



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

December 9, 2010

U-031-10

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: Biannual Status Report (Month 37 – Month 42, May - October, 2010) 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), McAlester Army Ammunition Plant, Joint Munitions Command, Army Materiel Command, U.S. Army, is submitting this biannual 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 biannual report contains data as specified by the Texas Commission on Environmental Quality (TCEQ) Underground Injection Control (UIC) permit for the months of May, 2010 through October, 2010 (Months 37-42). The biannual reporting data includes 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. Data indicates that concentrations of contaminants did not exceed limits specified in 40 CFR §261.24 Table 1 as referenced in CSSA's UIC permit authorization.

Between May 1, 2010 and October 31, 2010 approximately 7,907,755 gallons of groundwater from wells CS-MW16-CC (~3,633,600 gallons), CS-MW16-LGR (~2,266,300 gallons), B3-EXW-01 (~1,961,500 gallons), and B3-EXW-02 (~46,300) were injected into SWMU B-3 bioreactor trenches 1, 2, and 6. A total of 31,158,859 gallons of recovered groundwater from CS-MW16-LGR, CS-MW16-CC, B3-EXW-01, and B3-EXW-02 have been injected into bioreactor trenches 1, 2, and 6 since normal bioreactor operations began. Samples of the injected groundwater, for this reporting period, were collected on May 19, June 22, July 20, August 17, September 21, and October 19, 2010. Results of analysis are summarized in the attached Table 1. Field forms which contain operating pressures and pH readings for the reporting period are also attached and the laboratory data packages are included in the accompanying CD.

If you have any questions regarding the information contained in this letter, please contact Gabriel Moreno-Fergusson, CSSA Environmental Program Manager, at (210) 698-5208 or Ken Rice, Parsons, at (512) 719-6050.

Sincerely,


Jason D. Shirley
Installation Manager

Enclosures

cc: Gabriel Moreno-Fergusson, CSSA Environmental Program Manager
Wayne Elliott, USAE (ltr only)
Julie Burdey, Parsons (ltr only)
Ken Rice, Parsons
File: 747144.07000

Analytical Summary Data

Table 14.5.2

B3 - UIC Analytical Results
August - October 2010

Sample ID Sample Date Sample Type Sampling Method Lab ID	B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC					
	05/19/10			06/22/10			07/20/10			08/17/10			09/21/10			10/29/10					
	N1			N1			N1			N1			N1			N1					
Grab			Grab			Grab			Grab			Grab			Grab						
AY15780			AY17148			AY18286			AY19940			AY22083			AY24744						
B-3 UIC Criteria (RCRA Haz.)			Results			Results			Results			Results			Results			Results			
Lab MDL	Lab PQL		Results	Flags	Dilution	Results	Flags	Dilution	Results	Flags	Dilution	Results	Flags	Dilution	Results	Flags	Dilution	Results	Flags	Dilution	
SW8260B (µg/L)																					
Cis-DCE	0.16	1.2	--	75		1	110		1	100		1	100		1	92		1	83		1
Trans-DCE	0.19	0.6	--	4.6		1	5.0		1	5.6		1	15		1	1.5		1	6.27		1
TCE	0.16	1.0	500.	86		1	110		1	100		1	100		1	84		1	81.31		1
PCE	0.15	1.4	700.	57		1	79		1	72		1	76		1	52		1	64.85		1
Toluene	0.17	1.1	--	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1	0.06	U	1	0.06	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	0.08	U	1	0.08	U	1
EPA 160.1 (mg/L)																					
TDS	4.4	10.	--	308		1	363		1	364		1	392		1	377		1	364		1
Field measured																					
pH				7.22			7.21			7.35			7.44			7.26			6.89		

Tables present all laboratory results for analytes.

Data packages for laboratory 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 Quantifiers:

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

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

Abbreviations:

- PQL Practical Quantitation Limit
- MDL Method Detection Limit
- N1 Environmental Sample
- SQL Sample Quantitation Limit
- UIC Underground Injection Control

Field Forms

Bioreactor Monitoring

Personnel: Thompson, Bouch
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 (Y)	Notes
Date: <u>5.6.10</u>		Time: <u>1000</u>		<u>5.942</u>		<u>171.2</u>	<u>(30)</u>		
B3-T1-1	12.9	<u>5.47</u>	<u>6.64</u>	<u>23.59</u>	<u>0.954</u>	<u>-176.1</u>	<u>0.47</u> 0.36	✓	MW-27 uGR
B3-T1-2	12.4	<u>5.19</u>	<u>6.61</u>	<u>23.93</u>	<u>0.948</u>	<u>-132.8</u>	<u>0.38</u>	✓	pH = 6.60
B3-T1-3	12.85	<u>4.82</u>	<u>7.17</u>	<u>23.77</u>	<u>0.638</u>	<u>-104.0</u>	<u>0.52</u>	✓	Temp = 19.14
B3-T2-1	9.67	<u>6.95</u>	<u>6.67</u>	<u>24.11</u>	<u>0.877</u>	<u>-128.3</u>	<u>0.41</u>	✓	us = 0.823
B3-T2-2	10.01	<u>7.24</u>	<u>6.56</u>	<u>23.29</u>	<u>1.196</u>	<u>-149.4</u>	<u>0.39</u>	✓	ORP = -94.7
B3-T3-1	9.96	<u>9.22</u>							DO = 0.47
B3-T3-2	7.4	<u>DRY</u>							DTW = 7.85
B3-T4-1	6.32	<u>DRY</u>							
B3-T5-1	9.33	<u>9.29</u>							
B3-T5-2	7.98	<u>DRY</u>							
B3-T6-1	11.45	<u>11.15</u>							
B3-T6-2	12.34	<u>12.28</u>							
B3-UIC									

B-3 Transfer System Monitoring

Meter	Flow Meters Readings									
	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	<u>5-5-10</u>	<u>1020</u>	<u>5-4-10</u>	<u>1945</u>	<u>5-5-10</u>	<u>0920</u>	<u>5-6-10</u>	<u>0850</u>	<u>5-7-10</u>	<u>1100</u>
	Rate (gpm) / Cumulative Total (gal)									
T-1	<u>21.5</u>	<u>1899732</u>	<u>20.8</u>	<u>1927969</u>	<u>20.7</u>	<u>1958062</u>	<u>22.9</u>	<u>1988247</u>	<u>19.5</u>	<u>2021738</u>
T-2	<u>8.6</u>	<u>3332472</u>	<u>8.82</u>	<u>3343990</u>	<u>9.16</u>	<u>3356533</u>	<u>10.5</u>	<u>3369075</u>	<u>7.54</u>	<u>3382826</u>
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	<u>∅</u>	<u>825502</u>	<u>9.44</u>	<u>835411</u>	<u>9.27</u>	<u>845017</u>	<u>9.32</u>	<u>855340</u>	<u>12.51</u>	<u>866156</u>
CS-MW16-CC	<u>∅</u>	<u>74351</u>	<u>19.48</u>	<u>93940</u>	<u>18.99</u>	<u>113650</u>	<u>19.10</u>	<u>134667</u>	<u>19.48</u>	<u>156827</u>
B3-EXW01	<u>∅</u>	<u>2399452</u>	<u>12.44</u>	<u>2412429</u>	<u>12.69</u>	<u>2424982</u>	<u>12.41</u>	<u>2439810</u>	<u>12.41</u>	<u>2453081</u>

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: if bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = <u>46 - 38 = 8</u>	PB-1 - PB-2 = <u>46 - 38 = 8</u>	PB-1 - PB-2 = <u>41 - 40 = 1</u>	PB-1 - PB-2 = <u>41 - 41 = 0</u>	PB-1 - PB-2 = <u>50 - 30 = 20</u>
Notes: Tank = 3/4 (45.5")	Tank 3/4 full changed BF	MW16 LGR = 123.42 MW16 CC = 226.39 B3 EXW01 = 143.50	Tank is 1/2 full	Tank is 7/16 full changed BF MW16-CC = 237.6 MW16-LGR = 137.5 EX01 = 153.1

Tank is 1/2 full
Week 15 B

supplemental gallons, 260 elev. H₂O to tank

6710 elev H₂O to tank

Personnel		S. Elliott; J. Bowler				
Weekly Water Level Monitoring						
Well Interval	Sampling Depth (ft BTCL)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	5-6-10	0916	14.03	^{14.07} 14.08	21.74
CS-WB05-LGR-02	182		0915		^{14.11} 14.11	45.99
CS-WB05-LGR-03A	216		0914		^{14.14} 14.14	60.32
CS-WB05-LGR-03B	262		0913		^{16.17} 24.03	80.30
CS-WB05-LGR-04A	277		0912		^{22.70} 30.56	86.51
CS-WB05-LGR-04B	329		0911		^{45.33} 53.17	108.92
CS-WB05-BS-01	362		0910		^{59.67} 67.51	124.38
CS-WB05-CC-01	432		0909		^{90.08} 97.90	125.84
CS-WB05-CC-02	460		5-6-10		0908	^{102.24} 110.04
CS-WB06-UGR-01	20		0944	14.03	^{14.04} 14.06	17.31
CS-WB06-LGR-01	93		0943		^{14.07} 14.09	17.81
CS-WB06-LGR-02	174		0942		^{14.11} 14.14	51.73
CS-WB06-LGR-03A	207		0941		^{14.14} 14.16	64.93
CS-WB06-LGR-03B	260		0940		^{21.60} 24.96	87.83
CS-WB06-LGR-04	320		0939		^{47.66} 51.01	108.52
CS-WB07-UGR-01	14		0958	14.03	^{14.05} 14.06	17.15
CS-WB07-LGR-01	90		0957		^{14.10} 14.08	18.74
CS-WB07-LGR-02	175		0956		^{14.14} 14.11	53.90
CS-WB07-LGR-03A	208		0955		^{14.17} 14.17	63.58
CS-WB07-LGR-03B	257		0954		^{15.58} 15.17	84.78
CS-WB07-LGR-04	318		0953		^{42.13} 41.68	106.89
CS-WB08-UGR-01	38		0930	14.04	^{14.03} 14.05	19.05
CS-WB08-LGR-01	115		0929		^{14.08} 14.08	21.65
CS-WB08-LGR-02	193		0928		^{14.12} 14.12	49.62
CS-WB08-LGR-03A	228		0928		^{14.14} 14.14	60.39
CS-WB08-LGR-03B	273		0927		^{18.87} 26.19	79.83
CS-WB08-LGR-04	341		0925		^{48.45} 55.73	108.39

Bioreactor Monitoring

Personnel: J. Bouch, S. 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: 5-13-10		Time: 1034							
B3-T1-1	12.9	6.42	6.71	24.29	0.818	-133.9	0.46	✓	
B3-T1-2	12.4	6.10	6.60	23.59	1.023	-120.1	0.39		
B3-T1-3	12.85	5.68	7.13	24.43	0.1664	-95.7	0.37		
B3-T2-1	9.67	7.80	6.70	24.58	0.831	-125.9	0.37	✓	
B3-T2-2	10.01	8.16	6.40	24.16	1.370	-116.5	0.36		
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								
B3-T6-1	11.45	11.16							
B3-T6-2	12.34	12.27							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	5-10-10	1443	5-11-10	1335	5-12-10	0945	5-13-10	0900	5-14-10	1153
	Rate (gpm) / Cumulative Total (gal)									
T-1	21.16	2,119,152	21.3	2,136,979	22.0	2,153,451	21.9	2,182,739	21.1	2,211,332
T-2	8.23	3,422,353	8.50	3,429,945	7.65	3,433,912	8.67	3,444,903	8.41	3,458,203
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	220501	19.055	Ø	905275	12.29	906157	Ø	917816	11.95	931664
CS-MW16-CC	905275	Ø	19.05	246575	19.38	269743	Ø	288401	19.32	310654
B3-EXW01	Ø	2491386	Ø	2491386	12.215	2492573	12.23	2504917	12.13	2,518,078

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) *Note: if bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = 42 - 40 = 0	PB-1 - PB-2 = 40 - 39 = 1	PB-1 - PB-2 = 40 - 39 = 1	PB-1 - PB-2 = 42 - 34 = 8	PB-1 - PB-2 = 40 - 40 = 0
Notes: LGR well turned off @ 1133. Tank 1/16 full → B3-EXW01 is off also	LGR well is off until after wells are developed. Tank is 7/16 full	Tank is 9/16 full Ø835 - LGR wells back on.	LGR - 124.35 CC = 185.06 EXW01 = 121.40	Tank is 3/4 full LGR 16 - 141 CC 16 - 227.5

developing newly installed wells turned off LGR well so tank wouldn't overflow. putting dev. water in B-3 tank

B3 EXW01 will remain off as well

Week 159 Tank 1/14 full

EW01 - 144.2

420 gal IDW H₂O into Tank

Personnel		S. Elliott & J. Bouch				
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	5-13-10	0920	14.06	14.00 14.12	21.66
CS-WB05-LGR-02	182		0919		14.05 14.16	41.02
CS-WB05-LGR-03A	216		0918		14.07 14.20	55.04
CS-WB05-LGR-03B	262		0917		16.97 24.02	74.98
CS-WB05-LGR-04A	277		0916		23.50 30.55	81.22
CS-WB05-LGR-04B	329		0915		46.13 53.14	103.94
CS-WB05-BS-01	362		0914		60.47 67.52	119.68
CS-WB05-CC-01	432		0913		90.88 97.90	122.72
CS-WB05-CC-02	460		0912		103.04 110.05	134.54
CS-WB06-UGR-01	20		5-13-10		0955	14.07
CS-WB06-LGR-01	93	0953		14.03 14.11	14.12	
CS-WB06-LGR-02	174	0952		14.07 14.15	14.15	
CS-WB06-LGR-03A	207	0952		14.08 14.19	61.86	
CS-WB06-LGR-03B	260	0951		21.74 24.99	84.75	
CS-WB06-LGR-04	320	0950		47.81 51.03	104.73	
CS-WB07-UGR-01	14	5-13-10		1017	14.08	
CS-WB07-LGR-01	90		1016	14.02 14.11		18.22
CS-WB07-LGR-02	175		1015	14.05 14.15		50.74
CS-WB07-LGR-03A	208		1014	14.09 14.19		58.77
CS-WB07-LGR-03B	257		1006	15.72 15.17		79.97
CS-WB07-LGR-04	318		1004	42.28 41.70		41.72
CS-WB08-UGR-01	38		5-13-10	0941		14.05
CS-WB08-LGR-01	115	0940		14.02 14.11	21.87	
CS-WB08-LGR-02	193	0939		14.04 14.16	45.55	
CS-WB08-LGR-03A	228	0938		14.08 14.20	56.11	
CS-WB08-LGR-03B	273	0937		19.01 26.22	75.56	
CS-WB08-LGR-04	341	0936		48.58 55.76	105.77	

replaced shoe
102.24

Bioreactor Monitoring

Personnel: J. Bouch; S. 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: 5/14/10		Time: 0900							
B3-T1-1	12.9	4.29	6.76	24.40	0.825	-159.5	0.30		scamp. time = 0930 = 1030 = 1115
B3-T1-2	12.4	3.99	6.74	25.25	0.888	-110.7	0.21	✓	
B3-T1-3	12.85	3.62	7.53	27.38	0.606	-97.5	0.54		
B3-T2-1	9.67	5.74	6.97	24.05	0.918	-92.0	0.62		= 1000 = 1050
B3-T2-2	10.01	6.04	6.42	24.64	1.504	-116.7	0.32	✓	
B3-T3-1	9.96	7.85	6.65	20.26	0.732	-140.3	0.64		MW27 = WL6.28
B3-T3-2	7.4	dry							pH = 6.57
B3-T4-1	6.32	6.18							Temp = 19.68
B3-T5-1	9.33	9.20							SpCond = 0.799
B3-T5-2	7.98	7.52							ORP = -82.7
B3-T6-1	11.45	11.09							DO = 0.53
B3-T6-2	12.34	11.94	7.	20.0	0.661		6.24		sample time = 1330
B3-UIC			7.22	20.0	0.661	-69.4	6.24		scamp. time 0955

