.548	-14.1	3.96
	LGR-03B - 267.5 ft bgs	1/27/2005	1420	7.15	24.70	0.647	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
8/21/2007		1355	7.07	24.74	0.613	-0.1	3.20
9/18/2007		1100	7.14	23.69	0.605	-4.9	6.23
10/16/2007		1030	6.87	22.35	0.577	-44.0	6.25
11/26/2007		945	7.18	15.67	0.472	4.9	8.18
12/17/2007		1405	7.15	19.65	0.538	-21.8	6.74
1/21/2008		1415	7.31	18.87	0.501	34.2	6.50
LGR-04 272.5 - 332.5 ft bgs	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	4.31
	8/21/2007	1340	6.93	24.03	0.590	10.9	4.64
	9/20/2007	1400	7.14	23.20	0.587	-19.5	5.00
	10/17/2007	1000	6.82	22.98	0.567	24.4	6.80
	1/29/2008	945	7.23	19.92	0.510	-4.6	6.87

Note: elevation for LGR-03A is the top of the LGR zone and LGR-03B is the base of the LGR zone

Table 3.2.1c

SWMU B-3 Multiport Well CS-WB07 Field Parameter Data

WB07 Field Parameters

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
UGR-01 7.25 - 22.25 ft bgs	8/22/2007	1601	6.56	23.06	0.832	-105.0	2.13
	9/20/2007	1335	6.65	23.86	0.960	-103.7	2.73
	10/18/2007	1345	6.56	25.18	0.991	-114.5	2.67
	1/28/2008	dry					
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-01 27.25 - 98.25 ft bgs	8/22/2007	1555	6.90	22.97	0.720	7.9	3.53
	9/20/2007	1325	7.00	23.15	0.769	-14.2	5.03
	10/18/2007	1250	6.77	23.97	0.749	11.0	4.70
	1/28/2008	1330	7.27	18.41	0.759	-22.9	4.61
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-02 103.25 - 183.25 ft bgs	8/22/2007	1545	6.98	23.06	0.637	-21.3	4.74
	9/20/2007	1315	7.03	22.99	0.642	-35.7	5.37
	10/18/2007	1100	6.96	23.00	0.592	2.7	5.43
	1/28/2008	1100	7.48	18.05	0.535	-29.0	5.07
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-03A 188.25 - ft bgs	8/22/2007	1535	7.02	23.47	0.584	-34.3	5.29
	9/20/2007	1310	6.92	22.64	0.575	-39.1	5.44
	10/18/2007	1030	6.94	23.08	0.538	16.0	6.43
	1/28/2008	1020	7.13	18.00	0.499	-22.0	5.46
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	0.573	-34.8	8.08
LGR-03B - 265.25 ft bgs	8/22/2007	1455	7.04	24.46	0.597	-21.1	6.06
	9/18/2007	930	7.28	22.80	0.582	-43.0	5.58
	10/15/2007	1330	7.13	23.22	0.528	-33.9	6.35
	11/20/2007	1030	7.04	21.64	0.509	-0.7	6.26
	12/17/2007	1500	7.41	19.53	0.515	-44.0	6.20
	1/21/2008	1130	7.15	17.90	0.478	-43.7	5.83
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	NA	NA	NA
LGR-04 270.25 - 331.25 ft bgs	8/22/2007	1441	7.02	25.94	0.602	1.3	4.10
	9/20/2007	1250	7.64	23.64	0.577	-12.2	5.32
	10/18/2007	925	6.79	23.07	0.520	29.2	6.91
	1/28/2008	945	7.11	18.21	0.483	-4.6	6.49

Note: elevation for LGR-03A is the top of the LGR zone and LGR-03B is the base of the LGR zone

WB08 Field Parameters

Zone	WB08						
	Sample Date	Sample Time	pH	Temp. (°C)	Sp. Cond. (mS/cm)	ORP (mV)	DO (mg/L)
UGR-01	1/10/2007	dry					
	6/19/2007	dry					
	7/26/2007	1500	6.70	23.40	0.650	15.9	4.36
UGR-01	8/21/2007	1050	6.91	24.02	0.633	22.0	2.73
9.5 - 45.5 ft bgs	9/20/2007	1605	6.83	24.44	0.604	-11.8	2.87
	10/25/2007	dry					
	1/30/2008	dry					
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-01	8/21/2007	1043	7.01	23.74	0.773	9.5	3.15
50.5 - 122.5 ft bgs	9/20/2007	1555	6.94	23.95	0.793	-34.2	3.49
	10/25/2007	1045	6.88	19.85	0.689	-3.8	6.07
	1/30/2008	1115	7.34	16.10	0.667	-27.9	4.86
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-02	8/21/2007	1035	7.03	24.26	0.856	-9.9	4.28
127.5 - 200.5 ft bgs	9/20/2007	1545	6.91	23.53	0.848	-28.8	4.10
	10/25/2007	1000	6.88	17.58	0.671	-0.8	6.78
	1/30/2008	1030	7.31	15.81	0.638	-18.9	4.99
LGR-03A	1/9/2007	1422	dry				
	6/19/2007	1356	7.13	25.02	0.620	-17.8	4.62
	7/26/2007	1055	6.90	23.19	0.605	30.5	7.67
LGR-03A	8/21/2007	1032	6.93	23.60	0.605	40.2	6.42
205.5 - ft bgs	9/20/2007	1535	6.95	23.57	0.609	-4.1	6.80
	10/24/2007	1410	6.79	22.90	0.582	36.8	6.32
	1/30/2008	1000	7.25	15.94	0.472	-4.4	5.81
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	6.94	23.57	0.608	18.0	5.86
LGR-03B	8/21/2007	1015	6.92	23.60	0.589	34.1	4.80
- 280.5 ft bgs	9/18/2007	930	7.28	22.80	0.582	-43.0	5.58
	10/16/2007	1330	7.20	23.05	0.586	-0.9	6.74
	11/26/2007	1030	7.03	14.00	0.510	19.2	8.23
	12/17/2007	1115	7.13	18.28	0.514	-7.9	7.58
	1/21/2008	1530	7.15	19.47	0.503	29.7	4.96
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
LGR-04	8/21/2007	1004	7.00	23.30	0.557	30.6	5.80
285.5 - 353.5 ft bgs	9/20/2007	1523	7.50	23.64	0.653	-4.0	5.31
	10/24/2007	1330	6.82	23.27	0.600	50.3	7.67
	1/30/2008	900	7.04	18.66	0.722	11.2	6.03

