



DEPARTMENT OF THE ARMY  
CAMP STANLEY STORAGE ACTIVITY, MCAPP  
25800 RALPH FAIR ROAD, BOERNE, TX 78015-4800

May 9, 2008

U-119-08

Mr. Bryan Smith  
Texas Commission on Environmental Quality  
Industrial and Hazardous Waste Permits Section  
P.O. Box 13087 (MC-130)  
Austin, TX 78711-3087

Subject: Monthly Status Report (Month 11 - March 2008) of the Pilot Study Class V Aquifer Remediation Injection Wells at Camp Stanley Storage Activity, Boerne, Texas, TCEQ Authorization No. 5X2600431; WWC12002216; CN602728206/RN104431655

Dear Mr. Smith:

The Camp Stanley Storage Activity (CSSA), U.S. Army, is submitting this monthly report summarizing the injection activities performed at the on-post Solid Waste Management Unit (SWMU) B-3 site. The activities performed are part of the planned SWMU B-3 Pilot Study being performed to evaluate the effectiveness of enhanced anaerobic biodegradation (EAB) for treatment of chlorinated compounds in groundwater. The pilot study activities include the injection of recovered groundwater into mulch/gravel filled bioreactor trenches.

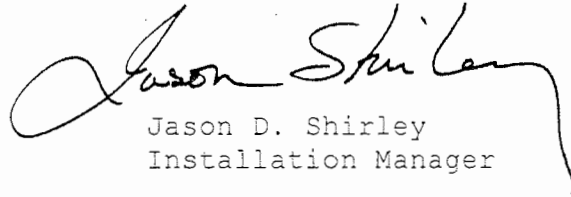
This monthly report contains data as specified by the subject Texas Commission on Environmental Quality (TCEQ) Underground Injection Control (UIC) permit for the month of March 2008 (Month 11). The monthly reporting data includes twice monthly samples of the injected groundwater for volatile organic concentrations (VOCs) and total dissolved solids (TDS) and field collected parameters including injection volumes, injection pressures and the pH of recovered groundwater.

Between March 1, 2008 and March 31, 2008 approximately 1,167,707 gallons of groundwater from wells CS-MW16-CC (7,570 gallons), and CS-MW16-LGR (1,160,137 gallons) were injected into SWMU B-3 bioreactor trench 1. A total of 4,213,236 gallons of recovered groundwater from CS-MW16-LGR and CS-MW16-CC have been injected into the bioreactor trench 1 since startup of the bioreactor. Samples of the injected groundwater, for this reporting period, were collected on March 4, 2008 and March 19, 2008. Results of analysis are summarized in Table 1 with the laboratory data packages attached. Field forms which contain operating pressures and pH readings for the reporting period are also attached.

If you have any questions regarding the information contained in this letter, please feel free to contact Glare Sanchez, CSSA

Environmental Program Manager, at (210) 698-5208 or Ken Rice, Parsons,  
at (512) 719-6050.

Sincerely,



Jason D. Shirley  
Installation Manager

Attachments

cc: Glare Sanchez, CSSA  
Robert Bowersock, USAE (ltr only)  
Jorge Salazar, TCEQ  
Julie Burdey, Parsons  
Ken Rice, Parsons  
Brian Vanderglas, Parsons  
File: 745953.03000

Table 1  
B3 - UIC Analytical Results

Sample ID Sample Date Sample Type Sampling Method Lab ID	B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC					
	01/09/08			01/22/08			02/07/08			02/18/08			03/04/08			03/19/08					
	N1			N1			N1			N1			N1			N1					
Grab			Grab			Grab			Grab			Grab			Grab						
AX72694			AX73060			AX73698			AX73963			AX74728			AX75520						
B-3 UIC			B-3 UIC			B-3 UIC			B-3 UIC			B-3 UIC			B-3 UIC						
Lab Criteria (RCRA			Lab Criteria (RCRA			Lab Criteria (RCRA			Lab Criteria (RCRA			Lab Criteria (RCRA			Lab Criteria (RCRA						
Lab MDL			Lab MDL			Lab MDL			Lab MDL			Lab MDL			Lab MDL						
PQL			PQL			PQL			PQL			PQL			PQL						
Haz.)			Haz.)			Haz.)			Haz.)			Haz.)			Haz.)						
Results			Results			Results			Results			Results			Results						
Flags			Flags			Flags			Flags			Flags			Flags						
Dilution			Dilution			Dilution			Dilution			Dilution			Dilution						
<b>SW8260B (µg/L)</b>																					
Cis-DCE	0.16	1.2	—	93		1	46		1	110		1	110	25	120		10	130		1	
Trans-DCE	0.19	0.6	—	1.5		1	0.71		1	0.45	J	1	0.68		1	0.27	J	1	0.26	J	1
TCE	0.16	1.0	500.	96		1	59		1	100		10	110		25	130		10	150		1
PCE	0.15	1.4	700.	88		1	31		1	110		1	110		25	110		10	140		1
Toluene	0.17	1.1	—	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
Vinyl Chloride	0.23	1.1	200.	0.23	U	1	0.23	U	1	0.23	U	1	0.23	U	1	0.23	U	1	0.23	U	1
<b>EPA 160.1 (mg/L)</b>																					
TDS	4.4	10.	—	326		1	349		1	326		1	320		1	325		1	331		1
<b>Field measured</b>																					
pH				7.02			7.06			7.04			7.15			7.10			7.11		