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	5-17-10	0845	5-18-10		5-19-10	0840	5-20-10	0840	5-21-10	0930
	Rate (gpm) / Cumulative Total (gal)									
T-1	22.4	2,304,753	Ø	3,309,178	Ø	2,309,178	21.8	2,338,907	27.1	2,371,030
T-2	7.72	3,492,919	Ø	3,494,199	Ø	3,444,199	9.02	3,505,188	9.61	3,518,218
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	13.68	968,287	Ø	969,443	Ø	969,443	13.35	983,613	13.24	997,039
CS-MW16-CC	19.70	3,645,388	Ø	3,661,940	Ø	3,661,940	14.38	3,86,768	19.92	4,868,76
B3-EXW01	17.92	2,554,595	Ø	2,554,673	Ø	2,554,673	13.05	2,565,389	13.15	2,578,52

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = 42 - 41 = 1

PB-1 - PB-2 =

PB-1 - PB-2 =

PB-1 - PB-2 = 44 - 42 = 2

PB-1 - PB-2 = 44 - 41 = 3

Notes: wells shut down at 10:15 am to allow trench to drain for sampling

system off, rained last night

system turned back on at 0843

tank = 1/2 full

tank = 7/16

T-2 still submerged.

Week 160
month 36

Personnel: Elliot

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrvl's		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
CS-MW27-UGR	17.0	5/20/10	0933	6.34	6.52	19.85	0.750	-81.0	0.51	
CS-MW28	18.31 TBD	↓	0937	dry						
CS-MW29	TBD		0948	15.70	6.68	19.81	0.703	-23.3	3.25	
CS-MW30	TBD		0956	18.55	6.63	19.97	0.670	-17.9	4.43	
CS-MW31	TBD		0851	29.26	6.74	21.54	0.653	-12.5	4.06	water silty
CS-MW32	TBD		0904	35.79	6.80	21.45	0.666	-9.6	4.41	
CS-MW33	TBD		0915	17.94	6.72	20.31	0.526	-3.1	5.21	
CS-MW34	TBD		0923	13.70	6.48	19.92	0.739	-24.5	2.88	
MW36 CS-MW35	TBD		0928	9.21	6.50	19.57	0.714	-58.1	1.27	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel: J. Bouch, S. 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: 5-13-10		Time: 1034							
B3-T1-1	12.9	6.42	6.71	24.29	0.818	-133.9	0.46		
B3-T1-2	12.4	6.10	6.60	23.59	1.023	-120.1	0.39	✓	
B3-T1-3	12.85	5.68	7.13	24.43	0.1604	-95.7	0.37	✓	
B3-T2-1	9.67	7.80	6.70	24.58	0.831	-125.9	0.37		
B3-T2-2	10.01	8.16	6.40	24.16	1.370	-116.5	0.36		
B3-T3-1	9.96	7.20							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	9.30							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.16							
B3-T6-2	12.34	12.27							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	5-10-10 1443	5-11-10 1335	5-12-10 0945	5-13-10 0900	5-14-10 1153
	Rate (gpm) / Cumulative Total (gal)				
T-1	21.6 2,119,152	21.3 2,136,999	22.0 2,153,451	21.9 2,182,739	21.1 2,216,332
T-2	8.23 3,422,353	8.50 3,429,945	7.65 3,433,912	8.67 3,444,903	8.41 3,458,203
T-3					
T-4					
T-5					
T-6					
B-3 (Total)					
CS-MW16-LGR	220501 19.05	905275	12.29 906157	917916	11.95 931664
CS-MW16-CC	905275	19.05 246575	19.30 269743	288401	19.32 310654
B3-EXW01	2491386	2491386	12.25 2492583	12.23 2504919	12.13 2518078

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 10 psi change filter.

PB-1-PB-2 = 42-40 = 0 PB-1-PB-2 = 40-39 = 1 PB-1-PB-2 = 40-39 = 1 PB-1-PB-2 = 42-34 = 8 PB-1-PB-2 = 40-40 = 0

Notes:	LGR well turned off @ 1133. Tank 7/16 full B3-EXW01 is off also	LGR well is off until after wells are developed. Tank is 7/16 full	Tank is 9/16 full 0835 - LGR wells back on.	LGR - 124.35 CC = 185.06 EXW01 = 121.40	Tank is 3/4 full LGR 16 - 141 CC 16 - 227.5 EW01 - 144.2
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developing newly installed wells turned off LGR well so tank wouldn't overflow. Putting dev. water in B-3 tank

B3 EXW01 will remain off as well

Week 159 Tank 9/16 full

420 gal IDW H₂O into Tank

Personnel <i>S. Elliott & J. Bouch</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	<i>5.13.10</i>	<i>0920</i>	<i>14.06</i>	<i>14.00</i> <i>14.12</i>	<i>21.66</i>
CS-WB05-LGR-02	182		<i>0919</i>		<i>14.05</i> <i>14.16</i>	<i>41.02</i>
CS-WB05-LGR-03A	216		<i>0918</i>		<i>14.07</i> <i>14.20</i>	<i>55.04</i>
CS-WB05-LGR-03B	262		<i>0917</i>		<i>16.97</i> <i>24.02</i>	<i>74.98</i>
CS-WB05-LGR-04A	277		<i>0916</i>		<i>23.50</i> <i>30.55</i>	<i>81.22</i>
CS-WB05-LGR-04B	329		<i>0915</i>		<i>46.13</i> <i>53.14</i>	<i>103.94</i>
CS-WB05-BS-01	362		<i>0914</i>		<i>60.47</i> <i>67.52</i>	<i>119.68</i>
CS-WB05-CC-01	432		<i>0913</i>		<i>90.88</i> <i>97.90</i>	<i>122.72</i>
CS-WB05-CC-02	460		<i>0912</i>		<i>103.04</i> <i>110.05</i>	<i>134.54</i>
CS-WB06-UGR-01	20		<i>0955</i>	<i>14.07</i>	<i>14.00</i> <i>14.09</i>	<i>14.08</i>
CS-WB06-LGR-01	93		<i>0953</i>		<i>14.03</i> <i>14.11</i>	<i>14.12</i>
CS-WB06-LGR-02	174		<i>0952</i>		<i>14.07</i> <i>14.15</i>	<i>14.15</i>
CS-WB06-LGR-03A	207		<i>0952</i>		<i>14.08</i> <i>14.19</i>	<i>61.86</i>
CS-WB06-LGR-03B	260		<i>0951</i>		<i>21.74</i> <i>24.99</i>	<i>84.75</i>
CS-WB06-LGR-04	320		<i>0950</i>		<i>47.81</i> <i>51.03</i>	<i>104.73</i>
CS-WB07-UGR-01	14				<i>1017</i>	<i>14.08</i>
CS-WB07-LGR-01	90	<i>1016</i>		<i>14.02</i> <i>14.11</i>	<i>18.22</i>	
CS-WB07-LGR-02	175	<i>1015</i>		<i>14.05</i> <i>14.15</i>	<i>50.74</i>	
CS-WB07-LGR-03A	208	<i>1014</i>		<i>14.09</i> <i>14.19</i>	<i>58.77</i>	
CS-WB07-LGR-03B	257	<i>1006</i>		<i>15.72</i> <i>15.17</i>	<i>79.97</i>	
CS-WB07-LGR-04	318	<i>1004</i>		<i>42.28</i> <i>41.70</i>	<i>41.72</i> <i>102.24</i>	
CS-WB08-UGR-01	38		<i>0941</i>	<i>14.05</i>	<i>13.99</i> <i>14.08</i>	<i>18.62</i>
CS-WB08-LGR-01	115		<i>0940</i>		<i>14.02</i> <i>14.11</i>	<i>21.87</i>
CS-WB08-LGR-02	193		<i>0939</i>		<i>14.04</i> <i>14.16</i>	<i>45.55</i>
CS-WB08-LGR-03A	228		<i>0938</i>		<i>14.08</i> <i>14.20</i>	<i>56.11</i>
CS-WB08-LGR-03B	273		<i>0937</i>		<i>19.01</i> <i>26.22</i>	<i>75.56</i>
CS-WB08-LGR-04	341		<i>0936</i>		<i>48.58</i> <i>55.76</i>	<i>105.77</i>

Personnel: <u>Bouch; S Elliott</u>						
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	5/14/10	1050	14.01	^{14.07} 14.14	22.13
CS-WB05-LGR-02	182	↓	1048		^{14.11} 14.16	55.43
CS-WB05-LGR-03A	216	↓	1048		^{14.14} 14.18	72.12
CS-WB05-LGR-03B	262	5/17/10/5/18/10	1047		^{16.17} 25.97/23.99	88.29/92.00
CS-WB05-LGR-04A	277	5/18/10	1046		^{22.70} 30.51	100.47
CS-WB05-LGR-04B	329	↓	1045		^{45.33} 53.14	123.29
CS-WB05-BS-01	362	↓	1044		^{59.67} 67.48	132.66
CS-WB05-CC-01	432	↓	1043		^{90.08} 97.87	135.84
CS-WB05-CC-02	460	↓	1042		^{102.24} 110.02	147.77
CS-WB06-UGR-01	20	↓	1125	14.05	^{14.04} 14.07	19.40
CS-WB06-LGR-01	93	↓	1124		^{14.07} 14.11	26.45
CS-WB06-LGR-02	174	↓	1123		^{14.11} 14.17	63.35
CS-WB06-LGR-03A	207	↓	1122		^{14.14} 14.19	70.33
CS-WB06-LGR-03B	260	5/17/10/5/18/10	1121		^{21.60} 26.24/24.95	91.76/93.22
CS-WB06-LGR-04	320	5/18/10	1121		^{47.66} 51.00	123.59
CS-WB07-UGR-01	14	↓	1208	13.99	^{14.05} 14.00	18.00
CS-WB07-LGR-01	90	↓	1206		^{14.10} 14.04	19.30
CS-WB07-LGR-02	175	↓	1205		^{14.14} 14.07	56.76
CS-WB07-LGR-03A	208	↓	1205		^{14.17} 14.12	69.16
CS-WB07-LGR-03B	257	5/17/10/5/18/10	1204		^{15.58} 17.19/15.10	87.70/90.39
CS-WB07-LGR-04	318	5/18/10	1203		^{42.13} 41.65	123.57
CS-WB08-UGR-01	38	↓	1105	14.05	^{14.03} 14.07	21.15
CS-WB08-LGR-01	115	↓	1104		^{14.08} 14.11	22.55
CS-WB08-LGR-02	193	↓	1102		^{14.12} 14.16	50.70
CS-WB08-LGR-03A	228	↓	1102		^{14.14} 14.17	72.52
CS-WB08-LGR-03B	273	5/17/10/5/18/10	1101		^{18.87} 28.20/26.19	88.67/91.95
CS-WB08-LGR-04	341	5/18/10	1100		^{48.45} 55.73	122.81

Bioreactor Monitoring

Personnel: J. Bouch ; E. Tennyson

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: 5-27-10		Time: 1730							
B3-T1-1	12.9	4.45	7.30	24.46	0.443	-102.9	0.43		standing water - ponded.
B3-T1-2	12.4	4.18	6.96	25.01	0.555	-175.0	0.22	✓	
B3-T1-3	12.85	3.80	7.64	27.28	0.441	-99.3	0.34		
B3-T2-1	9.67	5.89	7.09	24.18	0.547	-224.0	0.38		✓
B3-T2-2	10.01	6.22	6.69	24.89	1.053	-165.3	0.33		
B3-T3-1	9.96	8.95	7.14	21.81	0.475	-144.8	0.22		insufficient water
B3-T3-2	7.4	dry							dry
B3-T4-1	8.32	6.24							insufficient water
B3-T5-1	9.33	9.22							insufficient water
B3-T5-2	7.98	8.89							insufficient water
B3-T6-1	11.45	11.09)
B3-T6-2	12.34	11.98)
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	5-24-10	1048	5-25-10	1053	5-26-10	1100	5-27-10	1000	5-28-10	1330
	Rate (gpm) / Cumulative Total (gal)									
T-1	22.2	2463336	21.1	2492995	21.1	2524627	21.3	2554481	21.5	2588590
T-2	8.34	3553115	7.62	3566674	10.5	3577659	9.38	3592564	8.79	3606989
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	12.79	2.83	13.04	2630202	0	25693	12.51	37407	12.40	52142
CS-MW16-CC	19.32	464605	19.76	483550	0	503894	20.41	522546	20.74	545845
B3-EXW01	12.9	2611428	12.68	12552	13.45	2643686	12.95	26576335	12.85	2671134

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) *Note: If bag filter pressure drop is > or = 10 psi change filter.