Note: elevation for LGR-03A is the top of the LGR zone and LGR-03B is the base of the LGR zone

Table 3.2.2a

SWMU B-3 Bioreactor Multi-port Well CS-WB05 - Q3 Performance Data

Well ID Sample Date		WB05																					
		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			
		1/24/2008		1/24/2008		1/23/2008		11/20/2007		12/17/2007		1/21/2008		1/23/2008		1/23/2008		1/22/2008		1/22/2008		1/22/2008	
Compound	Units	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	2.1		2.1		1.8		1.6		0.84		1.6		2.3		2.6		1.8		4.2		1.7	
Total Organic Carbon	mg/L	1.1		0.88		1.1		1.9		0.58		1.3		1.3		2.0		2.9		4.1		1.1	
Methane	µg/L	49.1		496		31.4		6.99		9.5		26.5		97.1		4050		4.16		425		144	
Ethene	µg/L	0		0		0		0		0		0		0		0		0		9.42		0	
Ethane	µg/L	0		0		0		0		0		0		0		0		0		0		0	
Carbon Dioxide	µg/L	38,600		25,500		47,800		41,700		24,700		43,000		12,200		96,400		14,100		14,700		33,800	
Alkalinity, Total (as CaCO3)	mg/L	362		306		309		310		271		310		294		524		274		319		274	
Nitrate/Nitrite	mg/L	0		0		0		0		0.098	J	0		0.24		0		0		0		0	
Sulfate	mg/L	134		85.5		50.0		50.2		49.7		48.2		26.9		6.9		29.7		14.8		52.1	
Chloride	mg/L	14.4		12.6		11.0		10.9		11		10.6		11.2		12.4		11.5		26.7		15.4	
Ferrous Iron	mg/L	0		0		0		0		0		0		0		1.2		0		1.5		0.57	J
Manganese	µg/L	5.4		2.6	J	3.0	J	1.8	J	2.7	J	1.6	J	7.3		41.5		0		29.8		1.7	J
Hydrogen	nM																						
Hydrogen Sulfide																							
Total Dissolved Solids	mg/L	594		472		394		407		397		404		344		574		331		375		375	
Benzene	µg/L	0		0		0		0		0		0		0		0.20	J	0		0		0	
Bromodichloromethane	µg/L	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	
Chloroform	µg/L	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	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0		0		0		0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0		0		0		0.31	J	0		0		1.2	
Dichloroethene, cis-1,2-	µg/L	1.6		45		34		49		56		40		150		600		23		96		240	
Dichloroethene, trans-1,2-	µg/L	0		6.6		0.97		2.3		2.3		3.5		3.1		4.6		0		2.2		8.1	
Methylene chloride	µg/L	0		0		0		0		0		0		0		0		0		0		0	
Naphthalene	µg/L	0		0		0		0		0		0		0		0		0		0		0	
Tetrachloroethene	µg/L	1.8		0		0.76	J	0		0		0		1.9		92		0.17	J	62		0.20	J
Toluene	µg/L	0.18	J	0		0		0		0		0		0.19	J	0		0		0		0	
Trichloroethene	µg/L	2.2		8.9		66		92		98		73		140		99		20		99		240	
Vinyl chloride	µg/L	0		0		0		0		0		0		0		3.2		0		0		0.61	J
Arsenic	µg/L	4.9	J	0		4.3	J	0.0		3.7	J	0.0		0		0		0		0		4.5	J
Barium	µg/L	42.3		40.2		31.4		29.3		30.2		29.7		31.2		40.7		27.1		64.2		17.4	
Cadmium	µg/L	0		0		0		0		0		0		0		0		0		0		0	
Chromium	µg/L	10.8		7.2		11.3		1.8	J	9.4		10.5		3.3	J	3.1	J	2.5	J	12.8		5.9	
Copper	µg/L	0		0		0.0		0		0		2	J	0		0		0		1.1	J	0	
Lead	µg/L	0		0		0		0		4	J	0		0		0		0		0		0	
Mercury	µg/L	0.18	J	0.085	J	0.11	BJ	0		0.072	J	0.065	J	0.11	BJ	0.093	BJ	0.11	BJ	0.14	BJ	0.14	BJ
Nickel	µg/L	9.3		13.2		14.2		7.6		13.6		14.7		1.3	J	24.0		0		5.4		2.6	J
Zinc	µg/L	12.7	J	4.0	J	12.1	J	25	J	11.2	J	12.2	J	5.2	J	7.2	J	11.7	J	1390		6.3	J
		Month 9		Month 9		Month 9		Month 7		Month 8		Month 9		Month 9		Month 9		Month 9		Month 9		Month 9	

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

Note: CS-WB05-CC-01 sample from 1/22/08 likely contained water from the inner part of the well due to catastrophic failure of the shoe on the Westbay probe during sampling