Tables present all laboratory results for analytes.

Data packages for laboratory analysis results are presented in Attachment 1.

All samples were analyzed by APPL Laboratory Services.

pH results reported were field measured

UIC criteria specified in 40 CFR 261.24 Table 1

**Data Qualifiers:**

J- The analyte was positively identified, the quantitation is an estimation.

U- The analyte was analyzed for, but not detected. The associated numerical value is the MDL.

**Abbreviations and Notes:**

PQL Practical Quantitation Limit

MDL Method Detection Limit

N1 Environmental Sample

SQL Sample Quantitation Limit

UIC Underground Injection Control

### Bioreactor Monitoring

Personnel: Tennyson, Ambrosetti

#### Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (✓)	Notes
Date: 3-5-08		Time: 1400							
B3-T1-1	12.9	5.85	6.77	22.43	0.755	-177.6	0.56	✓	
B3-T1-2	12.4	5.63	6.77	22.44	0.719	-211.1	0.35		
B3-T1-3	12.85	5.39	6.95	21.71	0.651	-217.8	0.37		
B3-T2-1	9.67	7.76	6.61	23.13	1.048	-152.0	0.43		
B3-T2-2	10.01	7.76	6.64	22.12	1.534	-172.0	0.33		
B3-T3-1	9.96	9.30							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	dry							
B3-T6-1	11.45	11.07							
B3-T6-2	12.34	11.85							
B3-UIC									

#### B-3 Transfer System Monitoring

Flow Meters Readings										
Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time	3-3-08	1140	3-4-08	1220	3-5-08	0935	3-6-08	1203	3-7-08	0953
	Rate (gpm) / Cumulative Total (gal)									
T-1	27.2	1,505,956	27.8	1,545,560	27.2	1,579,620	27.8	1,622,200	28.8	1,658,485
T-2										
T-3										
T-4										
T-5										
T-6										
B-3 (Total)	27.6	1,001,515	27.9	1,041,200	27.1	1,075,339	28.5		28.1	1,154,415
CS-MW16-LGR	27.8	991,860	27.03	60 *	26.97	34,459	26.94		26.75	112,590
CS-MW16-CC	off		off		off		off		off	

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = \*Note: If bag filter pressure drop is > or = 20 psi change filter.

PB-1 - PB-2 = 30-24 = 6    PB-1 - PB-2 = 30-23 = 7    PB-1 - PB-2 = 31-23 = 8    PB-1 - PB-2 = 32-23 = 9    PB-1 - PB-2 = 32-22 = 10

Notes:

tank = 2<sup>3</sup>/<sub>2</sub> full    tank = 3/4    tank 12/16<sup>+</sup>    tank 7/8<sup>+</sup>    tank = 11/16  
 16 LGR = 270.5' by SCADA    16 LGR = 270.5'    16 LGR = 271.5'    16 LGR = 272.5'    16 LGR = 272.5'

\* meter reset itself, passed 1 million gal.