PB-1-PB-2 = 46-38 = 8 PB-1-PB-2 = 42-42 = 0 PB-1-PB-2 = 42-42 = 0 PB-1-PB-2 = 47-42 = 5 PB-1-PB-2 = 42-42 = 0

Notes: LGR = 106.38 CC = 231.42 B3 EXW01 = 127.20	Tank is 1/2 full	LGR = 86.68 CC = 169.37 B3 EXW01 = 88.80	16 LGR = 105.08 16 CC = 223.11 B3 EXW01 = 121.00	16 LGR = 109.72 16 CC = 238.24 B3 EXW01 = 129.70
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Tank 3/4 full
change BF (0-0=0)

Tank is 3/4 full
Week 161

Tank 1/2 full

Tank is 3/4 full

1-1 24.44 C°, 0.442 m⁵/cm, 0.19 DO^{m⁵/l}, 7.42, -92.2

Personnel: E. Tenbrunson
5/27/10

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrvl's		Weekly Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
CS-MW-27 26	17.0	5/27		10.42	7.06	20.31	0.535	-90.3	1.70	
CS-MW-28 27	TBD			6.83	6.97	21.93	0.526	-97.3	1.11	
CS-MW-29 28	TBD			dry	-	-	-	-	-	no water
CS-MW-30 29	TBD			12.38	7.27	20.60	0.389	-90.0	4.50	
CS-MW-31 30	TBD			21.34	7.27	20.80	0.389	-90.0	4.50	insufficient water
CS-MW-32 31	TBD			31.88	7.05	22.51	0.459	-80.9	4.20	
CS-MW-33 32	TBD			38.00	7.26	22.39	0.485	-76.5	4.92	
CS-MW-34 33	TBD			20.15	7.23	21.93	0.409	-74.5	5.22	
CS-MW-35 34	TBD			15.36	7.18	23.90	0.557	-87.2	2.98	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW01-LGR									

Personnel		J. Bouch, E. Tennyson				
Weekly Water Level Monitoring						
Well Interval	Sampling Pnt Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	5-27-10	1027	14.10	^{14.07} 14.15	23.00
CS-WB05-LGR-02	182		1026		^{14.11} 14.22	55.89
CS-WB05-LGR-03A	216		1025		^{14.14} 14.21	70.71
CS-WB05-LGR-03B	262		1024		^{16.17} 24.02	90.64
CS-WB05-LGR-04A	277		1023		^{22.70} 30.55	97.43
CS-WB05-LGR-04B	329		1022		^{45.33} 53.16	120.06
CS-WB05-BS-01	362		1022		^{59.67} 67.51	133.01
CS-WB05-CC-01	432		1021		^{90.08} 97.92	131.02
CS-WB05-CC-02	460	✓	1020		^{102.24} 110.05	143.43
CS-WB06-UGR-01	20	5-27-10	1107		14.12	^{14.04} 14.13
CS-WB06-LGR-01	93		1105	^{14.07} 14.17		28.33
CS-WB06-LGR-02	174		1104	^{14.11} 14.21		62.82
CS-WB06-LGR-03A	207		1103	^{14.14} 14.23		72.51
CS-WB06-LGR-03B	260		1102	^{21.60} 25.01		95.41
CS-WB06-LGR-04	320	✓	1100	^{47.66} 51.05		119.25
CS-WB07-UGR-01	14	5-27-10	1124	14.12	^{14.05} 14.14	17.78
CS-WB07-LGR-01	90		1122		^{14.10} 14.18	24.09
CS-WB07-LGR-02	175		1121		^{14.14} 14.21	61.29
CS-WB07-LGR-03A	208		1120		^{14.17} 14.24	72.51
CS-WB07-LGR-03B	257		1119		^{15.58} 15.21	93.72
CS-WB07-LGR-04	318	✓	1117		^{42.13} 41.73	118.43
CS-WB08-UGR-01	38	5-27-10	1051	14.12	^{14.03} 14.13	19.53
CS-WB08-LGR-01	115		1049		^{14.08} 14.16	23.95
CS-WB08-LGR-02	193		1047		^{14.12} 14.21	56.73
CS-WB08-LGR-03A	228		1046		^{14.14} 14.22	70.30
CS-WB08-LGR-03B	273		1045		^{18.87} 26.23	89.75
CS-WB08-LGR-04	341	✓	1043		^{48.45} 55.78	118.64

Personnel: A. Lindley, Tennyson
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: <u>6-4-10</u>		Time: <u>1500</u>							
B3-T1-1	12.9	5.37	6.97	23.90	0.636	-86.1	0.24	✓	
B3-T1-2	12.4	5.09	6.70	24.56	0.784	-119.3	0.49		
B3-T1-3	12.85	4.85	7.25	23.48	0.628	-73.5	0.39		
B3-T2-1	9.67	6.83	6.75	24.69	0.771	-106.6	0.28	✓	
B3-T2-2	10.01	7.14	6.36	25.60	1.637	-89.1	0.48		
B3-T3-1	9.96	9.20							
B3-T3-2	7.4	4.14							
B3-T4-1	6.32	6.29							
B3-T5-1	9.33	9.28							
B3-T5-2	7.98	7.79							
B3-T6-1	11.45	11.08							
B3-T6-2	12.34	11.98							
B3-UIC									

B-3 Transfer System Monitoring

Meter	Flow Meters Readings							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
Date/Time:	6/1/10 1000	6/2/10 0745	6/3/10 0800	6-4-10	0830			
	Rate (gpm) / Cumulative Total (gal)							
T-1	22.5	2705714	21.7	2,752,750	7.85	2,753,929	21.9	2,780,259.6
T-2	9.72	3,655,769	9.03	3,667,325	1.41	3,675,150	8.96	3,686,703
T-3								
T-4								
T-5								
T-6								
B-3 (Total)							12.18	
CS-MW16-LGR	12.57	97,205	0.0	107,869	0.0	116,393	21.86	127,106
CS-MW16-CC	21.83	629,400	0.0	643,105	0.0	658,155	21.86	677,241
B3-EXW01	13.091	271,777	0.0	2,720,854	0.0	2,737,110	13.895	2,749,281
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) *Note: If bag filter pressure drop is > or = 10 psi change filter.								
	PB-1 - PB-2 = 44 - 40 = 4	PB-1 - PB-2 = 45 - 40 = 5	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 = 46 - 40 = 6	PB-1 - PB-2 =		
Notes:	Tank 1/2 full	Tank 1/2 full	Tank = 5/8		Tank 3/4 full			

Monday Holiday

Personnel <u>Tennysen, Bauch</u>							
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	6/4/10	1139	14.05	^{14.07} 14.07	22.75	
CS-WB05-LGR-02	182		1137		^{14.11} 14.10	53.89	
CS-WB05-LGR-03A	216		1135		^{14.14} 14.16	68.35	
CS-WB05-LGR-03B	262		1133		^{16.17} 23.92	88.29	
CS-WB05-LGR-04A	277		1131		^{22.70} 30.43	94.68	
CS-WB05-LGR-04B	329		1130		^{45.33} 53.05	117.08	
CS-WB05-BS-01	362		1128		^{59.67} 67.39	131.36	
CS-WB05-CC-01	432		1126		^{90.08} 97.79	128.81	
CS-WB05-CC-02	460		1124		^{102.24} 109.93	141.37	
CS-WB06-UGR-01	20	6/4/10	1224	14.01	^{14.04} 14.03	17.54	
CS-WB06-LGR-01	93		1222		^{14.07} 14.05	25.44	
CS-WB06-LGR-02	174		1220		^{14.11} 14.10	59.80	
CS-WB06-LGR-03A	207		1218		^{14.14} 14.11	71.37	
CS-WB06-LGR-03B	260		1216		^{21.60} 24.88	94.26	
CS-WB06-LGR-04	320		1214		^{47.66} 50.94	116.50	
CS-WB07-UGR-01	14		6/4/10		1250	14.01	^{14.05} 14.04
CS-WB07-LGR-01	90	1248		^{14.10} 14.07			24.01
CS-WB07-LGR-02	175	1246		^{14.14} 14.10			59.97
CS-WB07-LGR-03A	208	1244		^{14.17} 14.14			70.76
CS-WB07-LGR-03B	257	1242		^{15.58} 15.10			91.95
CS-WB07-LGR-04	318	1242		^{42.13} 41.63			116.17
CS-WB08-UGR-01	38	6/4/10	1200	14.00	^{14.03} 14.01	19.17	
CS-WB08-LGR-01	115		1158		^{14.08} 14.06	23.87	
CS-WB08-LGR-02	193		1156		^{14.12} 14.09	55.57	
CS-WB08-LGR-03A	228		1154		^{14.14} 14.13	68.00	
CS-WB08-LGR-03B	273		1152		^{18.87} 26.13	87.44	
CS-WB08-LGR-04	341		1150		^{48.45} 55.67	116.04	

Bioreactor Monitoring

Personnel: J. Bruch, S. 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: 6.11.0		Time: 1130							
B3-T1-1	12.9	5.35	6.91	24.52	0.661	-109.2	0.40	✓	
B3-T1-2	12.4	5.08	6.87	24.90	0.716	-115.1	0.29		
B3-T1-3	12.85	4.85	7.38	26.10	0.614	-80.3	0.37		
B3-T2-1	9.67	6.78	6.78	25.27	0.775	-103.7	0.61	✓	
B3-T2-2	10.01	7.12	6.40	26.24	1.658	-96.9	0.57		
B3-T3-1	9.96	9.04							
B3-T3-2	7.40	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	7.76 9.30							
B3-T5-2	7.98	7.76							
B3-T6-1	11.45	11.03							
B3-T6-2	12.34	11.96							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	6.7.10	0845	6.8.10	1100	6.9.10	0900	6.10.10	0851	6.11.10	0910
	Rate (gpm) / Cumulative Total (gal)									
T-1	22.6	2869997	22.3	2903779	21.8	2932010	21.1	2962489	23.6	2993757
T-2	8.77	3720660	9.65	3734216	10.0	37416793	9.27	3760315	9.60	3774054
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	12.01	159226	0	171364	11.56	181918	11.39	197434	0	202584
CS-MW16-CC	22.36	734754	0	756763	21.80	776216	21.44	805303	21.23	835074
B3-EXW01	13.813	2785679	0	2799575	0	2810775	0	2810775	0	2810775

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = Note: If bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = 49.39 = 10 PB-1 - PB-2 = 42 - 42 = 0 PB-1 - PB-2 = 42 - 42 = 0 PB-1 - PB-2 = 42 - 42 = 0 PB-1 - PB-2 = 42 - 42 = 0

Notes: MW16LGR - 97.44 Tank is 3/4 full Tank is 1/2 full Tank is 1/2 full Tank is 3/4 full
 MW16CC - 182.03 B3EXW01 well is off due to reconstruction Turned on extraction
 B3-EXW01 - 139.00 EXW02 filter a 1DW well
 1DW water into Trench 1 2,275 gal B3EXW02 - 1DW water 2010 gal

2824171

Tank is 3/4 full changed BF

EXW02 filter a 1DW well
 1DW water into Trench 1
 2,275 gal

B3EXW02 - 1DW water
 2010 gal

Personnel: J. Bouché; S. Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvls		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
CS-MW26	20.32 TBD	6-10-10	1236	11.54	6.80	19.59	0.743	-68.5	0.56	
CS-MW27-UGR	17.0		1244	7.31	6.78	21.35	0.820	-69.60	0.46	
CS-MW28	18.33 TBD		1250	dry						
CS-MW29	20.40 TBD		1252	15.34	7.17	21.89	0.599	-67.5	4.21	
CS-MW30	23.9 TBD		1300	21.55	7.01	22.76	0.695	-67.0	5.09	
CS-MW31	29.06 TBD		1200	33.13	7.09	22.71	0.637	-87.2	3.85	
CS-MW32	58.45 TBD		1212	38.87	7.05	22.63	0.611	-76.6	6.10	
CS-MW33	29.55 TBD		1223	21.05	7.00	21.60	0.574	-71.8	5.59 5.49	
CS-MW34	25.40 TBD		1231	16.70	6.83	21.85	0.706	-71.2	1.50	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel		J. Boych & S. 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	6-11-10	0933	14.05	^{14.07} 14.09	22.29
CS-WB05-LGR-02	182		0932		^{14.11} 14.13	51.14
CS-WB05-LGR-03A	216		0931		^{14.14} 14.17	65.58
CS-WB05-LGR-03B	262		0930		^{16.17} 23.90	85.53
CS-WB05-LGR-04A	277		0929		^{22.70} 30.43	91.61
CS-WB05-LGR-04B	329		0929		^{45.33} 53.06	113.96
CS-WB05-BS-01	362		0928		^{59.67} 67.40	128.81
CS-WB05-CC-01	432		0927		^{90.08} 97.81	120.37
CS-WB05-CC-02	460		0926		^{102.24} 109.95	132.77
CS-WB06-UGR-01	20		0959	14.06	^{14.04} 14.05	17.44
CS-WB06-LGR-01	93		0958		^{14.07} 14.11	21.79
CS-WB06-LGR-02	174		0957		^{14.11} 14.13	55.51
CS-WB06-LGR-03A	207		0956		^{14.14} 14.17	68.66
CS-WB06-LGR-03B	260		0955		^{21.60} 24.88	91.48
CS-WB06-LGR-04	320		0954		^{47.66} 50.95	113.40
CS-WB07-UGR-01	14		1012	14.05	^{14.05} 14.07	17.33
CS-WB07-LGR-01	90		1010		^{14.10} 14.10	22.75
CS-WB07-LGR-02	175		1009		^{14.14} 14.13	57.57
CS-WB07-LGR-03A	208		1008		^{14.17} 14.17	67.51
CS-WB07-LGR-03B	257		1008		^{15.58} 15.14	88.71
CS-WB07-LGR-04	318		1007		^{42.13} 41.65	112.67
CS-WB08-UGR-01	38		0944	14.04	^{14.03} 14.07	19.07
CS-WB08-LGR-01	115		0944		^{14.08} 14.09	23.27
CS-WB08-LGR-02	193		0943		^{14.12} 14.13	53.21
CS-WB08-LGR-03A	228		0942		^{14.14} 14.17	65.04
CS-WB08-LGR-03B	273		0941		^{18.87} 26.15	84.48
CS-WB08-LGR-04	341		0941		^{48.45} 55.69	113.65