Table 3.2.2b

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

Q3		WB06															
Well ID		CS-WB06-UGR01		CS-WB06-LGR01		CS-WB06-LGR02		CS-WB06-LGR03A		CS-WB06-LGR03B		CS-WB06-LGR04					
Sample Date		1/29/2008		1/29/2008		1/29/2008		1/29/2008		11/26/2007		12/17/2007		1/21/2008		1/29/2008	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	5.7		2.4		1.7		2.1						1.8		0.54	
Total Organic Carbon	mg/L	4.1		1.5		0.58		0.56						1.5		0.84	
Methane	µg/L	0		0		0		1.05						10.4		0	
Ethene	µg/L	0		0		0		0						0		0	
Ethane	µg/L	0		0		0		0						0		0	
Carbon Dioxide	µg/L	61,700		45,100		8,930		8,840						35,200		32,700	
Alkalinity, Total (as CaCO3)	mg/L	527		354		260		278						260		264	
Nitrate/Nitrite	mg/L	0		0.31		0		0						0		1.2	
Sulfate	mg/L	21.6		17.4		30.9		20.0						19.4		10.1	
Chloride	mg/L	17.5		12.7		9.7		12.4						11.6		12.7	
Ferrous Iron	mg/L	0		0		0		0						0		0	
Manganese	µg/L	212		0		1.9	BJ	0						0		0	
Hydrogen	nM																
Hydrogen Sulfide																	
Total Dissolved Solids	mg/L	662		423		329		337		348		330		330		324	
Benzene	µg/L	0		0		0		0		0		0		0		0.16	J
Bromodichloromethane	µg/L	0		0		0		0		0		0		0		0	
Bromoform	µg/L	0		0		0		0		0		0		0		0	
Chloroform	µg/L	0		0		0		0		0		0		0		0.20	J
Dibromochloromethane	µg/L	0		0		0		0		0		0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0		0		0		0.49	J
Dichloroethene, cis-1,2-	µg/L	16		65		0		140		340		220		190		460	
Dichloroethene, trans-1,2-	µg/L	0		1.2		0		1.1		3.9		1.6		2.3		4.7	
Methylene chloride	µg/L	0		0		0		0		0		0		0		0	
Naphthalene	µg/L	0		0		0		0		0		0		0		0	
Tetrachloroethene	µg/L	1.2	J	34		0.25	JB	56		320		68		96		370	
Toluene	µg/L	0		0		0		0.20	J	0.27	J	0		0.26	J	0	
Trichloroethene	µg/L	1.4		33		0		67		370		96		120		280	
Vinyl chloride	µg/L	1.6		0		0		0		0		0		0.34	J	0	
Arsenic	µg/L	0		0		0		5.0						0		0	
Barium	µg/L	77.8		65.8		49.7		27.2						26.8		28.5	
Cadmium	µg/L	0		0		0		0						0		0	
Chromium	µg/L	11		9.4		4.7	J	4.0	J					2.4	J	5.3	
Copper	µg/L	1.2	J	0		0		0						1.7	J	0	
Lead	µg/L	0		1.9	J	0		0						0		1.9	J
Mercury	µg/L	0		0		0		0						0		0	
Nickel	µg/L	19.8		7.3		6.5		5.7						5.1		3.5	J
Zinc	µg/L	8.4	J	15.2	J	4.3	J	18.9	J					12.7	J	9.9	J
		Month 9		Month 9		Month 9		Month 9		Month 7		Month 8		Month 9		Month 9	

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

Table 3.2.2c

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

Q3		WB07													
Well ID		CS-WB07-LGR01		CS-WB07-LGR-02		CS-WB07-LGR-03A		CS-WB07-LGR-03B						CS-WB07-LGR-04	
Sample Date		1/28/2008		1/28/2008		1/28/2008		11/20/2007		12/17/2007		1/21/2008		1/28/2008	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	1.8		1.4		1.8		1.4		0.92		2.9		2.7	
Total Organic Carbon	mg/L	1.4		0.53		0.65		3		0.60		2.50		1	
Methane	µg/L	0		0		16.9		21.8		19.9		29.0		0	
Ethene	µg/L	0		0		0		0		0		0		0	
Ethane	µg/L	0		0		0		0		0		0		0	
Carbon Dioxide	µg/L	23,100		11,300		18,900		30,700		39,100		33,100		13,200	
Alkalinity, Total (as CaCO3)	mg/L	382		298		291		279		301		264		276	
Nitrate/Nitrite	mg/L	0.063	J	0		0		0.072	J	0		0		0.86	
Sulfate	mg/L	94.5		36.7		20.6		21		21		20.2		9.7	
Chloride	mg/L	17.4		13.4		10.2		10		10		9.7		12.3	
Ferrous Iron	mg/L	0		0		0		0		0		0		0	
Manganese	µg/L	0		1.7	BJ	0		0		0		0		0	
Hydrogen	nM														
Hydrogen Sulfide															
Total Dissolved Solids	mg/L	553		363		321		336		326		326		321	
Benzene	µg/L	0		0		0		0		0		0		0.17	J
Bromodichloromethane	µg/L	0		0		0		0		0		0		0	
Bromoform	µg/L	0		0		0		0		0		0		0	
Chloroform	µg/L	0		0		0		0		0		0		0.29	J
Dibromochloromethane	µg/L	0		0		0		0		0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0		0		0.59	J
Dichloroethene, cis-1,2-	µg/L	7		17		13		25		36		26		440	
Dichloroethene, trans-1,2-	µg/L	0.45	J	0.29	J	0.67		0.63		0.89		0.59	J	3.9	
Methylene chloride	µg/L	0		0		0		0		0		0		0	
Naphthalene	µg/L	0		0		0		0		0		0		0.72	
Tetrachloroethene	µg/L	1.5		0.49	JB	2.4	B	0.62	J	0		0		390	
Toluene	µg/L	0		0		0		0		0		0		0	
Trichloroethene	µg/L	2.2		0.82	JB	3.2		0		1.3		1.0		320	
Vinyl chloride	µg/L	0		0		0		0		0		0		0	
Arsenic	µg/L	0		0		0		0		0		0		0	
Barium	µg/L	73.6		96.3		35.1		32.1		32.9		30.8		26.8	
Cadmium	µg/L	0		0		0		0		0		0		0	
Chromium	µg/L	15.8		9.7		5.8		2.2	J	2.7	J	3.7	J	3.4	J
Copper	µg/L	0		2.2	J	0		0		0		1.7	J	0	
Lead	µg/L	0		0		1.6	J	0.0		2.5	J	0.0		0	
Mercury	µg/L	0		6.1		0.092	J	0		0		0		0.081	J
Nickel	µg/L	16.1		3.8	J	5.1		1.4	J	2.8	J	4.2	J	3.2	J
Zinc	µg/L	7.9	J			4.5	J	10.6	J	0		5.2	J	8.9	J
		Month 9		Month 9		Month 9		Month 7		Month 8		Month 9		Month 9	