Personnel | *Tennyson*  
*Ambrosetti*

### Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	3-5-08	1013	14.02	14.07	24.73
CS-WB05-LGR-02	182		1011		14.12	14.16
CS-WB05-LGR-03A	216		1009		14.15	23.71
CS-WB05-LGR-03B	262		1006		22.51	43.63
CS-WB05-LGR-04A	277		1004		29.02	49.97
CS-WB05-LGR-04B	329		1002		51.66	73.01
CS-WB05-BS-01	362		1000		66.00	88.31
CS-WB05-CC-01	432		0955		96.41	120.88
CS-WB05-CC-02	460		0953		108.55	132.99
CS-WB06-UGR-01	20		1104	14.03	14.06	16.24
CS-WB06-LGR-01	93		1102		14.09	16.39
CS-WB06-LGR-02	174		1100		14.14	28.25
CS-WB06-LGR-03A	207		1058		14.15	38.73
CS-WB06-LGR-03B	260		1056		23.40	61.62
CS-WB06-LGR-04	320		1054		49.44	77.42
CS-WB07-UGR-01	14		1123	14.03	14.03	15.55
CS-WB07-LGR-01	90		1122		14.08	18.54
CS-WB07-LGR-02	175		1121		14.12	34.85
CS-WB07-LGR-03A	208		1120		14.15	32.45
CS-WB07-LGR-03B	257		1118		17.50	53.64
CS-WB07-LGR-04	318		1116		44.03	73.03
CS-WB08-UGR-01	38		1041	14.02	14.07	14.07
CS-WB08-LGR-01	115		1039		14.10	29.34
CS-WB08-LGR-02	193		1037		14.14	21.72
CS-WB08-LGR-03A	228		1035		14.15	27.02
CS-WB08-LGR-03B	273		1033		20.74	46.49
CS-WB08-LGR-04	341		1030		50.30	78.07

### Bioreactor Monitoring

Personnel: <i>Tennyson, Elliott</i>											
Trench Sumps Water Levels ('BTOC)											
Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp (deg. C)	SpCond (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (✓)	Notes		
Date: <i>3-13-08</i>		Time: <i>1545</i>									
B3-T1-1	12.9	<i>8.75</i>	<i>6.65</i>	<i>22.07</i>	<i>0.735</i>	<i>-220.4</i>	<i>0.66</i>	✓			
B3-T1-2	12.4	<i>5.40</i>	<i>6.83</i>	<i>21.46</i>	<i>0.528</i>	<i>-195.0</i>	<i>0.41</i>				
B3-T1-3	12.85	<i>5.17</i>	<i>6.99</i>	<i>21.50</i>	<i>0.577</i>	<i>-281.9</i>	<i>0.39</i>				
B3-T2-1	9.67	<i>7.24</i>	<i>6.56</i>	<i>23.32</i>	<i>1.006</i>	<i>-155.4</i>	<i>0.64</i>				
B3-T2-2	10.01	<i>7.53</i>	<i>6.70</i>	<i>22.13</i>	<i>1.514</i>	<i>-182.3</i>	<i>0.47</i>				
B3-T3-1	9.96	<i>9.18</i>									
B3-T3-2	7.4	<i>dry</i>									
B3-T4-1	6.32	<i>dry</i>									
B3-T5-1	9.33	<i>9.29</i>									
B3-T5-2	7.98	<i>7.79</i>									
B3-T6-1	11.45	<i>11.04</i>									
B3-T6-2	12.34	<i>11.95</i>									
B3-UIC			<i>7.10</i>	<i>23.78</i>	<i>0.534</i>	<i>-45.6</i>	<i>4.09</i>				
B-3 Transfer System Monitoring											
Flow Meters Readings											
Meter	Monday	Tuesday	Wednesday	Thursday	Friday						
Date/Time:	<i>3-10-08 0845</i>	<i>3-11-08 0937</i>	<i>3-12-08 1220</i>	<i>3-13-08 1415</i>	<i>3-14-08 1048</i>						
Rate (gpm) / Cumulative Total (gal)											
T-1	<i>28.4</i>	<i>1,771,600</i>	<i>27.4</i>	<i>1,811,435</i>	<i>27.0</i>	<i>1,853,197</i>	<i>27.0</i>	<i>1,894,921</i>	<i>28.0</i>	<i>1,929,620</i>	
T-2											
T-3											
T-4	<i>tank = 9/16</i>										
T-5	<i>16LGR = 274.5'</i>										
T-6											
B-3 (Total)	<i>27.2</i>	<i>1,266,805</i>	<i>27.8</i>	<i>1,306,147</i>	<i>26.8</i>	<i>1,347,341</i>	<i>26.5</i>	<i>1,388,440</i>	<i>28.8</i>	<i>1,423,271</i>	
CS-MW16-LGR	<i>26.69</i>	<i>224,769</i>	<i>26.64</i>	<i>263,530*</i>	<i>26.75</i>	<i>306,760</i>	<i>26.64</i>	<i>348,969</i>	<i>26.64</i>	<i>381,999</i>	
CS-MW16-CC	<i>off</i>	<i>693,720</i>	<i>31</i>	<i>693,878**</i>	<i>off</i>	<i>-</i>	<i>off</i>	<i>-</i>	<i>off</i>	<i>-</i>	
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: if bag filter pressure drop is > or = 20 psi change filter.											
	<i>PB-1 - PB-2 = 33 - 21 = 12</i>	<i>PB-1 - PB-2 = 34 - 20 = 14</i>	<i>PB-1 - PB-2 = 35 - 21 = 14</i>	<i>PB-1 - PB-2 = 36 - 20 = 16</i>	<i>PB-1 - PB-2 = 26 - 25 = 1</i>						
Notes:	<i>Storms on Monday.</i>		<i>16LGR DTW = 272.5'</i>		<i>tank = 5/8</i>		<i>tank 3/4 full</i>		<i>tank 1/32 full</i>		
			<i>* at 0900 hrs</i>		<i>16LGR = 272'</i>		<i>16LGR = 274'</i>		<i>16LGR = 274.5' by SCADA.</i>		
			<i>** ran 16CC for ~15 mins. to collect 0.1g Mem. samples.</i>		<i>changed BFI filter</i>						