Bioreactor Monitoring

Personnel: J. Bouch; S. 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: <u>10.16.10</u>		Time: <u>1315</u>							
B3-T1-1	12.9	<u>7.70</u>	<u>6.84</u>	<u>24.47</u>	<u>0.664</u>	<u>-155.9</u>	<u>0.14</u>		
B3-T1-2	12.4	<u>7.37</u>	<u>6.62</u>	<u>24.57</u>	<u>0.840</u>	<u>-140.5</u>	<u>0.23</u>	✓	
B3-T1-3	12.85	<u>6.99</u>	<u>6.99</u>	<u>25.12</u>	<u>0.667</u>	<u>-170.7</u>	<u>0.22</u>		
B3-T2-1	9.67	<u>8.67</u>	<u>6.61</u>	<u>25.44</u>	<u>0.728</u>	<u>-118.1</u>	<u>0.17</u>		
B3-T2-2	10.01	<u>8.58</u>	<u>6.28</u>	<u>26.68</u>	<u>1.686</u>	<u>-108.4</u>	<u>0.34</u>	✓	
B3-T3-1	9.96	<u>9.16</u>							
B3-T3-2	7.4	<u>DRY</u>							
B3-T4-1	6.32	<u>DRY</u>							
B3-T5-1	9.33	<u>DRY</u>							
B3-T5-2	7.98	<u>7.85</u>							
B3-T6-1	11.45	<u>11.07</u>							
B3-T6-2	12.34	<u>11.94</u>							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings										
Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	<u>6:14:10</u>	<u>12:00</u>	<u>6:15:10</u>	<u>09:00</u>	<u>6:16:10</u>	<u>10:50</u>	<u>6:17:10</u>	<u>14:30</u>	<u>6:18:10</u>	<u>12:30</u>
	Rate (gpm) / Cumulative Total (gal)									
T-1	<u>22.1</u>	<u>3089.024</u>	<u>22.3</u>	<u>3,115.609</u>	<u>0</u>	<u>3,829.435</u>	<u>22.4</u>	<u>3,153.254</u>	<u>21.8</u>	<u>3,180,200.4</u>
T-2	<u>9.34</u>	<u>3,814.442</u>	<u>9.17</u>	<u>3,828.109</u>	<u>0</u>	<u>3,124.872</u>	<u>10.8</u>	<u>3,840.613</u>	<u>8.8</u>	<u>3,851,520</u>
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	<u>0</u>	<u>233,728</u>	<u>0</u>	<u>242,554</u>	<u>0</u>	<u>244,832</u>	<u>10.64</u>	<u>254,970</u>	<u>not pumping</u>	<u>264,450</u>
CS-MW16-CC	<u>0</u>	<u>901,621</u>	<u>0</u>	<u>919,128</u>	<u>0</u>	<u>923,711</u>	<u>22.16</u>	<u>945,000</u>	<u>not pumping</u>	<u>964,210</u>
B3-EXW01	<u>0</u>	<u>2,865,129</u>	<u>14.02</u>	<u>2,876,116</u>	<u>0</u>	<u>2,878,954</u>	<u>13.29</u>	<u>2,891,821</u>	<u>pumping</u>	<u>2,903,656</u>
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 10 psi change filter.										
	PB-1 - PB-2 = <u>44 - 41 = 3</u>		PB-1 - PB-2 = <u>44 - 40 = 4</u>		PB-1 - PB-2 = <u>0 - 0 = 0</u>		PB-1 - PB-2 = <u>32 - 28 = 4</u>		PB-1 - PB-2 = <u>50 - 35 = 15</u>	
Notes:	MW16-LGR = <u>112.30</u> 127.1'		MW16-LGR = <u>112.60</u>		Tank is empty		tank 1/2 full		tank 5/8 full, T/P running,	
	MW16-CC = <u>118.54</u> 143.5'		MW16-CC = <u>169.50</u>		Controls were off				changed BPU filter.	
	B3EXW01 = <u>111.70</u> 109.7'		B3EXW01 = <u>108.40</u>		at screen - turned on					
	B3EXW02 = <u>106.24</u> btoC		Tank is 1/2 full		Week <u>164</u>					
	<u>103.34</u> bgs									
	Tank 3/4 full									

LGR - 121.19'
 CCC - 174.25'
 EX02 - 116.80'

MW16-LGR - 134.3
 MW16-CC - 223.4
 B3EXW01 - 152.0

Personnel		SE & AL				
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	6.15.10	1407	14.12	14.09 14.15	22.11
CS-WB05-LGR-02	182		1406		14.13 14.21	45.88
CS-WB05-LGR-03A	216		1405		14.17 14.23	60.15
CS-WB05-LGR-03B	262		1404		23.90 23.91	80.07
CS-WB05-LGR-04A	277		1403		30.43 30.44	86.24
CS-WB05-LGR-04B	329		1402		53.06 53.07	108.62
CS-WB05-BS-01	362		1401		67.40 67.42	124.88
CS-WB05-CC-01	432		1400		97.81 97.82	125.58
CS-WB05-CC-02	460		1359		109.95 109.97	138.08
CS-WB06-UGR-01	20		1435	14.11	14.05 14.11	17.39
CS-WB06-LGR-01	93		1434		14.11 14.15	19.36
CS-WB06-LGR-02	174		1433		14.13 14.16	52.32
CS-WB06-LGR-03A	207		1432		14.17 14.21	66.08
CS-WB06-LGR-03B	260		1430		24.88 24.93	88.98
CS-WB06-LGR-04	320		1429		50.95 50.97	109.15
CS-WB07-UGR-01	14		1449	14.10	14.07 14.09	17.16
CS-WB07-LGR-01	90		1448		14.10 14.13	21.58
CS-WB07-LGR-02	175		1447		14.13 14.17	55.39
CS-WB07-LGR-03A	208		1446		14.17 14.20	63.64
CS-WB07-LGR-03B	257		1445		15.14 15.16	84.84
CS-WB07-LGR-04	318		1444		41.65 41.68	107.50
CS-WB08-UGR-01	38		1421	14.11	14.07 14.12	18.91
CS-WB08-LGR-01	115		1420		14.09 14.14	23.08
CS-WB08-LGR-02	193		1419		14.13 14.18	50.33
CS-WB08-LGR-03A	228		1418		14.17 14.22	60.68
CS-WB08-LGR-03B	273		1417		26.15 26.18	80.11
CS-WB08-LGR-04	341		1416		55.69 55.73	109.51

Personnel: J. Bouch; S. Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvs		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
CS-MW26	20.32	6.16.10	1430	20.32 12.23	6.50	21.58	0.753	-56.9	1.06	
CS-MW27-UGR	17.00		1430	7.89	6.42	21.54	0.822	-58.3	0.32	
CS-MW28	18.33			dry						
CS-MW29	20.40			15.96	6.80	21.50	0.602	-57.8	2.70	
CS-MW30	23.90		1441	21.68	6.64	21.10	0.696	-56.4	3.74	
CS-MW31	39.06	6.16.10	1355	33.47	6.84	24.25	0.644	-63.2	1.92	
CS-MW32	58.45		1403	39.66	6.77	22.56	0.615	-58.6	5.0	
CS-MW33	29.55		1410	22.55	6.67	21.06	0.604	-56.5	5.52	
CS-MW34	25.40	✓ JBE	1420	17.54	6.50	21.39	0.691	-56.3	1.03	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Bioreactor Monitoring

Personnel: J. Bouch

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: <u>6.22.10</u>		Time: <u>0845</u>							
B3-T1-1	12.9	6.54	6.96	24.66	0.704	-157.6	0.39	✓	Ⓞ 0910
B3-T1-2	12.4	6.34	6.91	24.69	0.829	-142.7	0.20		Ⓞ 1010 1010
B3-T1-3	12.85	6.29	7.05	24.95	0.658	-162.6	0.29		Ⓞ 1040
B3-T2-1	9.67	7.97	6.85	25.54	0.779	-137.8	0.36	✓	Ⓞ 0925
B3-T2-2	10.01	8.28	6.54	27.49	1.749	-108.0	0.54		Ⓞ 0947
B3-T3-1	9.96	9.17							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	7.81							
B3-T6-1	11.45	11.06							
B3-T6-2	12.34	11.94							
B3-UIC			7.21	23.52	0.631	-20.8	4.03		Ⓞ 0900

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	6.21.10 1000	6.22.10 0840	6.23.10 0930	6.24.10 0935	6.25.10 1000
Rate (gpm) / Cumulative Total (gal)					
T-1	22.3 3290427	22.8 3297089	0 3302476	0 3311010	22.4 3342942
T-2	9.64 3897776	10.1 3903162	0 3904803	0 3907737	9.90 3920843
T-3					
T-4					
T-5					
T-6					
B-3 (Total)					
CS-MW16-LGR	11.0 296464	10.78 306957	0 307303	11.29 311273	0 323770
CS-MW16-CC	21.12 302	21.2 20581	0 21261	Ⓞ 23.0 29085	0 33830
B3-EXW01	0 2944220	0 2956006	0 2956006	14.0 2956006 2956589	0 2971508

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) = *Note: If bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = 42 - 42 = 0	PB-1 - PB-2 = 42 - 42 = 0	PB-1 - PB-2 = 47 - 47 = 0	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 42 - 42 = 0
Notes: MW16 LGR = 144.75 MW16 CC = 253.27 B3EXW01 = 162.00	MW16 LGR = 118.30 MW16 CC = 258.01 B3EXW01 = 163.90	System off turned 16 wells on in hand.	Turned wells on by hand (16 wells and B3EXW01)	Tank is 3/4 full MW16 LGR = 132.92 MW16 CC = 186.40

Tank is 9/16 full

Tank is 3/4 full
All wells and TP
shut off @ 0915am

Turned off wells
and TP @
Week 145
1445

*Turned on all
wells in auto
@ 0900 for 16 wells
0945 for B3EXW01

B3EXW01 = 127.50

Personnel		J. Bouch; J. Kirk					
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	6/24/10	0927	14.02	14.09 14.18	21.90	
CS-WB05-LGR-02	182		0926		14.13 14.24	40.96	
CS-WB05-LGR-03A	216		0925		14.17 14.26	55.12	
CS-WB05-LGR-03B	262	6-21-10	0924		23.90 23.92	75.09	
CS-WB05-LGR-04A	277		0923		30.43 30.44	81.11	
CS-WB05-LGR-04B	329		0922		53.06 53.06	103.37	
CS-WB05-BS-01	362		0921		67.40 67.41	119.50	
CS-WB05-CC-01	432		0920		97.81 97.80	131.87	
CS-WB05-CC-02	460		0920		109.95 109.94	144.54	
CS-WB06-UGR-01	20		0857	14.07	14.05 14.12	16.88	
CS-WB06-LGR-01	93		0856		14.11 14.17	16.68	
CS-WB06-LGR-02	174		0855		14.13 14.23	48.76	
CS-WB06-LGR-03A	207		0854		14.17 14.27	62.18	
CS-WB06-LGR-03B	260	6-21-10	0853		24.88 24.88	25.51 / 85.08	
CS-WB06-LGR-04	320		0852		50.95 51.59	104.71	
CS-WB07-UGR-01	14		0910	14.14	14.07 14.13	16.40	
CS-WB07-LGR-01	90		0909		14.10 14.17	18.72	
CS-WB07-LGR-02	175		0908		14.13 14.21	51.71	
CS-WB07-LGR-03A	208		0907		14.17 14.26	58.02	
CS-WB07-LGR-03B	257	6-21-10	0906		15.14 15.19	79.22	
CS-WB07-LGR-04	318		0905		41.65 41.71	101.85	
CS-WB08-UGR-01	38		0939	14.14	14.07 14.16	18.39	
CS-WB08-LGR-01	115		0938		14.09 14.19	22.99	
CS-WB08-LGR-02	193		0937		14.13 14.23	44.92	
CS-WB08-LGR-03A	228		0937		14.17 14.25	55.46	
CS-WB08-LGR-03B	273	6-21-10	0936		26.15 26.21	74.92	
CS-WB08-LGR-04	341		0935		55.69 55.76	103.86	

14.01 / sample time 1045
25.84 / 75.00

14.01 / Sample time 1106
27.37 / 85.08

13.99 / sample time 1500
17.03 / 80.08

sample time 14.0 / 1200
27.61 / 75.08

Personnel: J. Bonch; S. Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrvl's		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	6.23.10	1120	12.91	6.53	20.72	0.776	-76.0	1.95	wells sampled
B3-MW27-UGR	17.00	6.23.10	1140	8.55	6.61	22.40	0.823	-57.5	1.39	w/ bailer
B3-MW28-UGR	18.33	6.23.10	1155	DRY						
B3-MW29-UGR	20.40	6.23.10	1155	16.54	7.05	21.08	0.603	-52.2	2.49	
B3-MW30-UGR	23.90	6.23.10	1220	22.02	6.96	21.31	0.711	-47.4	4.30	
B3-MW31-UGR	39.06	6.23.10	0850	33.61	6.81	21.76	0.668	-30.6	1.63	
B3-MW32-UGR	58.45	6.23.10	0915	40.34	7.10	22.22	0.496	3.4	6.10	
B3-MW33-UGR	29.55	6.23.10	1040	23.37	6.87	22.63	0.610	-13.7	4.10	
B3-MW34-UGR	25.40	6.23.10	1100	18.32	6.75	21.50	0.710	-47.7	1.21	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Week 165

Bioreactor Monitoring

Personnel: J. Bouch; S. 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: 6.29.10		Time: 10:15							
B3-T1-1	12.9	8.05	6.65	25.36	0.764	-182.4	0.51	✓	
B3-T1-2	12.4	7.55	6.74	24.92	0.736	-177.3	0.41		
B3-T1-3	12.85	5.84	6.87	28.63	0.695	-98.7	0.42		
B3-T2-1	9.67	9.09	6.52	26.21	0.848	-147.2	0.60		
B3-T2-2	10.01	9.00	6.26	28.63	1.544	-28.2	0.60		
B3-T3-1	9.96	9.19							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	7.79	DRY						
B3-T5-2	7.98	7.79							
B3-T6-1	11.45	11.08							
B3-T6-2	12.34	11.39	6.61	26.19	1.230	-169.0	0.68	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	6.28.10 0935	6.29.10 0855	6.30.10 0945	7.1.10 1400	7.2.10 0812
	Rate (gpm) / Cumulative Total (gal)				
T-1	23.1	19.2	47.1	50	19.2
T-2	8.87	4.12	41.8		
T-3					
T-4					
T-5					
T-6	49	4.12	46.8	46.0	393
B-3 (Total)	122.5	244.13	694.37	886.89	108,227
CS-MW16-LGR	357311	372062	410,192	423252	444916
CS-MW16-CC	118480	147580	189980	231280	250191
B3-EXW01	3010934	3078624	3046853	3052457	3061964
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 10 psi change filter.					
	PB-1 - PB-2 = 45 - 42 = 3	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 42 - 30 = 12	PB-1 - PB-2 = 38 - 38 = 0	PB-1 - PB-2 = 0 - 0 = 0
Notes:	B3EXW01 - 136.50 MW16CC - 201.84 MW16LGR - 139.44	MW16CC - 279.21 MW16LGR - 160.32 B3EXW01 - 173.40	MW16CC - 334.12 MW16LGR - 210.40 B3EXW01 - 175.10	MW16CC = 209.21 LGR = 304.39 B3EXW01 = 172.80 Tank is 3/4 full auto	MW16LGR - 208.21 MW16CC - 295.10 B3EXW01 - 173.70 Tank is 1/4 full

Tank is 3/4 full
* back *

Tank is 7/16
CC adjusted to 30.2
LGR → = 27.64

Week 166 - dropped pressure in lacc to 23.0 - wells off
Tank is 3/4 full changed BF
System off, running in hand
Run lacc only overnight - 22:30 in hand

0950

x per Ken Rice - closed Trench 2 opened Trench 4 Dopened valve
at the end of Trench 1. Recirculation Valve is at about 1/2 -
open. Pressure at bag filter is 42-40 = 2.