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

Table 3.2.2d

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

Q3		WB08													
Well ID		CS-WB08-LGR01		CS-WB08-LGR02		CS-WB08-LGR03A		CS-WB08-LGR03B						CS-WB08-LGR04	
Sample Date		1/30/2008		1/30/2008		1/30/2008		11/26/2007		12/17/2007		1/21/2008		1/30/2008	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	1.9		1.6		1.2						1.7		3.1	
Total Organic Carbon	mg/L	1.3		0.38	J	0.53						1.4		1.8	
Methane	µg/L	2.16		0		0						0		0	
Ethene	µg/L	0		0		0						0		0	
Ethane	µg/L	0		0		0						0		0	
Carbon Dioxide	µg/L	11,500		10,600		10,700						47,800		103,000	
Alkalinity, Total (as CaCO ₃)	mg/L	341		311		272						262		414	
Nitrate/Nitrite	mg/L	0		0		0.8						0.86		0.19	
Sulfate	mg/L	96.7		99.8		16.7						16.9		8.8	
Chloride	mg/L	11		11.5		12						11.2		14.4	
Ferrous Iron	mg/L	0		0		0						0		0	
Manganese	µg/L	2.7	J	0		1.7	J					0		1.4	J
Hydrogen	nM														
Hydrogen Sulfide															
Total Dissolved Solids	mg/L	548		537		346		357		352		340		513	
Benzene	µg/L	0		0		0		0		0		0		0	
Bromodichloromethane	µg/L	0		0		0		0		0		0		0	
Bromoform	µg/L	0		0		0		0		0		0		0	
Chloroform	µg/L	0		0		0.20	J	0.21	J	0.17	J	0.20	J	0	
Dibromochloromethane	µg/L	0		0		0		0		0		0		0	
Dichlorodifluoromethane	µg/L	0		0		0		0		0		0		0	
Dichloroethene, 1,1-	µg/L	0		0		0		0		0		0		0	
Dichloroethene, cis-1,2-	µg/L	150		5		260		150		250		220		230	
Dichloroethene, trans-1,2-	µg/L	2.8		0		2.5		32		1.3		2.0		0.97	
Methylene chloride	µg/L	0		0		0		0.61	JB	0		0		0	
Naphthalene	µg/L	0		0		0		0		0		0		0	
Tetrachloroethene	µg/L	0		0.64	J	170		110		97		170		9.7	
Toluene	µg/L	0		0		0		0.23	J	0		0		0	
Trichloroethene	µg/L	10		0.83	J	270		120		210		200		8.6	
Vinyl chloride	µg/L	0.26	J	0		0		0		0		0		2.0	
Arsenic	µg/L	0		0		0						0		0	
Barium	µg/L	82.1		65		35.1						31.6		62.8	
Cadmium	µg/L	0		0		0						0		0	
Chromium	µg/L	3	J	4.1	J	14.7						3.5	J	6.6	
Copper	µg/L	0		0		0						3.5	J	1.7	J
Lead	µg/L	0		0		0						0		0	
Mercury	µg/L	0		0		0						0		0.086	J
Nickel	µg/L	0.82	J	2.2	J	11.8						7.1		4.2	J
Zinc	µg/L	0		2.5	J	4.5	J					10.5	J	3.2	J
		Month 9		Month 9		Month 9		Month 7		Month 8		Month 9		Month 9	

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

Table 3.2.3

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

Q3 Date	CS-WB05-LGR03B			CS-WB06-LGR03B			CS-WB07-LGR03B			CS-WB08-LGR03B		
	11/20/07	12/17/07	1/21/08	11/26/07	12/17/07	1/21/08	11/20/07	12/17/07	1/21/08	11/26/07	12/17/07	1/21/08
PCE (µg/L)	0	0	0	320	68	96	0	0	0	110	97	170
TCE (µg/L)	92	98	73	370	96	120	0.62	1.3	1	120	210	200
cis-1,2-DCE (µg/L)	49	56	40	340	220	190	25	36	26	150	250	220
trans-1,2-DCE (µg/L)	2.3	2.3	3.5	3.9	1.6	2.3	0.63	0.89	0.59	32	1.3	2.0
Vinyl Chloride (µg/L)	0	0	0	0	0	0.34	0	0	0	0	0	0
Ethene (µg/L)	0	0	0	0	0	0	0	0	0	0	0	0

PCE (nM/L)	0.000	0.000	0.000	1929.687	410.058	578.906	0.000	0.000	0.000	663.330	584.936	1025.146
TCE (nM/L)	700.205	745.871	555.598	2816.044	730.649	913.312	4.719	9.894	7.611	913.312	1598.295	1522.186
cis-1,2-DCE (nM/L)	505.415	577.617	412.584	3506.962	2269.211	1959.773	257.865	371.325	268.179	1547.189	2578.649	2269.211
trans-1,2-DCE (nM/L)	23.724	23.724	36.101	40.227	16.503	23.724	6.498	9.180	6.086	330.067	13.409	20.629
Vinyl Chloride (nM/L)	0.000	0.000	0.000	0.000	0.000	5.439	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
Total Molar Conc. (nM/L)	1,229.344	1,347.212	1,004.283	8,292.920	3,426.422	3,481.153	269.082	390.400	281.876	3,453.898	4,775.289	4,837.172

% moles PCE	0.000%	0.000%	0.000%	23.269%	11.968%	16.630%	0.000%	0.000%	0.000%	19.205%	12.249%	21.193%
% moles TCE	56.958%	55.364%	55.323%	33.957%	21.324%	26.236%	1.754%	2.534%	2.700%	26.443%	33.470%	31.469%
% moles cis-1,2-DCE	41.113%	42.875%	41.082%	42.289%	66.227%	56.297%	95.831%	95.114%	95.141%	44.795%	54.000%	46.912%
% moles trans-1,2-DCE	1.930%	1.761%	3.595%	0.485%	0.482%	0.681%	2.415%	2.351%	2.159%	9.556%	0.281%	0.426%
% moles Vinyl Chloride	0.000%	0.000%	0.000%	0.000%	0.000%	0.156%	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%
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%
	Month 7	Month 8	Month 9	Month 7	Month 8	Month 9	Month 7	Month 8	Month 9	Month 7	Month 8	Month 9