Personnel		S. Elliott + E. Tennyson				
Weekly Water Level Monitoring						
Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	3/13/06	1430	13.96	14.02	24.68
CS-WB05-LGR-02	182		1429		14.06	14.21
CS-WB05-LGR-03A	216		1428		14.10	23.48
CS-WB05-LGR-03B	262		1427		22.41	43.40
CS-WB05-LGR-04A	277		1426		28.92	50.19
CS-WB05-LGR-04B	329		1425		51.56	73.24
CS-WB05-BS-01	362		1424		65.90	88.06
CS-WB05-CC-01	432		1423		94.31	120.07
CS-WB05-CC-02	460		1422		108.46	132.17
CS-WB06-UGR-01	20		1504	13.99	13.97	16.28
CS-WB06-LGR-01	93		1502		14.01	16.38
CS-WB06-LGR-02	174		1501		14.05	28.70
CS-WB06-LGR-03A	207		1500		14.07	38.58
CS-WB06-LGR-03B	260		1459		23.29	61.47
CS-WB06-LGR-04	320		1458		49.34	77.60
CS-WB07-UGR-01	14		1519	13.97	13.98	15.60
CS-WB07-LGR-01	90		1518		14.02	18.45
CS-WB07-LGR-02	175		1517		14.05	34.44
CS-WB07-LGR-03A	208		1514		14.06	31.98
CS-WB07-LGR-03B	257		1515		17.42	53.19
CS-WB07-LGR-04	318		1513		43.93	73.39
CS-WB08-UGR-01	38		1447	13.95	13.49	13.99
CS-WB08-LGR-01	115		1446		14.02	29.28
CS-WB08-LGR-02	193		1445		14.06	21.27
CS-WB08-LGR-03A	228		1444		14.08	27.03
CS-WB08-LGR-03B	273		1443		20.64	46.48
CS-WB08-LGR-04	341	✓	1442		50.18	78.13

### Bioreactor Monitoring

Personnel: Tennyson, Elliott

#### Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (✓)	Notes		
Date: 3-19-08		Time: 1300									
B3-T1-1	12.9	6.12	6.58	22.67	0.818	-201.8	0.89	✓			
B3-T1-2	12.4	5.75	6.76	22.65	0.656	-178.2	0.64				
B3-T1-3	12.85	5.53	6.80	21.86	0.690	-184.9	0.57				
B3-T2-1	9.67	7.60	6.43	23.27	1.173	-167.9	0.77				
B3-T2-2	10.01	7.86	6.48	22.26	1.812	-148.8	0.69				
B3-T3-1	9.96	9.20									
B3-T3-2	7.4	dry									
B3-T4-1	6.32	dry									
B3-T5-1	9.33	9.30									
B3-T5-2	7.98	7.89									
B3-T6-1	11.45	11.09									
B3-T6-2	12.34	11.95	7.11	22.84	0.584	-37.2	4.28				
B3-UIC											