T1 6PM @ 50

T6 6PM @ 50

1530 to check system

MW116LL
125270 / 21.45
MW116LR
360768 / 10.95

T1 19.4 / 3445112

T6 3.66 / 7196

Tank is 1/4 full

T1-1 7.50

T1-2 7.13

T1-3 6.10

T6-1 11.09

T6-2 11.70

B3Exw01 12.92 / 3015472

0950 2 hrs down

6/28

Personnel		S. Elliott & J. Bouch				
Weekly Water Level Monitoring						
Well Interval	Sampling Por. Depth (ft BTDC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	6.29.10	0951	14.05	^{14.07} 14.11	21.79
CS-WB05-LGR-02	182		0950		^{14.11} 14.15	36.71
CS-WB05-LGR-03A	216		0949		^{14.14} 14.18	49.41
CS-WB05-LGR-03B	262		0948		^{16.17} 23.80	69.37
CS-WB05-LGR-04A	277		0948		^{22.70} 30.32	75.35
CS-WB05-LGR-04B	329		0946		^{45.33} 52.95	97.87
CS-WB05-BS-01	362		0945		^{59.67} 67.29	114.81
CS-WB05-CC-01	432		0944		^{90.08} 97.68	110.88
CS-WB05-CC-02	460		0943		^{102.24} 109.83	123.33
CS-WB06-UGR-01	20		0921	14.07	^{14.04} 14.08	16.79
CS-WB06-LGR-01	93		0920		^{14.07} 14.11	16.58
CS-WB06-LGR-02	174		0919		^{14.11} 14.15	46.67
CS-WB06-LGR-03A	207		0918		^{14.14} 14.19	59.49
CS-WB06-LGR-03B	260		0917		^{21.60} 25.43	82.38
CS-WB06-LGR-04	320		0916		^{47.66} 51.44	98.55
CS-WB07-UGR-01	14		0934	14.06	^{14.05} 14.06	16.47
CS-WB07-LGR-01	90		0933		^{14.10} 14.12	18.30
CS-WB07-LGR-02	175		0932		^{14.14} 14.16	49.44
CS-WB07-LGR-03A	208		0931		^{14.17} 14.18	54.14
CS-WB07-LGR-03B	257		0931		^{15.58} 15.10	75.33
CS-WB07-LGR-04	318		0930		^{42.13} 41.62	95.68
CS-WB08-UGR-01	38		1004	14.05	^{14.03} 14.07	18.37
CS-WB08-LGR-01	115		1003		^{14.08} 14.10	22.78
CS-WB08-LGR-02	193		1002		^{14.12} 14.15	42.04
CS-WB08-LGR-03A	228		1002		^{14.14} 14.19	50.67
CS-WB08-LGR-03B	273		1001		^{18.87} 26.13	70.13
CS-WB08-LGR-04	341	✓	1000		^{48.45} 55.67	99.16

Personnel: J. Bouch; S. Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrvlvs		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	6/29/10	1121	13.30	6.62	20.70	0.980	-98.4	1.72	
B3-MW27-UGR	17.00		1126	9.11	6.54	21.64	0.820	-110.9	1.43	
B3-MW28-UGR	18.33		1129	dry						
B3-MW29-UGR	20.40		1133	17.75	6.85	20.81	0.606	-57.4	2.17	
B3-MW30-UGR	23.90		1139	22.72	6.67	20.67	0.715	-54.4	5.14	
B3-MW31-UGR	39.06		1103	34.20	6.93	22.77	0.689	-63.9	1.12	
B3-MW32-UGR	58.45		1109	40.62	7.03	22.27	0.543	-57.1	5.54	
B3-MW33-UGR	29.55		1113	23.67	6.70	21.29	0.619	-57.0	3.70	
B3-MW34-UGR	25.40	✓	1117	18.62	6.61	21.27	0.716	-79.9	1.27	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Week 166

Bioreactor Monitoring

Personnel: J. Bouch, K. Rice, E. 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: 7.7.10		Time: 1105							
B3-T1-1	12.9	7.30	6.74	25.14	0.861	-171.1	0.70	✓	
B3-T1-2	12.4	6.92	6.65	24.98	0.851	-122.8	0.62		
B3-T1-3	12.85	6.45	6.94	23.73	0.602	-54.9	0.54		
B3-T2-1	9.67	8.73	6.53	27.42	1.040	-127.2	0.63		
B3-T2-2	10.01	9.05	6.38	29.59	1.216	-112.5	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	DRY							
B3-T5-2	7.98	7.80							
B3-T6-1	11.45	10.95						✓	
B3-T6-2	12.34	11.07	7.08	27.34	0.678	-165.0	0.54		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	7.5.10	0745	7.6.10	0915	7.7.10	0951	7.8.10	0820	7.9.10	0750
	Rate (gpm) / Cumulative Total (gal)									
T-1	22.5	3688756	21.9	372037	21.6	3759854	20.5	3,798,510	21.2	3818403
T-2										
T-3										
T-4										
T-5										
T-6	26.1	222176	26.3	261489	31.2	297330	30.2	335,404	32.8	359,839
B-3 (Total)										
CS-MW16-LGR	0	535421	27.64	565324	27.08	595480	26.97	6,29545	16.42	646,106
CS-MW16-CC	could not read		on - could not read		on - could not read		can't read meter		meter out	
B3-EXW01	0	3101674	12.73	3,115281	0	3,129507	12.35	3,144,207	0	3,154,200

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = 46 - 38 = 8	PB-1 - PB-2 = 46 - 36 = 10	PB-1 - PB-2 = 42 - 42 = 0	PB-1 - PB-2 = 40 - 38 = 2	PB-1 - PB-2 = 42 - 42
Notes: Tank is 3/4 full MW16 LGR = 147.57 MW16 CC = 223.07 B3EXW01 = 135.90	MW16 LGR = 203.04 MW16 CC = 297.49 B3EXW01 = 171.00	Tank is 3/4 full MW16 LGR = 204.91 MW16 CC = 331.29	tank overflowing TP on, wells running SCADA is awesome!	25 gpm lost Friday

Tank is 9/10 full changed BF
 Week 107
 Pumped 240 gal T3 to T6-1.
 (290 gal into T6-1) → look at it
 (290 gal into T6-2) → LGR turned back on @ 1043
 - 16 wells turned off @ 0830 until set can be turned back on @ 1415
 - in an attempt to balance system, pinched 16-LGR back 10 gpm
 bag filter changed

Personnel: J. Bouch; 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	7-7-10	1012	14.01	14.09 14.11	21.64
CS-WB05-LGR-02	182		1011		14.13 14.14	34.10
CS-WB05-LGR-03A	216		1010		14.17 14.17	42.77
CS-WB05-LGR-03B	262		1009		23.90 23.77	67.16
CS-WB05-LGR-04A	277		1008		30.43 30.28	73.86
CS-WB05-LGR-04B	329		1006		53.06 52.91	96.50
CS-WB05-BS-01	362		1005		67.40 67.26	112.73
CS-WB05-CC-01	432		1003		97.81 97.65	103.24
CS-WB05-CC-02	460		1002		109.95 109.81	115.91
CS-WB06-UGR-01	20	7-7-10	1042	14.06	14.05 14.07	17.47
CS-WB06-LGR-01	93		1041		14.11 14.09	16.45
CS-WB06-LGR-02	174		1040		14.13 14.14	45.01
CS-WB06-LGR-03A	207		1039		14.17 14.17	57.79
CS-WB06-LGR-03B	260		1038		24.88 25.42	80.69
CS-WB06-LGR-04	320		1035		50.95 51.48	98.48
CS-WB07-UGR-01	14		7-7-10		1059	14.05
CS-WB07-LGR-01	90	1057		14.10 14.09	18.01	
CS-WB07-LGR-02	175	1056		14.13 14.13	46.26	
CS-WB07-LGR-03A	208	1054		14.17 14.16	51.96	
CS-WB07-LGR-03B	257	1053		15.14 15.11	73.15	
CS-WB07-LGR-04	318	1050		41.65 41.62	95.84	
CS-WB08-UGR-01	38	7-7-10	1029	14.06	14.07 14.05	18.57
CS-WB08-LGR-01	115		1027		14.09 14.12	22.79
CS-WB08-LGR-02	193		1025		14.13 14.14	39.27
CS-WB08-LGR-03A	228		1024		14.17 14.16	49.93
CS-WB08-LGR-03B	273		1023		26.15 26.10	69.39
CS-WB08-LGR-04	341		1021		55.69 55.66	98.64

Personnel: *Bouch, Tennyson*

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvs		Weekly Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	7-7-10	1425	13.20	6.76	21.81	0.783	-76.2	2.25	clear.
B3-MW27-UGR	17.00 19.92		1450	8.80	6.65	26.44	0.833	-53.5	1.83	water very cloudy.
B3-MW28-UGR	18.33		1500	dry						-
B3-MW29-L	20.40		1510	18.05	6.96	22.91	0.628	-47.4	2.21	cloudy.
B3-MW30-UGR	23.90		1525	22.70	6.84	23.15	0.744	-45.9	4.03	lightly muddy.
B3-MW31-UGR	39.06		1540	33.11	6.74	24.38	0.712	-47.6	2.18	very cloudy.
B3-MW32-UGR	58.45		1555	41.45	6.94	24.17	0.591	-46.7	5.14	clear.
B3-MW33-UGR	29.55		1605	23.38	6.74	23.75	0.631	-45.8	3.57	slightly cloudy.
B3-MW34-UGR	25.40	✓	1620	18.41	6.60	23.76	0.775	-49.5	1.98	clear.

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Bioreactor Monitoring

Personnel: 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 (V)	Notes
Date: <u>7-14-10</u>		Time: <u>0830</u>							
B3-T1-1	12.9	8.89	6.55	25.74	0.913	-311.6	0.37	✓	* Using new longer probe end w/ 44 new sensors
B3-T1-2	12.4	8.47	6.53	24.68	0.844	-299.1	0.77		
B3-T1-3	12.85	8.07	6.64	24.69	0.720	-307.6	0.31		
B3-T2-1	9.67	9.26							
B3-T2-2	10.01	9.62							
B3-T3-1	9.96	9.18							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	7.87							
B3-T6-1	11.45	11.20						✓	
B3-T6-2	12.34	11.19	6.53	25.85	0.897	-307.2	0.47		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	<u>7.12.10</u>		<u>7.13.10 0815</u>		<u>7.14.10 0825</u>		<u>7.15.10 0800</u>		<u>7.16.10 1050</u>	
	Rate (gpm) / Cumulative Total (gal)									
T-1	7.67/20.5	3,877,216	7.68/20.7	3,897,083	20.5	3,916,469	19.5	3,934,790	20.1	3,954,926
T-2										
T-3										
T-4										
T-5										
T-6	5.84/32.4	434,737	4.72/30.6	459,430	32.2	484,520	30.6	508,188	32.8	533,620
B-3 (Total)										
CS-MW16-LGR	14.63	681,373	14.86	692,436	15.25	704,706	14.74	715,849	not pumping	728,832
CS-MW16-CC	meter out →				31.48/27.22	0	25.26	18,991	"	41561
B3-EXW01	12.58	3,184,000	12.9	3,193,952	0	3,204,029	0	3,213,838	"	3,225,548

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = Note: If bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = <u>42-40</u>	PB-1 - PB-2 = <u>42-40</u>	PB-1 - PB-2 = <u>42-40</u>	PB-1 - PB-2 = <u>43-39</u>	PB-1 - PB-2 = <u>43-39 = 4</u>
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Notes: MW16-LGR = 146.7
 MW16-CC = 208.9
 tank = 1/2 full

Quick trends not working - tank 1/2 full
 - MW16 wells turned off @ 1038 for meter replacement for leak repair
 - wells turned back on @ 1131 Week 168

tank 1/2 full
 - MW16 wells off temp.

tank 1/16 full; syst. cycling normally.

* adjusted to balance system

Personnel		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	7.15.10	0820	14.11	14.09 14.16	21.57
CS-WB05-LGR-02	182		0819		14.13 14.21	31.27
CS-WB05-LGR-03A	216		0818		14.17 14.24	43.87
CS-WB05-LGR-03B	262		0817		23.90 23.81	63.81
CS-WB05-LGR-04A	277		0816		30.43 30.34	70.15
CS-WB05-LGR-04B	329		0816		53.06 52.95	92.88
CS-WB05-BS-01	362		0815		67.40 67.30	108.90
CS-WB05-CC-01	432		0814		97.81 97.70	111.20
CS-WB05-CC-02	460		0813		109.95 109.84	123.00
CS-WB06-UGR-01	20		0851	14.15	14.05 14.16	17.32
CS-WB06-LGR-01	93		0850		14.11 14.18	16.49
CS-WB06-LGR-02	174		0850		14.13 14.23	43.30
CS-WB06-LGR-03A	207		0849		14.17 14.26	55.35
CS-WB06-LGR-03B	260		0848		24.88 25.47	78.24
CS-WB06-LGR-04	320		0847		50.95 51.54	93.22
CS-WB07-UGR-01	14		0906	14.14	14.07 14.14	16.16
CS-WB07-LGR-01	90		0905		14.10 14.18	17.93
CS-WB07-LGR-02	175		0904		14.13 14.23	43.39
CS-WB07-LGR-03A	208		0903		14.17 14.26	48.34
CS-WB07-LGR-03B	257		0903		15.14 15.19	69.54
CS-WB07-LGR-04	318		0902		41.65 41.70	90.47
CS-WB08-UGR-01	38		0836	14.14	14.07 14.15	18.39
CS-WB08-LGR-01	115		0835		14.09 14.20	22.90
CS-WB08-LGR-02	193		0834		14.13 14.23	37.08
CS-WB08-LGR-03A	228		0833		14.17 14.26	45.53
CS-WB08-LGR-03B	273		0832		26.15 26.17	64.99
CS-WB08-LGR-04	341		0831		55.69 55.72	94.95

Personnel: Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TW ('BTOC)	Date Sampled	Weekly/Monthly Wtrlvls		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/l)	Notes
B3-MW26-UGR	20.32	7.14.10	0950	13.53	6.55	19.48	0.816	-259.2	0.56	* Using new longer probe end w/ all new sensors
B3-MW27-UGR	17.00	↓	0957	9.27	6.59	22.73	0.842	-151.9	0.22	
B3-MW28-UGR	18.33				dry					
B3-MW29-UGR	20.40		1005	14.32	7.00	19.69	0.642	78.1	0.68	
B3-MW30-UGR	23.90		1012	22.91	6.88	20.40	0.772	90.5	3.69	
B3-MW31-UGR	39.06		0919	33.59	6.77	21.17	0.722	89.9	0.50	
B3-MW32-UGR	58.45		0927	44.28	5.71	21.07	0.579	-50.7	2.43	
B3-MW33-UGR	29.55		0935	23.85	6.89	20.26	0.641	95.5	3.03	
B3-MW34-UGR	25.40		0941	18.84	6.48	20.60	0.766	-137.9	0.27	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/l)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Bioreactor Monitoring

Personnel: J. Bouch; W. Butler

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: <u>7.20.10</u>		Time: <u>1043</u>							
B3-T1-1	12.9	9.41	6.50	25.64	0.664	-279.3	0.13	✓	Ⓢ 105.0
B3-T1-2	12.4	9.03	6.56	24.66	0.620	-259.6	0.17	✓	Ⓢ 121.0
B3-T1-3	12.85	8.66	6.58	29.43	0.605	-245.9	0.11	✓	Ⓢ 125 0840 (7.20.10)
B3-T2-1	9.67	DRY							
B3-T2-2	10.01	9.93							
B3-T3-1	9.96	9.20	6.44	30.16	0.605	-270.9	0.37		
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	7.51							
B3-T6-1	11.45	11.29	7.35	27.08	0.466	105.0	5.06	✓	
B3-T6-2	12.34	11.21	6.48	26.40	0.646	-270.7	0.24	✓	water @ 12.95 - wells off last night
B3-UIC			4.35	27.06	0.469	105.0	5.06		Ⓢ 12.95

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	7.19.10 0945	7.20.10 0839	7.21.10 0820	7.22.10 0835	7.23.10 0930
	Rate (gpm) / Cumulative Total (gal)				
T-1	7.83 40099743	8.62 4026925	0 4026925	19.6 4053490	21.7 4073424
T-2					
T-3					
T-4					
T-5					
T-6	6.01 6028015	7.02 624283	0 624283	30.5 657460	32.7 682779
B-3 (Total)					
CS-MW16-LGR	14.08 763272	14.02 774688	0 774688	791373	0 803420
CS-MW16-CC	24.72 101263	24.51 121250	0 121250	150555	0 171604
B3-EXW01	12.23 325597	0.0 325597	0 325597	327953	12.0 379647

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 10 psi change filter.