Note: 0 sample indicates a non-detect analyte value

Table 3.3.3

B-3 Bioreactor Monitoring Well Analytical Summary - Quarter 3

Q3		Monitoring Wells									
Well ID		CS-MW16-LGR		CS-MW1-LGR		CS-D		CS-B3-MW01		CS-MW16-CC	
Sample Date		1/21/2008		1/21/2008		1/21/2008		1/21/2008		1/21/2008	
Compound	Units	Value	Flag	Value	Flag	Value	Flag	Value	Flag	Value	Flag
Dissolved Organic Carbon	mg/L	2.0		2.8		1.10		50.4		1.5	
Total Organic Carbon	mg/L	1.2		1.6		0.71		47.2		1.1	
Methane	µg/L	0		0		0		58,100.0		32.4	
Ethene	µg/L	0		0		0		0		0	
Ethane	µg/L	0		0		0		0		0	
Carbon Dioxide	µg/L	40,300		30,200		24,900		744,000		18,300	
Alkalinity, Total (as CaCO3)	mg/L	247		237		244		1830		247	
Nitrate/Nitrite	mg/L	1.5		1.0		1.1		0		0	
Sulfate	mg/L	19.7		12.8		13.6		0.56	J	47.1	
Chloride	mg/L	11.6		8.7		10.4		12.1		13.9	
Ferrous Iron	mg/L	0		0		0		14.6		0	
Manganese	µg/L	0		4.7	J	0		635		1.4	J
Hydrogen	nM	2.1		2.7		4.3		2.0		1.6	
Hydrogen Sulfide											
Total Dissolved Solids	mg/L	318		297		317		2100		361	
Benzene	µg/L	0		0		0.56		0		0	
Bromodichloromethane	µg/L	0		0		0		0		0	
Bromoform	µg/L	0		0		0		0		0	
Chloroform	µg/L	0		0.11	J	0.19	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		0.6	J
Dichloroethene, cis-1,2-	µg/L	11		16		200		80		65	
Dichloroethene, trans-1,2-	µg/L	0.20	J	1.8		5.4		2.3		5.3	
Methylene chloride	µg/L	0		0		0		0		0	
Naphthalene	µg/L	0		0		0		0		0	
Tetrachloroethene	µg/L	14		15		160		0.29	J	15	
Toluene	µg/L	0		0		0		0		0.35	J
Trichloroethene	µg/L	13		27		220		0.36	J	75	
Vinyl chloride	µg/L	0		0		0		4.0		0	
Arsenic	µg/L	0		0		0		12.5		0	
Barium	µg/L	38.6		31.9		31.3		1030		23.4	
Cadmium	µg/L	1.9	J	0		0		0		0	
Chromium	µg/L	0		41.4		0		9.7		0	
Copper	µg/L	55.5		2.9	J	2.0	J	10.9		35.6	
Lead	µg/L	9.0		0		0		82.4		2.4	J
Mercury	µg/L	0		0		0.089	J	0		0.14	J
Nickel	µg/L	1.5	J	27.9		1.5	J	35.6		4.0	J
Zinc	µg/L	379		6.9	J	21.8	J	134		438	
		Month 9		Month 9		Month 9		Month 9		Month 9	

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

Table 3.4.4

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

Monitoring Wells

Baseline - Q3		CS B-3 MW01			CS-MW 16-LGR			CS-MW16-CC
Sample date:		12/19/2006	8/3/2007	10/15/2007	12/19/2006	8/3/2007	10/17/2007	10/17/2007
Dechlorinating Bacteria	units							
<i>Dehalococcoides spp (1)</i>	(cells/mL)	2.37E+01	4.50E-01	1.17E+00	6.90E+01	1.31E-01	3.67E-01	5.93E-01
Functional Genes	units							
TCE R-Dase (1)	(cells/mL)	<1.11E+00	<2.5E-01	5.68E-01 (J)	<2.5E-01	<5E-01	<2.5E-01	<2.5E-01
BAV1 VC R-Dase (1)	(cells/mL)	<1.11E+00	<2.5E-01	1.20E+00	<2.5E-01	<5E-01	<2.5E-01	<2.5E-01
VC R-Dase	(cells/mL)	<1.11E+00	<2.5E-01	3.31E+01	<2.5E-01	<5E-01	2.47E+00	1.10E+00