#### B-3 Transfer System Monitoring

Meter	Flow Meters Readings									
	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3-17-08	0908	3-18-08	1152	3-19-08	1318	3-20-08	1323	3-21-08	1008
	Rate (gpm) / Cumulative Total (gal)									
T-1	27.2	2040,211	25.4	2081,865	26.5	2120,086	26.4	2156,137	26.5	2187,230
T-2										
T-3										
T-4										
T-5										
T-6										
B-3 (Total)	26.8	1532,774	26.7	1573,307	25.3	1611,221	25.3	1646,528	25.2	1676,862
CS-MW16-LGR	26.36	493,875	26.19	534,125	26.14	572,482	25.95	608,264	25.85	638,699
CS-MW16-CC	off	-	off	-	off	-	off	-	30 *	694,704
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 20 psi change filter.										
	PB-1 - PB-2 = 31-24 = 7		PB-1 - PB-2 = 31-23 = 8		PB-1 - PB-2 = 32-22 = 10		PB-1 - PB-2 = 33-22 = 11		PB-1 - PB-2 = 34-23 = 11	
Notes:	16LGR ≈ 270' tank 13/16"		16LGR ≈ 276.5' tank ≈ 3/4"		16LGR ≈ 277' tank ≈ 3/4"		16LGR = 278.9' tank ≈ 1/16"		16LGR ≈ 279' tank = 2/16"	
	* ran 16-CC for 20 mins									



Personnel		Tennyson, Elliott				
Weekly Water Level Monitoring						
Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	3/19/08	1335	14.16	14.25	24.57
CS-WB05-LGR-02	182		1334		14.29	14.21
CS-WB05-LGR-03A	216		1333		14.33	23.13
CS-WB05-LGR-03B	262		1332		22.60	43.05
CS-WB05-LGR-04A	277		1330		29.11	49.56
CS-WB05-LGR-04B	329		1329		51.74	72.67
CS-WB05-BS-01	362		1328		66.08	87.66
CS-WB05-CC-01	432		1327		96.47	119.94
CS-WB05-CC-02	460		1326		108.62	132.06
CS-WB06-UGR-01	20		1407	14.16	14.18	16.41
CS-WB06-LGR-01	93		1406		14.26	16.45
CS-WB06-LGR-02	174		1405		14.29	28.40
CS-WB06-LGR-03A	207		1404		14.28	38.28
CS-WB06-LGR-03B	260		1403		23.49	61.17
CS-WB06-LGR-04	320		1402		49.53	77.07
CS-WB07-UGR-01	14		1422	14.14	14.18	15.73
CS-WB07-LGR-01	90		1421		14.24	18.39
CS-WB07-LGR-02	175		1420		14.27	34.27
CS-WB07-LGR-03A	208		1419		14.28	31.77
CS-WB07-LGR-03B	257		1418		17.63	52.97
CS-WB07-LGR-04	318		1417		44.14	72.79
CS-WB08-UGR-01	38		1353	14.15	14.22	14.22
CS-WB08-LGR-01	115		1351		14.25	29.21
CS-WB08-LGR-02	193		1350		14.30	21.05
CS-WB08-LGR-03A	228		1349		14.27	26.51
CS-WB08-LGR-03B	273		1348		20.83	45.98
CS-WB08-LGR-04	341		1347		50.36	77.64