Notes	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 44 - 38 = 6	PB-1 - PB-2 = 40 - 40 = 0
MW16LGR = 186.06 MW16CC = 297.62 B3 Exw01 = 187.80	MW16LGR = 190.14 MW16CC = 307.46 B3 Exw01 = 192.90	Wells off - Richard fixed issue w/ Trench 1 floats -	MW16LGR = 191.2 MW16CC = 300.6 B3 Exw01 = 189.2	MW16LGR = 167.9 MW16CC = 225.4 B3 Exw01 = 163.7	

Tank is 1/2 full

Tank is 3/4 full

wells on
Tank empty
Week
1/29

Tank is 3/4 full
changed bag filter

Tank is 1/2 full

11.70 @
1500
* 7.22.10
BTW in
w-2 is
11.30
sample
Ⓢ 0905

Personnel: J. Bouch; B. Butler						
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	7-23-10	0955	14.08	^{14.09} 14.18	15.21
CS-WB05-LGR-02	182		0954		^{14.13} 14.19	26.26
CS-WB05-LGR-03A	216		0953		^{14.17} 14.28	38.44
CS-WB05-LGR-03B	262		0952		^{23.90} 23.18	58.40
CS-WB05-LGR-04A	277		0950		^{30.43} 29.70	64.62
CS-WB05-LGR-04B	329		0948		^{53.06} 52.32	87.36
CS-WB05-BS-01	362		0947		^{67.40} 66.67	103.48
CS-WB05-CC-01	432		0945		^{97.81} 97.06	108.43
CS-WB05-CC-02	460		0944		^{109.95} 109.20	120.28
CS-WB06-UGR-01	20	7-23-10	1044	14.13	^{14.06} 14.11	16.77
CS-WB06-LGR-01	93		1043		^{14.11} 14.15	16.46
CS-WB06-LGR-02	174		1042		^{14.13} 14.19	41.27
CS-WB06-LGR-03A	207		1040		^{14.17} 14.21	51.92
CS-WB06-LGR-03B	260		1038		^{24.88} 25.40	74.82
CS-WB06-LGR-04	320		1037		^{50.95} 51.45	87.50
CS-WB07-UGR-01	14	7-23-10	1103	14.12	^{14.07} 14.12	15.81
CS-WB07-LGR-01	90		1101		^{14.10} 14.15	17.96
CS-WB07-LGR-02	175		1059		^{14.13} 14.19	40.91
CS-WB07-LGR-03A	208		1058		^{14.17} 14.22	43.71
CS-WB07-LGR-03B	257		1057		^{15.14} 15.07	64.89
CS-WB07-LGR-04	318		1055		^{41.65} 42.16	84.54
CS-WB08-UGR-01	38	7-23-10	1021	14.10	^{14.07} 14.12	18.24
CS-WB08-LGR-01	115		1017		^{14.09} 14.16	22.83
CS-WB08-LGR-02	193		1015		^{14.13} 14.20	33.54
CS-WB08-LGR-03A	228		1013		^{14.17} 14.23	39.71
CS-WB08-LGR-03B	273		1012		^{26.15} 26.58	59.17
CS-WB08-LGR-04	341		1010		^{55.69} 56.13	88.61

wkb

7.23.10

J. Bonchi, B. Butler

Well ID	Time	pH	Temp	Sp Cond	ORP	DO	DTW
MW-34 UGR	1100	6.63	20.64	0.766	-192.8	0.58	19.29
MW-33 UGR	1118	6.90	20.30	0.648	20.9	2.04	24.49
MW-32 UGR	1125	6.76	21.02	0.543	47.1	3.85	46.60
MW-31 UGR	1140	6.79	21.03	0.723	32.9	0.65	33.84
MW-30 UGR	1151	6.91	20.47	0.760	46.9	4.14	23.0
MW-26 UGR	1215	6.69	20.13	0.799	-218.4	0.38	14.0
MW-27 UGR	1207	6.63	22.75	0.821	-121.5	0.36	10.70
MW-28 UGR	DRY						
MW-29 UGR	1200	7.02	19.91	0.633	36.0	1.22	19.28

Personnel: J. Bunch, B. Butler, S. Elliot

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrvl's		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	7-23-10	1215	14.0	6.69	20.13	0.790	-218.4	0.300	
B3-MW27-UGR	17.00		1207	10.70	6.63	22.75	0.821	-121.5	0.36	
B3-MW28-UGR	18.33		DRY							
B3-MW29-UGR	20.40		1200	19.28	7.02	19.91	0.633	1.22	34.0	
B3-MW30-UGR	23.90		1151	23.0	6.91	20.47	0.760	4.14	46.9	
B3-MW31-UGR	39.06		1140	33.84	6.79	21.03	0.723	0.45	32.9	
B3-MW32-UGR	58.45		1125	46.60	6.76	21.02	0.543	3.85	47.1	
B3-MW33-UGR	29.55		1118	24.49	6.90	20.30	0.648	209	2.04	
B3-MW34-UGR	25.40		1100	19.29	6.63	20.64	0.766	0.52	-192.8	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01	7-23-10	1400		7.09	28.34	0.591	100.0	1.58	
CS-B3-EXW02									
CS-MW1-LGR									

Week 169

Bioreactor Monitoring

Personnel: <i>B. Bunch; B. Butler</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>7.30.10</i>		Time: <i>10:00</i>									
B3-T1-1	12.9	<i>9.60</i>	<i>6.39</i>	<i>25.36</i>	<i>0.555</i>	<i>-282.1</i>	<i>0.39</i>	✓			
B3-T1-2	12.4	<i>9.20</i>	<i>6.47</i>	<i>26.60</i>	<i>0.529</i>	<i>170.7</i>	<i>0.44</i>				
B3-T1-3	12.85	<i>8.80</i>	<i>6.45</i>	<i>25.47</i>	<i>0.488</i>	<i>-249.9</i>	<i>0.28</i>				
B3-T2-1	9.67	<i>DRY</i>									
B3-T2-2	10.01	<i>10.00</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>									
B3-T5-2	7.98	<i>7.53</i>									
B3-T6-1	11.45	<i>11.30</i>	<i>6.42</i>	<i>26.46</i>	<i>0.529</i>	<i>-190.0</i>	<i>0.25</i>	Ⓢ			
B3-T6-2	12.34	<i>11.00</i>	↓	↓	↓	↓	↓	Ⓢ			
B3-UIC											
B-3 Transfer System Monitoring											
Flow Meters Readings											
Meter	Monday		Tuesday		Wednesday		Thursday		Friday		
Date/Time:	<i>7.26.10 0705</i>		<i>7.27.10 0800</i>		<i>7.28.10 0805</i>		<i>7.29.10 0810</i>		<i>7.30.10 0854</i>		
	Rate (gpm) / Cumulative Total (gal)										
T-1	<i>8.31</i>	<i>4129, 218</i>	<i>20.5</i>	<i>4147, 040</i>	<i>20.8</i>	<i>4165, 218</i>	<i>8.11</i>	<i>4183, 916</i>	<i>7.73</i>	<i>4202, 573</i>	
T-2											
T-3											
T-4											
T-5											
T-6	<i>7.02</i>	<i>751, 843</i>	<i>31.3</i>	<i>774, 395</i>	<i>31.6</i>	<i>797, 481</i>	<i>7.84</i>	<i>821, 317</i>	<i>7.33</i>	<i>845, 066</i>	
B-3 (Total)											
CS-MW16-LGR	<i>14.24</i>	<i>839, 377</i>		<i>850, 879</i>	<i>14.35</i>	<i>863, 055</i>	<i>14.35</i>	<i>875, 315</i>	<i>14.35</i>	<i>889, 511</i>	
CS-MW16-CC	<i>24.32</i>	<i>233, 629</i>		<i>253, 300</i>	<i>24.24</i>	<i>274, 090</i>	<i>24.24</i>	<i>294, 863</i>	<i>24.24</i>	<i>315, 455</i>	
B3-EXW01	<i>11.91</i>	<i>332, 050</i>		<i>335, 013</i>	<i>11.86</i>	<i>334, 028</i>	<i>11.86</i>	<i>335, 050</i>		<i>336, 070</i>	
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > or = 10 psi change filter.											
	PB-1 - PB-2 = <i>0 - 0 = 0</i>		PB-1 - PB-2 = <i>42 - 40 = 2</i>		PB-1 - PB-2 = <i>41 - 40 = 1</i>		PB-1 - PB-2 = <i>0 - 0 = 0</i>		PB-1 - PB-2 = <i>0 - 0 = 0</i>		
Notes:	<i>MW16 LGR = 197.27 MW16 CC = 311.28 B3EXW01 = 198.50 Tank is 10/16 full</i>		<i>Tank is 10/16 full MW16 LGR = 173.4 MW16 CC = 234.5 B3EXW01 = 169.3</i>		<i>MW16 LGR = 197.4 MW16 CC = 136.8 B3EXW01 = 202.4 Tank is 3/4 full Week 170</i>		<i>MW16 LGR = 200.10 MW16 CC = 317.55 B3EXW01 = 201.20 Tank is 3/4 full</i>		<i>MW16 LGR = 200.2 MW16 CC = 315.9 B3EXW01 = 203.2</i>		

Personnel <i>J. Bunch, W. Butler</i>							
Quarterly Monitoring							
MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure		
CS-WB05-LGR-01	99	7-24-10	1310	14.06	21.48		
CS-WB05-LGR-02	182	7-26-10	1035	14.12	24.56		
CS-WB05-LGR03A	216	7-26-10	0933	14.17	30.91		14.04
CS-WB05-LGR03B	262	7-19-10	1019	25.66	60.67		14.08
CS-WB05-LGR04A	277	7-22-10	1400	31.64	64.89		
CS-WB05-LGR04B	329	7-22-10	1250	54.34	87.27		
CS-WB05-BS-01	362	7-22-10	1040	68.83	104.11		14.02
CS-WB05-CC-01	432	7-27-10	1350	99.56	113.28		14.14
CS-WB05-CC-02	460	7-27-10	1215	111.90	123.14		
CS-WB06-UGR-01	20	7-28-10	1425	14.09	16.84		
CS-WB06-LGR-01	93	7-28-10	1330	14.12	16.44		
CS-WB06-LGR-02	174	7-28-10	1240	14.16	40.34		
CS-WB06-LGR03A	207	7-28-10	1140	14.17	50.17		
CS-WB06-LGR03B	260	7-19-10	1450	27.30	76.36		14.02
CS-WB06-LGR-04	320	7-28-10	1000	53.37	85.70		
CS-WB07-UGR-01	14	7-29-10	1310	14.12	15.80		
CS-WB07-LGR-01	90	7-29-10	1200	14.14	17.90		
CS-WB07-LGR-02	175	7-29-10	1105	14.22	45.02		39.72
CS-WB07-LGR03A	208	7-29-10	1000	14.25	41.18		
CS-WB07-LGR03B	257	7-20-10	0907	17.05	66.44		14.03
CS-WB07-LGR-04	318	7-29-10	0900	43.62	82.72		14.13
CS-WB08-UGR-01	38	7-27-10	1415	14.05	18.10		
CS-WB08-LGR-01	115	7-27-10	1320	14.07	22.91		
CS-WB08-LGR-02	193	7-27-10	1035	14.15	32.03		
CS-WB08-LGR03A	228	7-27-10	0940	14.21	37.70		
CS-WB08-LGR03B	273	7-19-10	1315	28.03	61.13		14.01
CS-WB08-LGR-04	341	7-27-10	0830	58.04	87.99		14.03
Monitoring Wells	Sample Date	Sample Time	pH	Temp	SpCond	ORP	DO
B3-MW01							
CS-D							
CS-MW16-LGR							
CS-MW16-CC							
CS-MW1-LGR							

Quarter 13
week 170

Personnel: J. Bouch; B. Butler

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvls		Monthly Field Parameters					Notes
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	
B3-MW26-UGR	20.32	7.29.10	1122	14.10	6.61	20.26	0.472	-239.8	0.35	
B3-MW27-UGR	17.00	7.29.10	1135	11.20	7.00 7.00	24.14	0.400 0.400	-169.5	0.29	
B3-MW28-UGR	18.33	DRY			4.58	22.94	0.489			
B3-MW29-UGR	20.40	7.29.10	1140	18.80	6.92	20.06	0.378	-21.4	1.04	
B3-MW30-UGR	23.90	7.29.10	1140	23.00	6.83	20.40	0.453	31.2	3.73	
B3-MW31-UGR	39.06	7.29.10	1045	34.20	6.16	21.33	0.435	61.2	0.58	
B3-MW32-UGR	58.45	7.29.10	1053	47.31	6.43	21.14	0.321	-8.4	5.22	
B3-MW33-UGR	29.55	7.29.10	1102	24.50	6.72	20.28	0.393	113.4	1.29	
B3-MW34-UGR	25.40	7.29.10	1111	19.40	6.48	20.64	0.459	-141.8	0.43	0.33