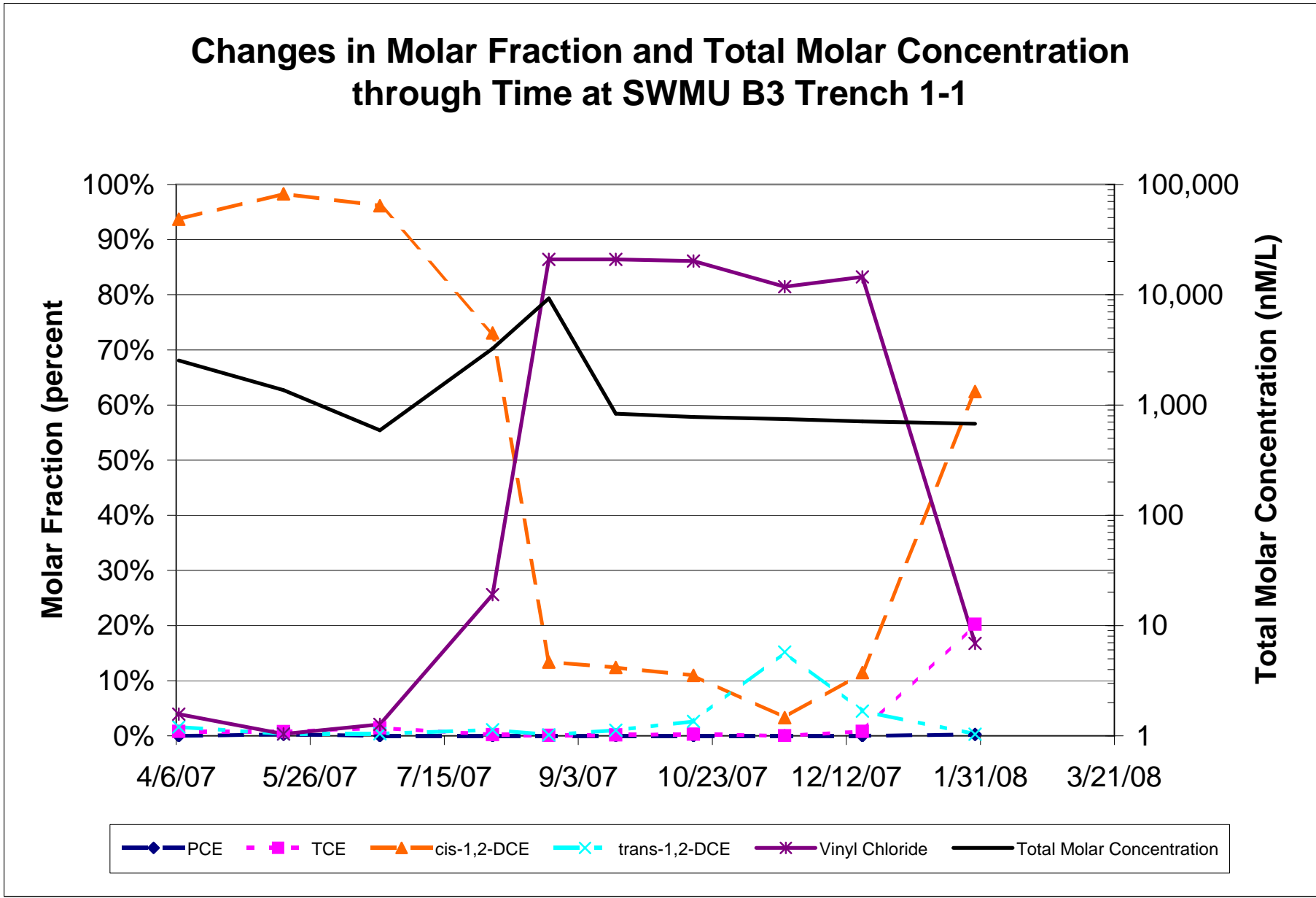
B3 Trench Sumps

Baseline - Q3		B3-T1-2				B3 T1-3				B3-T6-1	
Sample date:		10/17/2007	11/19/2007	12/18/2007	1/25/2008	12/19/2006	8/3/2007	8/23/2007	9/17/2007	1/25/2008	8/3/2007
Dechlorinating Bacteria	units										
<i>Dehalococcoides spp (1)</i>	(cells/mL)	1.68E+04	2.30E+04	1.99E+03	2.75E+02	2.46E+03	7.62E+00	7.27E+01	4.75E+00	2.15E+03	1.45E+02
Functional Genes	units										
TCE R-Dase (1)	(cells/mL)	3.71E+03	7.56E+02	2.06E+03	2.32E+02	<1E+00	<4.55E-01	2.87E+00	4.73E-01 (J)	2.32E+02	<9.09E-01
BAV1 VC R-Dase (1)	(cells/mL)	<2.5E-01	<2.5E-01	<2.5E-01	<5E+00	<1E+00	<4.55E-01	<5E-01	<5E-01	<1E+00	<9.09E-01
VC R-Dase	(cells/mL)	<2.5E-01	<2.5E-01	3.08E+00	3.40E+02	<1E+00	<4.55E-01	<5E-01	<5E-01	5.89E+01	<9.09E-01