### Bioreactor Monitoring

Personnel: <i>A. Lindley, E. GALBANY, Tennyson</i>										
Trench Sumps Water Levels ('BTOC)										
Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (✓)	Notes	
Date: <i>3/26/08</i>		Time: <i>1000</i>								
B3-T1-1	12.9	6.38	6.60	22.89	0.652	-195.2	0.53	✓		
B3-T1-2	12.4	6.01	6.76	22.77	0.616	-153.2	0.53			
B3-T1-3	12.85	5.79	7.08	22.42	0.626	-229.6	0.61			
B3-T2-1	9.67	7.83	6.78	23.76	1.130	-192.4	0.78			
B3-T2-2	10.01	8.14	6.68	22.76	1.762	-164.0	0.52			
B3-T3-1	9.96	9.19	6.77	25.54	1.601	-215.8	0.50			
B3-T3-2	7.4	dry								
B3-T4-1	6.32	dry								
B3-T5-1	9.33	9.32								
B3-T5-2	7.98	7.90								
B3-T6-1	11.45	11.08								
B3-T6-2	12.34	11.95								
B3-UIC										
B-3 Transfer System Monitoring										
Flow Meters Readings										
Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	<i>3-24-08</i>	<i>1000</i>	<i>2/5/08</i>		<i>3/26/08</i>	<i>940</i>	<i>3-27-08</i>	<i>1152</i>	<i>3-28-08</i>	<i>1012</i>
	Rate (gpm) / Cumulative Total (gal)									
T-1	<i>26.2</i>	<i>2294,209</i>			<i>24.8</i>	<i>2,315,615</i>	<i>25.2</i>	<i>2,409,164</i>	<i>25.5</i>	<i>2,436,774</i>
T-2										
T-3										
T-4										
T-5										
T-6										
B-3 (Total)	<i>29.7</i>	<i>1,780,362</i>			<i>23.8</i>	<i>1,849,137</i>	<i>29.7</i>	<i>1,886,084</i>	<i>29.6</i>	<i>1,917,125</i>
CS-MW16-LGR	<i>25.97</i>	<i>745,397</i>			<i>25.45</i>	<i>815,714</i>	<i>25.75</i>	<i>854,380</i>	<i>25.52</i>	<i>886,850</i>
CS-MW16-CC	<i>off</i>				<i>off</i>		<i>off</i>		<i>off</i>	
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 20 psi change filter.										
	<i>PB-1 - PB-2 = 35 - 22 = 13</i>		<i>PB-1 - PB-2 =</i>		<i>PB-1 - PB-2 = 57 - 21 = 16</i>		<i>PB-1 - PB-2 = 37 - 20 = 17</i>		<i>PB-1 - PB-2 = 38 - 20 = 18*</i>	
Notes:	<i>tank is 13/16 full</i>			<i>tank = 3/4 full</i>			<i>tank 3/4*</i>			
	<i>16LGR is 180.5' by SCADA</i>			<i>16LGR ≈ 202.5' by SCADA</i>			<i>16LGR ≈ 284' by SCADA</i>			

\*changed BFU filter.

Personnel <i>A. Lindley, E. Galbraith</i>									
Monthly Monitoring									
MPMWs	Sample Date	Sample Time	pH	Temp	SpCond	ORP	DO	Regulatory (v)	Performance (v)
CS-WB05-LGR-01									
CS-WB05-LGR-02									
CS-WB05-LGR03A									
CS-WB05-LGR03B	<i>3/25/08</i>	<i>12:23</i>	<i>7.30</i>	<i>21.51</i>	<i>0.676</i>	<i>1.3</i>	<i>4.64</i>		
CS-WB05-LGR04A									
CS-WB05-LGR04B									
CS-WB05-BS-01									
CS-WB05-CC-01									
CS-WB05-CC-02									
CS-WB06-UGR-01									
CS-WB06-LGR-01									
CS-WB06-LGR-02									
CS-WB06-LGR03A									
CS-WB06-LGR03B	<i>3/25/08</i>	<i>1554</i>	<i>7.43</i>	<i>24.00</i>	<i>0.639</i>	<i>3.9</i>	<i>5.12</i>		
CS-WB06-LGR-04									
CS-WB07-UGR-01									
CS-WB07-LGR-01									
CS-WB07-LGR-02									
CS-WB07-LGR03A									
CS-WB07-LGR03B	<i>3/25/08</i>	<i>1445</i>	<i>7.52</i>	<i>25.45</i>	<i>0.643</i>	<i>6.1</i>	<i>4.88</i>		
CS-WB07-LGR-04									
CS-WB08-UGR-01									
CS-WB08-LGR-01									
CS-WB08-LGR-02									
CS-WB08-LGR03A									
CS-WB08-LGR03B	<i>3/25/08</i>	<i>1643</i>	<i>7.48</i>	<i>24.01</i>	<i>0.627</i>	<i>8.2</i>	<i>5.27</i>		
CS-WB08-LGR-04									

*Time 12:23*

Notes: As part of monthly monitoring, Sumps 1-1, 1-2, 1-3, and uppermost saturated intervals of WB05 and WB-07 will be sampled for Performance list of analyses. Sumps in any trench that has been used during the previous 30 days will be sampled for Regulatory list of analyses. TDS has to be added to the list of analyses for Sumps 1-1, 1-2, and 1-3 if Trench 1 has been used in the previous 30 days.