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01	7.29.10	1000		6.67	21.53	1.056	-167.3	1.95	
CS-D	7.29.10	1400		7.09	22.07	0.548	21.6	1.90	
CS-MW16-LGR	7.27.10	1340		7.17	22.89	0.670	-94.9	0.33	
CS-MW16-CC	7.27.10	1450		7.06	22.39	0.571	131.8	2.03	
CS-B3-EXW01	7.23.10	1400		7.09	28.34	0.591	100.0	1.58	sampled H+ 1120 on 7/27/10
CS-B3-EXW02									
CS-MW1-LGR	7.29.10	1245		7.09	22.32	0.532	64.5	2.97	

Personnel <u>J. Bond, B. Butler</u>						
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	7/30	0909	↑	14.09 14.18	21.38
CS-WB05-LGR-02	182		0909		14.13 14.23	27.94
CS-WB05-LGR-03A	216		0908		14.17 14.29	35.65
CS-WB05-LGR-03B	262		0908		23.90 23.19	55.58
CS-WB05-LGR-04A	277		0907		30.43 29.70	61.56
CS-WB05-LGR-04B	329		0906		53.06 52.31	84.00
CS-WB05-BS-01	362		0904		67.40 66.66	100.39
CS-WB05-CC-01	432		0902		97.81 97.06	99.58
CS-WB05-CC-02	460		0900		109.95 14.14 109.20	112.22
CS-WB06-UGR-01	20		↓		0943	14.14
CS-WB06-LGR-01	93	0942		14.11 14.19	16.49	
CS-WB06-LGR-02	174	0940		14.13 14.23	39.85	
CS-WB06-LGR-03A	207	0938		14.17 14.24	49.55	
CS-WB06-LGR-03B	260	0937		24.88 25.34	72.45	
CS-WB06-LGR-04	320	0935		50.95 51.40	85.50	
CS-WB07-UGR-01	14	↓	0957	14.14	14.07 14.14	15.78
CS-WB07-LGR-01	90		0956		14.10 14.17	17.75
CS-WB07-LGR-02	175		0954		14.13 14.23	39.82
CS-WB07-LGR-03A	208		0952		14.17 14.25	40.85
CS-WB07-LGR-03B	257		0951		15.14 15.03	62.04
CS-WB07-LGR-04	318		0950		41.65 41.56	82.97
CS-WB08-UGR-01	38	↓	0925	14.12	14.07 14.14	18.21
CS-WB08-LGR-01	115		0924		14.09 14.18	23.31
CS-WB08-LGR-02	193		0923		14.13 14.22	31.05
CS-WB08-LGR-03A	228		0922		14.17 14.24	36.97
CS-WB08-LGR-03B	273		0920		26.15 26.54	56.40
CS-WB08-LGR-04	341		0919		55.69 56.08	86.50

Bioreactor Monitoring

Personnel: J. Bouch; B. Butler

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 (Y)	Notes
Date: 8-5-10		Time: 0915							
B3-T1-1	12.9	9.26	6.42	25.47	1.008	-216.2	0.66	✓	took readings @ T1-1 again pH 6.44 Temp 26.10 SpCond 0.985 DO-0.33, ORP -288.1
B3-T1-2	12.4	9.38	6.48	26.48	1.011	-250.9	0.43		
B3-T1-3	12.85	9.03	6.50	25.26	0.972	-273.0	0.35	✓	
B3-T2-1	9.67	DRY	6.43	26.11	0.985				
B3-T2-2	10.01	DRY	6.50	25.26	0.972				
B3-T3-1	9.96	DRY							
B3-T4-2	7.4	DRY							
B3-T5-1	6.32	DRY							
B3-T5-2	9.33	DRY							
B3-T5-2	7.98	7.96							
B3-T6-1	11.45	10.30							
B3-T6-2	12.34	10.95	6.45	26.62	0.927	-273.4	0.94	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	8.2.10	0858	8.3.10	0852	8.4.10	0919	8.5.10	0909	8.6.10	0855
	Rate (gpm) / Cumulative Total (gal)									
T-1	7.76	4254580	7.01	4272683	20.0	4290207	19.9	4307935	8.28	43271614
T-2										
T-3										
T-4										
T-5										
T-6	6.25	909667	5.47	935714	38.5	955036	29.3	978872	7.12	1001139
B-3 (Total)										
CS-MW16-LGR	14.24	920986	11.35	938627	0	949545	0	956601	14.02	968291
CS-MW16-CC	24.56	372009	24.45	391773	0	412084	0	437765	23.97	452792
B3-EXW01	11.84	3388386	11.91	3378039	0	3407928	0	3418066	0	3428162

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = Note: If bag filter pressure drop is > or = 10 psi change filter.

	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 47 - 39 = 3	PB-1 - PB-2 = 47 - 39 = 3	PB-1 - PB-2 = 0 - 0 = 0
Notes:	MW16 LGR = 200.09 MW16 CC = 305.31 B3EXW01 = 200.90	MW16 LGR = 198.13 MW16 CC = 305.51 B3EXW01 = 196.40	MW16 LGR = 181.19 MW16 CC = 242.52 B3EXW01 = 175.50	MW16 LGR = 178.55 MW16 CC = 237.64 B3EXW01 = 170.90	MW16 LGR = 205.2 MW16 CC = 319.5 B3EXW01 = 206.8

Tank 1/2 off

Tank is 7/16 full

Tank 3/4 full
Week 171

Tank is 7/16 full

Tank is 3/4 full
changed bag filter

Personnel		J. Bouch; B. Butler				
Weekly Water Level Monitoring						
Well Interval	Sampling Port Depth (ft BTDC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	8/3/10	1315	14.11	14.09 14.19	15.75
CS-WB05-LGR-02	182		1314		14.13 14.20	21.76
CS-WB05-LGR-03A	216		1313		14.17 14.23	34.37
CS-WB05-LGR-03B	262		1312		23.90 23.13	54.29
CS-WB05-LGR-04A	277		1311		30.43 29.66	60.37
CS-WB05-LGR-04B	329		1310		53.06 52.28	83.07
CS-WB05-BS-01	362		1309		67.40 66.63	98.92
CS-WB05-CC-01	432		1308		97.81 97.01	101.88
CS-WB05-CC-02	460		1306		109.95 109.16	113.70
CS-WB06-UGR-01	20		↓		1349	14.13 14.10 (100)
CS-WB06-LGR-01	93	1347		14.11 14.16	16.07	
CS-WB06-LGR-02	174	1346		14.13 14.21	38.90	
CS-WB06-LGR-03A	207	1345		14.17 14.21	48.25	
CS-WB06-LGR-03B	260	1343		24.88 25.32	71.13	
CS-WB06-LGR-04	320	1342		50.95 51.38	84.56	
CS-WB07-UGR-01	14	↓	1406	14.10	14.07 14.11	15.66
CS-WB07-LGR-01	90		1405		14.10 14.14	17.89
CS-WB07-LGR-02	175		1404		14.13 14.19	39.24
CS-WB07-LGR-03A	208		1403		14.17 14.20	39.61
CS-WB07-LGR-03B	257		1401		15.14 14.99	60.80
CS-WB07-LGR-04	318		1400		41.65 41.53	81.37
CS-WB08-UGR-01	38		↓		1332	14.10
CS-WB08-LGR-01	115	1331		14.09 14.18	23.22	
CS-WB08-LGR-02	193	1330		14.13 14.21	30.25	
CS-WB08-LGR-03A	228	1329		14.17 14.22	35.84	
CS-WB08-LGR-03B	273	1328		26.15 26.49	55.29	
CS-WB08-LGR-04	341	1326		55.69 56.03	85.85	

Personnel: J. Bouch; B. Butler

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvs		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	DRP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	8-2-10	0920	14.16	6.57	20.25	0.698	-24.8	0.79	
B3-MW27-UGR	17.00	8-2-10	1015	11.34	6.64	23.66	0.739	-140.8	1.50	collected Noblis sample
B3-MW28-UGR	18.33	DRY								→
B3-MW29-UGR	20.40	8-2-10	1115	18.95	6.73	20.02	0.559	103.2	2.08	collected Noblis sample
B3-MW30-UGR	23.90	8-2-10	1320	23.09	6.72	20.49	0.670	111.4	3.59	could not get ferris iron sample - not enough water
B3-MW31-UGR	39.06	8-3-10	0910	34.20	6.60	21.48	0.649	85.6	0.70	collected Noblis sample
B3-MW32-UGR	58.45	8-3-10	1000	48.05	7.0	21.18	0.492	8.7	5.50	collected Noblis sample
B3-MW33-UGR	29.55	8-3-10	1030	24.48	6.64	20.27	0.587	77.0	1.28	collected Noblis sample
B3-MW34-UGR	25.40	8-3-10	1100	19.30	6.57	20.80	0.680	-218.1	0.40	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	DRP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Week 171

Bioreactor Monitoring

Personnel: J. Bonch, S. 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 (v)	Notes	
Date: <u>8.9.10</u>		Time: <u>0840</u>								<u>2nd set of readings</u>
B3-T1-1	12.9	<u>9.87</u>	<u>6.40</u>	<u>25.80</u>	<u>0.999</u>	<u>-294.5</u>	<u>0.62</u>	✓	pH: <u>6.43</u> Temp: <u>26.36</u> SpCond: <u>0.966</u> ORP: <u>-262.9</u> DO: <u>0.43</u>	
B3-T1-2	12.4	<u>9.45</u>	<u>6.45</u>	<u>25.95</u>	<u>1.012</u>	<u>-260.3</u>	<u>0.49</u>			
B3-T1-3	12.85	<u>9.10</u>	<u>6.42</u>	<u>25.43</u>	<u>0.858</u>	<u>-274.3</u>	<u>0.34</u>			
B3-T2-1	9.67	<u>DRY</u>								
B3-T2-2	10.01	<u>DRY</u>								
B3-T3-1	9.96	<u>9.19</u>								
B3-T3-2	7.4	<u>DRY</u>								
B3-T4-1	6.32	<u>DRY</u>								
B3-T5-1	9.33	<u>DRY</u>								
B3-T5-2	7.98	<u>7.96</u>								
B3-T6-1	11.45	<u>11.04</u>						✓		
B3-T6-2	12.34	<u>10.78</u>	<u>6.41</u>	<u>26.75</u>	<u>0.912</u>	<u>-267.7</u>	<u>0.38</u>			
B3-UIC										

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	<u>8.9.10 0830</u>	<u>8.10.10 0930</u>	<u>8.11.10 0815</u>	<u>8.12.10 0820</u>	<u>8.13.10</u>
	Rate (gpm) / Cumulative Total (gal)				
T-1	<u>8.91</u>	<u>4,382/32</u>	<u>21.2</u>	<u>4410/201</u>	<u>20.8</u>
T-2					
T-3					
T-4					
T-5					
T-6	<u>7.01</u>	<u>1070/14</u>	<u>32.1</u>	<u>1,094/230</u>	<u>31.0</u>
B-3 (Total)					
CS-MW16-LGR	<u>13.91</u>	<u>3890</u>	<u>0</u>	<u>1109/9</u>	<u>0</u>
CS-MW16-CC	<u>23.87</u>	<u>514/167</u>	<u>0</u>	<u>535/321</u>	<u>0</u>
B3-EXW01	<u>0</u>	<u>345/9056</u>	<u>0</u>	<u>3416/8381</u>	<u>0</u>

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) *Note: If bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = <u>0 - 0 = 0</u>	PB-1 - PB-2 = <u>41 - 41 = 0</u>	PB-1 - PB-2 = <u>41 - 40 = 1</u>	PB-1 - PB-2 = <u>42 - 41 = 1</u>	PB-1 - PB-2 = <u>42 - 40 = 2</u>
Notes: MW16 LGR = <u>208.8</u> MW16 CC = <u>326.7</u> B3EXW01 = <u>209.7</u>	MW16 LGR = <u>187.97</u> MW16 CC = <u>253.12</u> B3EXW01 = <u>183.10</u>	MW16 LGR = <u>187.22</u> MW16 CC = <u>252.91</u> B3EXW01 = <u>181.10</u>	tank = <u>5/8 full</u>	tank <u>1/2 full</u> *looking at quick trends, + look like the value at EXW01

Tank is 3/4 full

Tank is 3/4 full
- EXW01 shut off @ 1550
for plumbing
- turned back on 1550

Tank is 3/4 full
Week 172

was bumped 8/12 w 1330
USA has been working on plumbing between EXW01 + EXW02
↓ OVER

Personnel: J. Bouchy, S. Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtr/lvs		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	8-9-10	1008	14.21	6.58	20.40	0.816	-296.4	0.41	
B3-MW27-UGR	17.00	 ↓ V	1017	11.84	6.82	22.90	0.817	39.9	4.92	
B3-MW28-UGR	18.33		DRY							
B3-MW29-UGR	20.40		20.02 ⁵	1015	not enough water					
B3-MW30-UGR	23.90		1031	23.47	not enough water					
B3-MW31-UGR	39.06		0925	34.75	6.25	21.29	0.774	9.6	0.82	
B3-MW32-UGR	58.45		0935	48.95	6.79	21.20	0.583	22.8	4.50	
B3-MW33-UGR	29.55		0946	24.88	6.75	20.78	0.704	97.3	1.29	
B3-MW34-UGR	25.40		0957	19.47	6.47	20.77	0.800	150 (mV)	0.55	

Quarterly Monitoring Well Field Parameters -234.7

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel		J. Bouché; S. 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	8/9/10	1050	14.07	14.09 14.14	21.34
CS-WB05-LGR-02	182		1049		14.13 14.17	20.11
CS-WB05-LGR-03A	216		1049		14.17 14.20	32.39
CS-WB05-LGR-03B	262		1047		23.90 23.05	52.31
CS-WB05-LGR-04A	277		1046		30.43 29.57	58.26
CS-WB05-LGR-04B	329		1045		53.06 52.19	80.73
CS-WB05-BS-01	362		1045		67.40 66.54	96.82
CS-WB05-CC-01	432		1044		97.81 96.93	95.50
CS-WB05-CC-02	460		1043		109.95 109.09	108.15
CS-WB06-UGR-01	20		1117	14.08	14.05 14.10	16.69
CS-WB06-LGR-01	93		1116		14.11 14.14	16.44
CS-WB06-LGR-02	174		1116		14.13 14.17	37.41
CS-WB06-LGR-03A	207		1115		14.17 14.20	46.62
CS-WB06-LGR-03B	260		1114		24.88 25.30	69.52
CS-WB06-LGR-04	320		1112		50.95 51.36	81.92
CS-WB07-UGR-01	14		1130	14.11	14.07 14.08	15.58
CS-WB07-LGR-01	90		1129		14.10 14.14	17.89
CS-WB07-LGR-02	175		1128		14.13 14.17	38.47
CS-WB07-LGR-03A	208		1127		14.17 14.20	37.92
CS-WB07-LGR-03B	257		1127		15.14 14.94	59.11
CS-WB07-LGR-04	318		1126		41.65 41.50	79.04
CS-WB08-UGR-01	38		1104	14.08	14.07 14.09	18.08
CS-WB08-LGR-01	115		1103		14.09 14.13	23.10
CS-WB08-LGR-02	193		1102		14.13 14.16	29.14
CS-WB08-LGR-03A	228		1102		14.17 14.20	33.49
CS-WB08-LGR-03B	273		1101		26.15 26.45	52.94
CS-WB08-LGR-04	341		1100		55.69 56.00	82.36

Bioreactor Monitoring

Personnel: J. Bouch; A. Lindley
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: 8.17.10		Time: 0848							
B3-T1-1 *	12.9	9.93	6.37	26.11	1.020	-277.1	0.46	✓	ⓐ 0855
B3-T1-2 *	12.4	9.50	6.44	26.55	0.958	-265.8	0.28		ⓑ 0925
B3-T1-3 *	12.85	9.16	6.43	25.30	0.853	-298.9	0.23		ⓒ 1010
B3-T2-1	9.67	dry							
B3-T2-2	10.01	dry							
B3-T3-1 *	9.96	9.20	6.46	32.46	0.864	-229.0	0.29		
B3-T3-2	7.1	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	dry							
B3-T6-1	11.45	10.98						✓	ⓐ 1030
B3-T6-2 *	12.34	10.76	6.44	26.70	0.906	-187.3	0.45		ⓑ 0954
B3-UIC			7.44	24.66	0.636	-3.3	6.22		

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	8.16.10 0925	8.17.10 0937	8.18.10 1025	8.17.10 0930	8.18.10 1030
	Rate (gpm) / Cumulative Total (gal)				
T-1	20.2 4515694	7.49 4533757	19.5 4553490	4.24 4570682	6.85 4589198
T-2					
T-3					
T-4					
T-5					
T-6	29.4 1232636	16.32 1254021	30.0 12748521	5.56 1279899	5.37 1322880
B-3 (Total)					
CS-MW16-LGR	8 85430	13.68 96650	8 1081699	13.52 119532	13.07 131200
CS-MW16-CC	8 655564	23.71 675119	8 696135	23.71 715037	23.60 735579
B3-EXW01	0 3533374	12.59 354315	12.553 3555317	12.60 3564914	12.63 3573154

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) * Note: if bag filter pressure drop is > or = 10 psi change filter.