Graphs

Figure 3.1.2T1-1

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



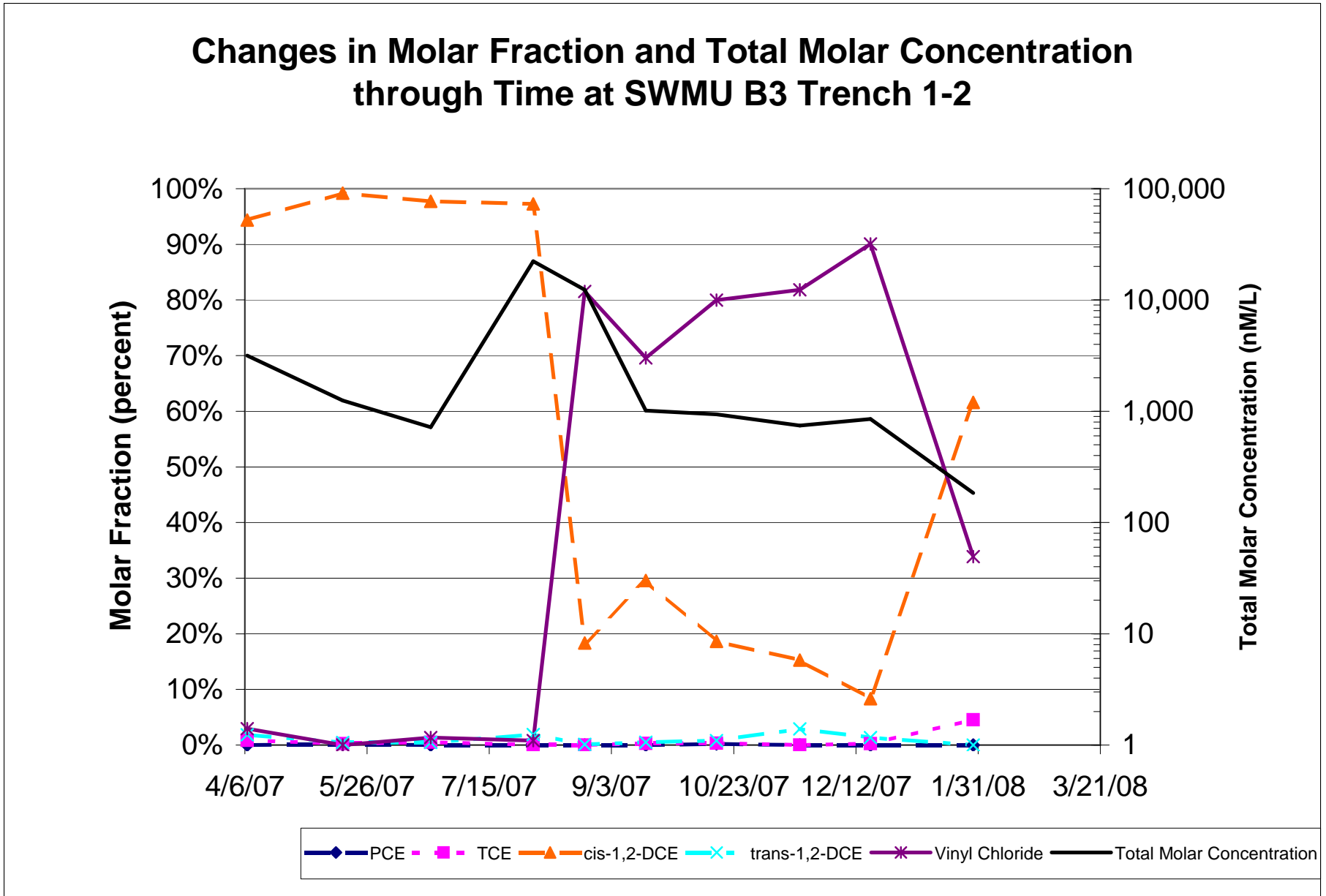


Figure 3.1.2T1-3

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

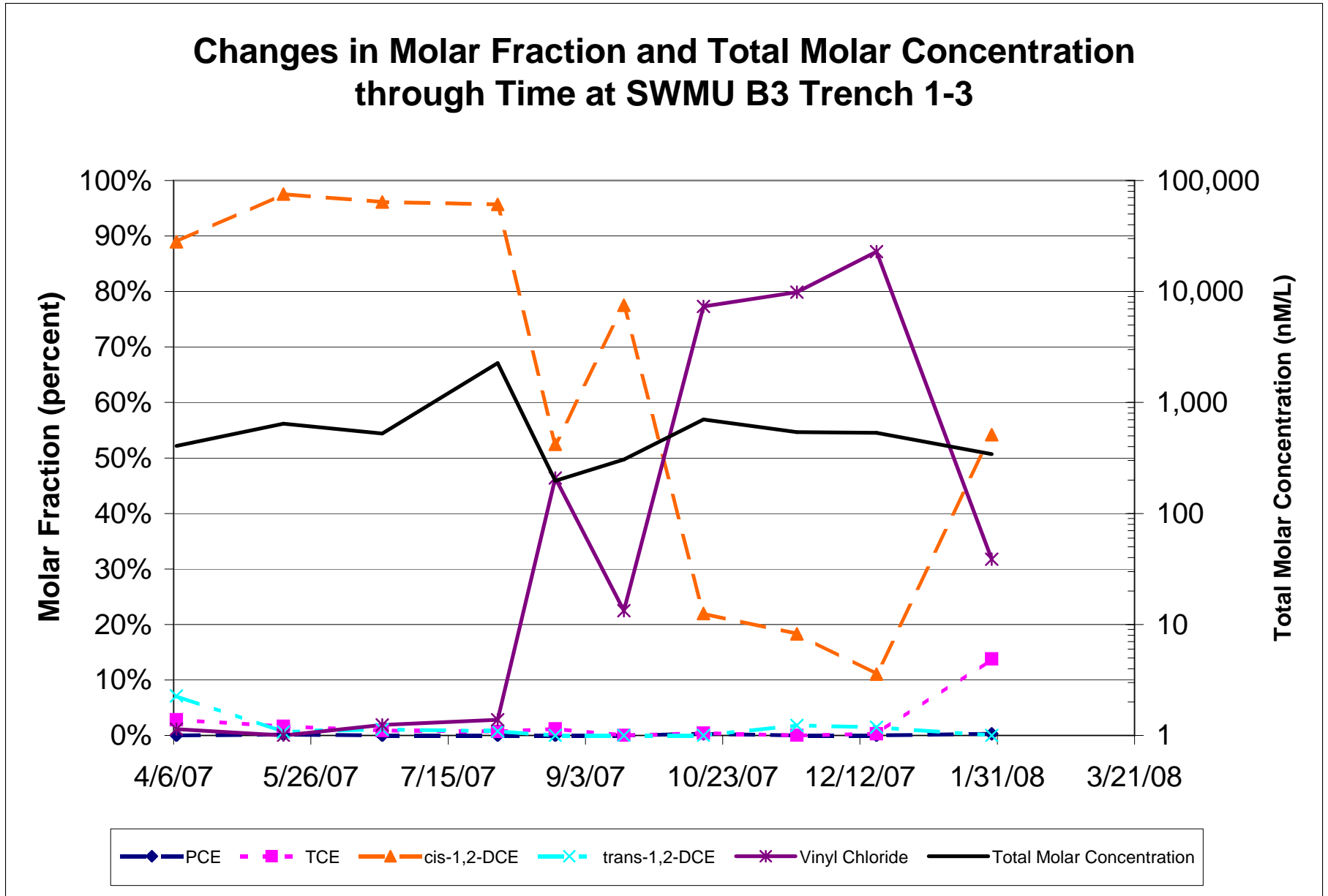


Figure 3.2.5 Lower Glen Rose Groundwater Elevations (feet above MSL) Measured in Westbay Wells through Quarter 3