Performance list of analyses Volume Required: 1.5 L	Regulatory list of analyses Volume Required: 0.5 L
VOCs (Volatile Organic Compounds)	VOCs (Volatile Organic Compounds)
DOC (Dissolved Organic Carbon)	TDS (Total Dissolved Solids)
TOC (Total Organic Carbon)	Notes
Methane, Ethane, Ethene	
Carbon Dioxide	
Hydrogen Sulfide	
Alkalinity	
Nitrogen, Nitrate + Nitrite	
Sulfate, Chloride, Ferrous Iron, Manganese	
Hydrogen (after bioreactor operational for 1 year)	

Personnel <i>A. Lindly, E. Crabtree</i>						
Weekly Water Level Monitoring						
Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	3/25/08 ↓	11:39	14.18	<del>70.23</del> 14.23	24.53
CS-WB05-LGR-02	182		11:36		14.31	14.21
CS-WB05-LGR-03A	216		11:37		14.31	22.45
CS-WB05-LGR-03B	262		11:31		22.61	42.35
CS-WB05-LGR-04A	277		11:29		29.12	48.78
CS-WB05-LGR-04B	329		11:26		51.75	71.84
CS-WB05-BS-01	362		11:24		66.08	87.02
CS-WB05-CC-01	432		11:22		96.49	119.38
CS-WB05-CC-02	460		11:18		108.63	131.49
CS-WB06-UGR-01	20	3/25/08 ↓	1528	14.14	14.13	16.33
CS-WB06-LGR-01	93		1527		14.17	16.53
CS-WB06-LGR-02	174		1525		14.19	28.13
CS-WB06-LGR-03A	207		1524		14.21	37.88
CS-WB06-LGR-03B	260		1522		23.42	60.78
CS-WB06-LGR-04	320		1520		49.46	76.24
CS-WB07-UGR-01	14	3/25/08 ↓	1408	14.14	14.15	15.71
CS-WB07-LGR-01	90		1407		14.22	18.36
CS-WB07-LGR-02	175		1405		14.24	34.07
CS-WB07-LGR-03A	208		1403		14.25	31.37
CS-WB07-LGR-03B	257		1400		17.61	52.56
CS-WB07-LGR-04	318		1358		44.11	71.87
CS-WB08-UGR-01	38	3/25/08 ↓	1617	14.08	14.11	14.11
CS-WB08-LGR-01	115		1615		14.16	29.39
CS-WB08-LGR-02	193		1614		14.19	20.86
CS-WB08-LGR-03A	228		1613		14.19	25.68
CS-WB08-LGR-03B	273		1611		20.74	45.12
CS-WB08-LGR-04	341		1609		50.29	76.80