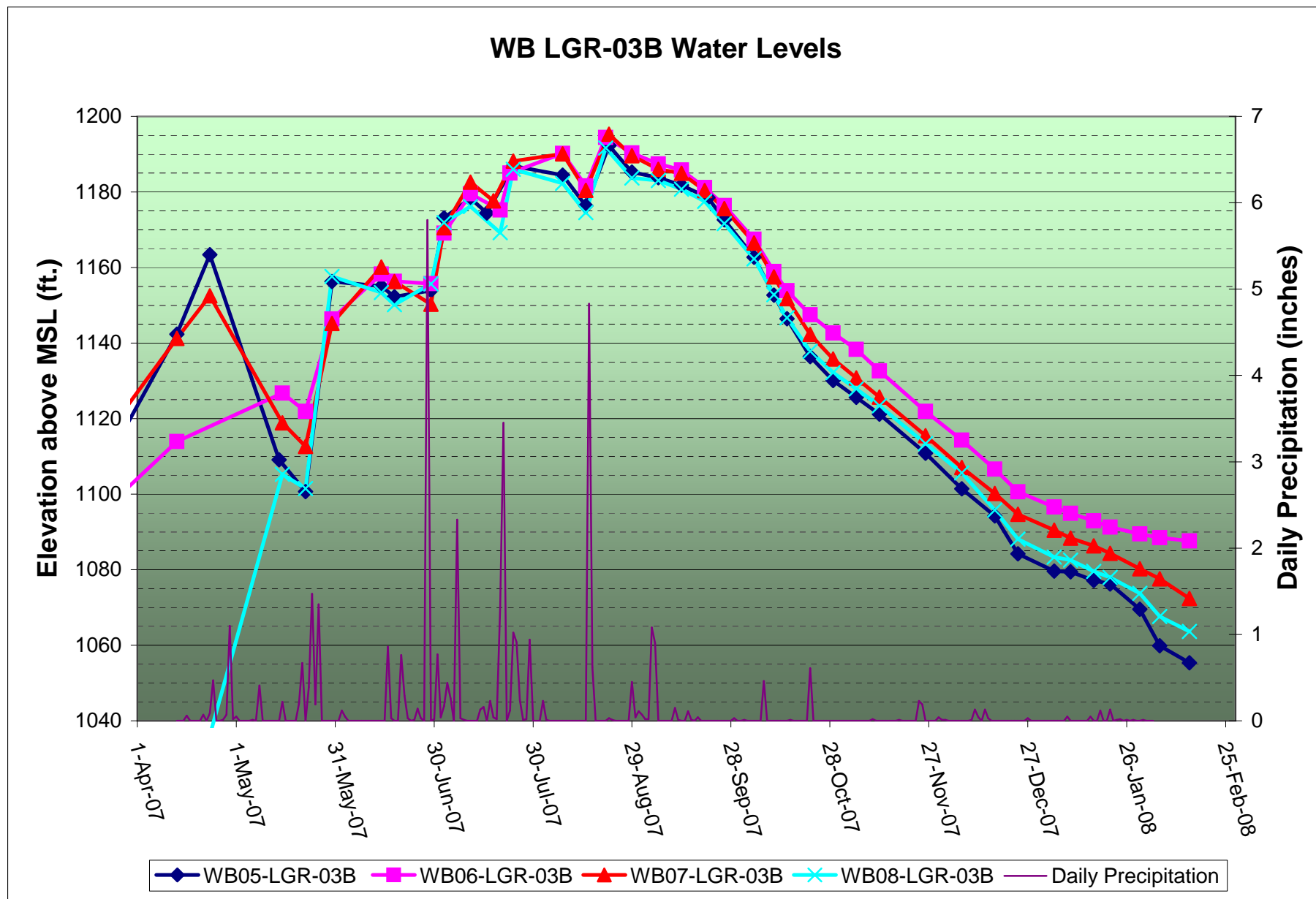


Figure 3.5.5

Cumulative Total Groundwater from CS-MW16 LGR and CC Applied to SWMU B3 Trench 1 through Quarter 3

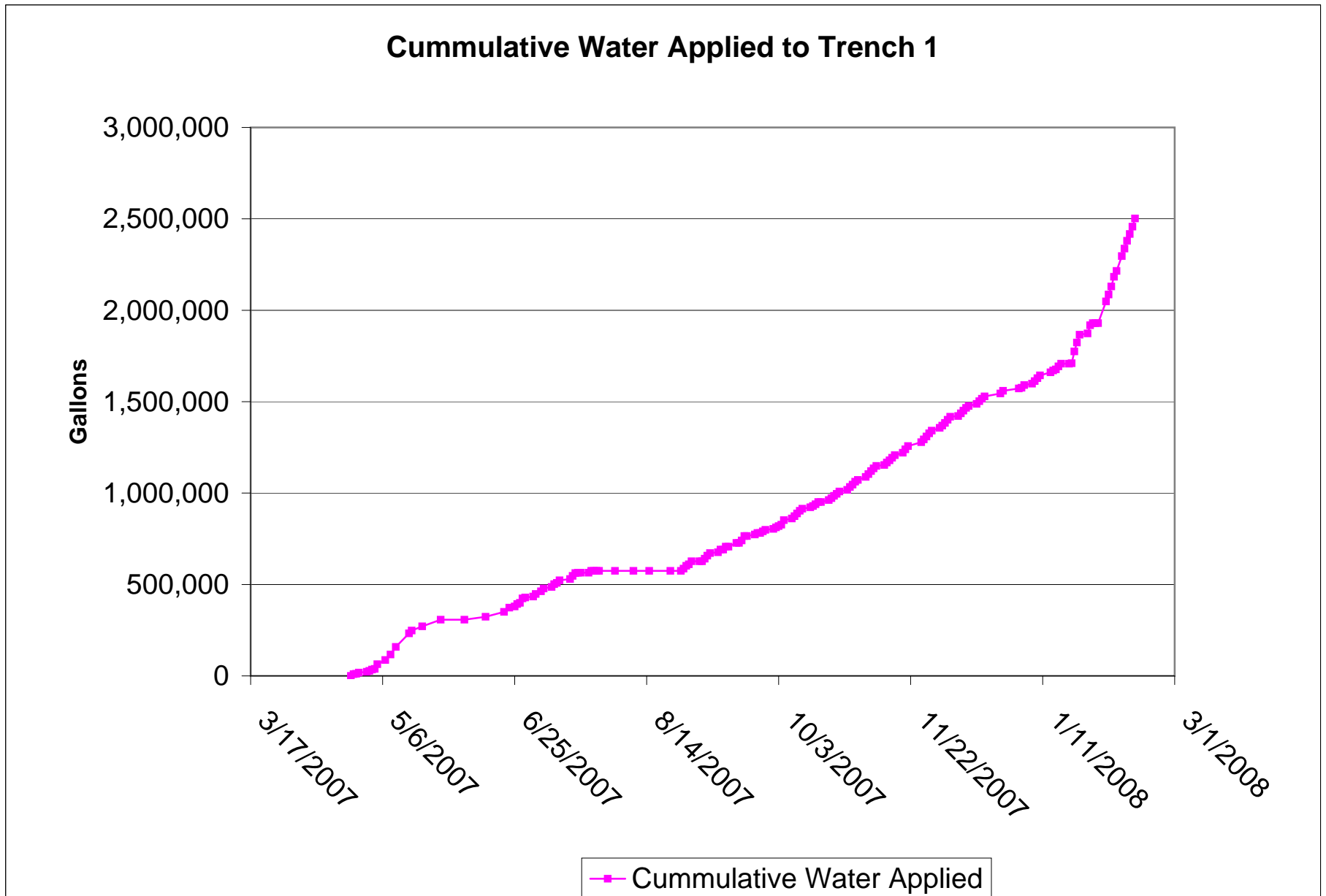


Figure 3.5.6

SWMU B-3 Bioreactor - Trench 1 Average Water Thickness, CS-16 Water Application, and Precipitation