44.11

Bioreactor Monitoring

Personnel: <i>Tennison, Elliott</i>										
Trench Sumps Water Levels ('BTOC)										
Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg C)	SpCond (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (✓)	Notes	
Date: <i>4/13/08</i>		Time: <i>1325</i>								
B3-T1-1	12.9	<i>6.77</i>	<i>6.44</i>	<i>23.22</i>	<i>0.680</i>	<i>-202.8</i>	<i>0.65</i>	✓		
B3-T1-2	12.4	<i>6.43</i>	<i>6.48</i>	<i>23.76</i>	<i>0.644</i>	<i>-157.0</i>	<i>0.47</i>			
B3-T1-3	12.85	<i>6.20</i>	<i>6.76</i>	<i>23.14</i>	<i>0.642</i>	<i>-210.9</i>	<i>0.40</i>			
B3-T2-1	9.67	<i>8.20</i>	<i>6.30</i>	<i>24.52</i>	<i>1.100</i>	<i>-791.3</i>	<i>0.50</i>			
B3-T2-2	10.01	<i>8.36</i>	<i>6.30</i>	<i>23.57</i>	<i>1.894</i>	<i>-155.7</i>	<i>0.51</i>			
B3-T3-1	9.96	<i>9.19</i>								
B3-T3-2	7.4	<i>dry</i>								
B3-T4-1	6.32	<i>dry</i>								
B3-T5-1	9.33	<i>dry</i>							<i>4/2 of MW16: 0955-16LGR turned off</i>	
B3-T5-2	7.98	<i>dry</i>								
B3-T6-1	11.45	<i>11.10</i>							<i>1000-16CC turned on at ~25gpm</i>	
B3-T6-2	12.34	<i>11.99</i>								
B3-UIC										
B-3 Transfer System Monitoring										
Flow Meters Readings										
Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	<i>3-31-08 1014</i>		<i>4-01-08 1117</i>		<i>4-02-08 0950</i>		<i>4-03-08 0855</i>		<i>4-04-08 0845</i>	
	Rate (gpm) / Cumulative Total (gal)									
T-1	<i>28.2</i>	<i>2552672</i>	<i>24.0</i>	<i>2588650</i>	<i>23.4</i>	<i>2620370</i>	<i>25.2</i>	<i>2654123</i>	<i>26.3</i> <i>2685329</i>	
T-2										
T-3										
T-4										
T-5										
T-6										
B-3 (Total)	<i>27.9</i>	<i>2031626</i>	<i>23.4</i>	<i>2066241</i>	<i>22.6</i>	<i>2096551</i>	<i>24.7</i>	<i>2128890</i>	<i>24.5</i> <i>2156936</i>	
CS-MW16-LGR	<i>25.63</i>	<i>996764</i>	<i>25.63</i>	<i>6 **</i>	<i>25.36</i>	<i>31230</i>	<i>off</i>	<i>31422</i>	<i>off</i>	
CS-MW16-CC	<i>30.64</i>	<i>699024*</i>	<i>off</i>	<i>-</i>	<i>25.0</i>	<i>699024</i>	<i>24.78</i>	<i>722912</i>	<i>25.00</i> <i>765787</i>	
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: if bag filter pressure drop is > or = 20 psi change filter.										
	<i>PB-1 - PB-2 = 22-22 = 0</i>		<i>PB-1 - PB-2 = 30-23 = 7</i>		<i>PB-1 - PB-2 = 32-22 = 10</i>		<i>PB-1 - PB-2 = 31-22 = 9</i>		<i>PB-1 - PB-2 = 34-22 = 12</i>	
Notes:	<i>tank empty (1/16)</i>		<i>tank 5/8 full</i>		<i>tank = 1/2 full</i>		<i>good tank 15/32</i>		<i>tank @ 5/8</i>	
	<i>16LGR ~ 2.89'</i>		<i>16LGR ~ 2.39'</i>		<i>16LGR cycling on/off each ~ 2.5 hrs. over night.</i>		<i>turned off wells to see if transfer pump turns off at low level -&gt; didn't</i>		<i>16CC ~ 322.1' by SCADA.</i>	
	<i>* ran 16CC for 2.35 hrs</i>		<i>** meter turned over</i>				<i>1040 - restarted MW16-CC</i>			

Personnel <i>E. Penneyson + S. Elliott</i>						
Weekly Water Level Monitoring						
Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	4/3/08	0910	14.02	14.08	24.44
CS-WB05-LGR-02	182		0909		14.11	14.24
CS-WB05-LGR-03A	216		0908		14.16	22.45
CS-WB05-LGR-03B	262		0907		22.35	42.36
CS-WB05-LGR-04A	277		0906		28.87	50.45
CS-WB05-LGR-04B	329		0905		51.50	73.22
CS-WB05-BS-01	362		0904		65.84	87.09
CS-WB05-CC-01	432		0903		96.25	100.16
CS-WB05-CC-02	460		0902		108.39	112.07
CS-WB06-UGR-01	20		0939	14.02	14.05	16.22
CS-WB06-LGR-01	93		0938		14.09	16.44
CS-WB06-LGR-02	174		0937		14.13	27.07
CS-WB06-LGR-03A	207		0936		14.14	36.94
CS-WB06-LGR-03B	260		0935		23.33	59.83
CS-WB06-LGR-04	320		0934		49.37	75.39
CS-WB07-UGR-01	14		0954	14.03	14.04	15.57
CS-WB07-LGR-01	90		0953		14.07	18.32
CS-WB07-LGR-02	175		0952		14.13	33.77
CS-WB07-LGR-03A	208		0951		14.13	30.30
CS-WB07-LGR-03B	257		0950		17.48	51.49
CS-WB07-LGR-04	318		0949		43.97	72.07
CS-WB08-UGR-01	38		0925	14.02	14.06	14.06
CS-WB08-LGR-01	115		0924		14.10	29.10
CS-WB08-LGR-02	193		0923		14.13	20.63
CS-WB08-LGR-03A	228		0922		14.16	25.24
CS-WB08-LGR-03B	273		0921		20.66	44.70
CS-WB08-LGR-04	341	✓	0920		50.21	76.14