PB-1 - PB-2 = 38 - 43 = 5 PB-1 - PB-2 = 0 - 0 = 0 PB-1 - PB-2 = 43 - 38 = 5 PB-1 - PB-2 = 42 - 38 = 4 PB-1 - PB-2 = 44 - 31 = 13

Notes: Tank 1/2 full Tank is 9/10 full LGR 16 = 215.7 LGR 16 = 209.9 Tank is 1/2 full
 MW16LGR = 214.40 CC 16 = 335.5 CC 16 = 325.7 changed BF
 MW16CC = 332.49 EXW01 = 219.1 B3EXW01 = 210.2 LGR 16 = 217.18
 B3EXW01 = 215.70 Tank is 1/2 full Tank is 1/2 full CC 16 = 334.94
 Week 173 B3EXW01 = 217.90

Personnel: J. Bouch, A. Lindley

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvs		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	DRP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	8/18/10	1226	14.70	6.63	21.55	0.477	-161.8	0.73	
B3-MW27-UGR	17.00	8/18/10	1213	11.74	6.69	24.27	0.498	109.4	4.67	
B3-MW28-UGR	18.33	8/18/10	DRY							
B3-MW29-UGR	20.40	8/18/10	20.05	20.01	not enough water					
B3-MW30-UGR	23.90	8/18/10	1940	23.44	not enough water					
B3-MW31-UGR	39.06	8/18/10	1122	24.93	6.73	21.01	0.471	104.7	1.10	
B3-MW32-UGR	58.45	8/18/10	49.90	1047	6.85	21.12	0.342	34.8	4.92	
B3-MW33-UGR	29.55	8/18/10	1056	24.64	6.72	20.32	0.432	103.8	1.73	
B3-MW34-UGR	25.40	8/18/10	1030	19.53	6.27	20.81	0.482	-185.5	0.80	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	DRP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel		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)
A. Lindley, J. Borden						
CS-WB05-LGR-01	99	8/18/10	1043	14.07	^{14.09} 14.15	21.29
CS-WB05-LGR-02	182		1042		^{14.13} 14.21	15.19
CS-WB05-LGR-03A	216		1041		^{14.17} 14.22	29.70
CS-WB05-LGR-03B	262		1041		^{23.90} 23.00	49.63
CS-WB05-LGR-04A	277		1040		^{30.43} 29.50	85.88
CS-WB05-LGR-04B	329		1037		^{53.06} 52.11	78.67
CS-WB05-BS-01	362		1037		^{67.40} 66.44	94.04
CS-WB05-CC-01	432		1036		^{97.81} 96.85	94.71
CS-WB05-CC-02	460		1034		^{109.95} 109.01	106.54
CS-WB06-UGR-01	20	8-18-10	1154	14.08	^{14.05} 14.09	16.61
CS-WB06-LGR-01	93		1153		^{14.11} 14.12	16.42
CS-WB06-LGR-02	174		1152		^{14.13} 14.15	37.12
CS-WB06-LGR-03A	207		1151		^{14.17} 14.19	45.06
CS-WB06-LGR-03B	260		1150		^{24.88} 25.22	67.96
CS-WB06-LGR-04	320		1149		^{50.95} 51.29	79.77
CS-WB07-UGR-01	14	8-18-10	1228	14.09	^{14.07} 14.06	15.52
CS-WB07-LGR-01	90		1226		^{14.10} 14.14	17.84
CS-WB07-LGR-02	175		1224		^{14.13} 14.16	37.49
CS-WB07-LGR-03A	208		1222		^{14.17} 14.18	35.81
CS-WB07-LGR-03B	257		1221		^{15.14} 14.89	57.00
CS-WB07-LGR-04	318		1220		^{41.65} 41.44	76.10
CS-WB08-UGR-01	38	8-18-10	1120	14.10	^{14.07} 14.11	18.04
CS-WB08-LGR-01	115		1119		^{14.09} 14.14	23.03
CS-WB08-LGR-02	193		1118		^{14.13} 14.18	27.65
CS-WB08-LGR-03A	228		1116		^{14.17} 14.19	31.22
CS-WB08-LGR-03B	273		1115		^{26.15} 26.39	50.69
CS-WB08-LGR-04	341		1114		^{55.69} 55.92	80.56

8/16/10 14/10
 Atm inside 24.92
 zone 50.17

8-16-10 1040
 Atm 14.09
 inside: 27.22
 zone 68.36

8-16-10 14.07
 Atm: 1320
 Inside: 16.87
 zone: 57.40

8/14/10 0950
 Atm 14.07
 inside 29.39
 zone 51.45

Bioreactor Monitoring

Personnel: J. Bouch, S. 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 (v)	Notes
Date: <u>8-26-10</u>		Time: <u>0935</u>							
B3-T1-1	12.9	<u>10.16</u>	<u>6.44</u>	<u>25.75</u>	<u>0.562</u>	<u>-203.0</u>	<u>0.61</u>	✓	Sump T1 - Lph <u>6.43</u> T <u>25.83</u> mS <u>0.561</u> DO <u>0.21</u> ORP <u>-263.0</u>
B3-T1-2	12.4	<u>9.80</u>	<u>6.46</u>	<u>26.56</u>	<u>0.558</u>	<u>-175.0</u>	<u>0.40</u>		
B3-T1-3	12.85	<u>9.30</u>	<u>6.55</u>	<u>25.09</u>	<u>0.468</u>	<u>-275.0</u>	<u>0.20</u>		
B3-T2-1	9.67	<u>dry</u>							
B3-T2-2	10.01	<u>dry</u>							
B3-T3-1	9.96	<u>9.20</u>							
B3-T3-2	7.4	<u>dry</u>							
B3-T4-1	6.32	<u>dry</u>							
B3-T5-1	9.33	<u>dry</u>							
B3-T5-2	7.98	<u>dry</u>							
B3-T6-1	11.45	<u>10.83</u>	<u>6.47</u>	<u>24.30</u>	<u>0.433</u>	<u>-210.6</u>	<u>0.23</u>	✓	
B3-T6-2	12.34	<u>10.48</u>	<u>6.47</u>	<u>27.14</u>	<u>0.520</u>	<u>-20.0</u>	<u>0.27</u>		
B3-UIC						<u>-199.3</u>	<u>0.26</u>		

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	<u>8-23-10</u>	<u>1017</u>	<u>8-24-10</u>	<u>1000</u>	<u>8-25-10</u>	<u>1000</u>	<u>8-26-10</u>	<u>0925</u>	<u>8-27-10</u>	<u>0930</u>
	Rate (gpm) / Cumulative Total (gal)									
T-1	<u>6.97</u>	<u>4,642,599</u>	<u>19.3</u>	<u>4,660,034</u>	<u>7.33</u>	<u>4,677,570</u>	<u>19.6</u>	<u>4,693,690</u>	<u>20</u>	<u>4,710,156</u>
T-2										
T-3										
T-4										
T-5										
T-6	<u>5.85</u>	<u>1,374,336</u>	<u>30.6</u>	<u>1,415,157</u>	<u>6.16</u>	<u>1,438,365</u>	<u>47.4</u>	<u>1,485,799</u>	<u>46.6</u>	<u>1,498,191</u>
B-3 (Total)										
CS-MW16-LGR	<u>13.01</u>	<u>164,154</u>		<u>175,279</u>	<u>12.74</u>	<u>185,908</u>		<u>197,738</u>	<u>12.79</u>	<u>210,091</u>
CS-MW16-CC	<u>23.55</u>	<u>795,341</u>		<u>815,554</u>	<u>23.55</u>	<u>835,046</u>		<u>857,393</u>	<u>25.20</u>	<u>880,232</u>
B3-EXW01	<u>12.68</u>	<u>3,604,571</u>		<u>3,618,423</u>	<u>12.58</u>	<u>3,628,770</u>		<u>3,648,770</u>		<u>3,653,023</u>
B3-EXW02										

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = Note: If bag filter pressure drop is > or = 10 psi change filter.

	PB-1 - PB-2 = <u>0-0=0</u>	PB-1 - PB-2 = <u>42-41=1</u>	PB-1 - PB-2 = <u>0-0=0</u>	PB-1 - PB-2 = <u>38-36=2</u>	PB-1 - PB-2 = <u>38-36=0</u>
Notes:	MW16LGR <u>171.3</u> MW16CC <u>257.3</u> B3EXW01 <u>183.7</u> B3EXW02 SCADA quick trends looks OK	MW16LGR <u>176.7</u> MW16CC <u>267.50</u> B3EXW01 <u>192.40</u> B3EXW02 SCADA quick trends looks OK	MW16LGR <u>192.1</u> MW16CC <u>258.0</u> B3EXW01 <u>184.5</u> B3EXW02 SCADA quick trends looks OK	MW16LGR <u>193.96</u> MW16CC <u>266.0</u> B3EXW01 <u>184.90</u> B3EXW02 SCADA quick trends looks OK	MW16LGR <u>202.6</u> MW16CC <u>276.1</u> B3EXW01 <u>206.1</u> B3EXW02 SCADA quick trends looks OK

Tank is 1/2 full

Tank is 1/4 full

Tank is 1/2 full
Week #14

did not right write it down

Tank is 1/4 full

100
100
100

SALTS

9/7/12

+ wallace@carbonair.com
pbeck@carbonair.com

1845
1083
762

Personnel: J. bowen

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvs		Monthly Field Parameters					Notes
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	
B3-MW26-UGR	20.32	8-26-10	1146	14.31	6.71	21.10	0.469	-185.1	0.33	
B3-MW27-UGR	17.00	8-26-10	1130	11.90	6.65	22.88	0.487	31.0	1.44	
B3-MW28-UGR	18.33	8-26-10	1127				DRY			
B3-MW29-UGR	20.40	8-26-10	1121	20.03	not enough water					
B3-MW30-UGR	23.90	8-26-10	1116	23.42	not enough water					
B3-MW31-LGR	39.06	8-26-10	1108	35.05	6.76	21.04	0.459	25.4	0.94	
B3-MW32-LGR	58.45	8-26-10	1058	50.56	6.80	20.98	0.339	25.4	6.17	
B3-MW33-LGR	29.55	8-26-10	1043	24.62	6.70	20.42	0.421	-4.6	1.41	
B3-MW34-UGR	25.40	1957	1080	8-26-10	6.12	20.74	0.486	-206.3	0.29	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Week 174

Personnel: S. Elliott + J. Bouch						
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	8-25-10	1015	14.12	14.09 14.17	21.27
CS-WB05-LGR-02	182		1014		14.13 14.21	15.90
CS-WB05-LGR-03A	216		1013		14.17 14.24	27.59
CS-WB05-LGR-03B	262		1012		23.90 22.99	47.52
CS-WB05-LGR-04A	277		1011		30.43 29.51	53.64
CS-WB05-LGR-04B	329		1010		53.06 52.11	76.17
CS-WB05-BS-01	362		1009		67.40 66.46	91.94
CS-WB05-CC-01	432		1008		97.81 96.85	88.12
CS-WB05-CC-02	460		1008		109.95 109.01	100.75
CS-WB06-UGR-01	20		1041		14.14	14.05 14.13
CS-WB06-LGR-01	93		1040	14.11 14.18		16.44
CS-WB06-LGR-02	174		1040	14.13 14.21		36.41
CS-WB06-LGR-03A	207		1039	14.17 14.24		43.86
CS-WB06-LGR-03B	260		1038	24.88 25.26		66.75
CS-WB06-LGR-04	320		1037	50.95 51.32		77.72
CS-WB07-UGR-01	14		1055	14.15		14.07 14.14
CS-WB07-LGR-01	90		1054		14.10 14.18	17.92
CS-WB07-LGR-02	175		1053		14.13 14.23	36.84
CS-WB07-LGR-03A	208		1052		14.17 14.24	34.24
CS-WB07-LGR-03B	257		1051		15.14 14.96	55.43
CS-WB07-LGR-04	318		1050		41.65 41.49	74.03
CS-WB08-UGR-01	38		1026	14.11	14.07 14.14	18.06
CS-WB08-LGR-01	115		1027		14.09 14.17	23.02
CS-WB08-LGR-02	193		1026		14.13 14.21	26.73
CS-WB08-LGR-03A	228		1026		14.17 14.23	28.82
CS-WB08-LGR-03B	273		1025		26.15 26.41	48.28
CS-WB08-LGR-04	341		1024		55.69 55.96	77.94

Bioreactor Monitoring

Personnel: <i>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 (Y)	Notes		
Date: <i>9-2-10</i>		Time: <i>1500</i>									
B3-T1-1	12.9	<i>10.14</i>	<i>6.34</i>	<i>25.63</i>	<i>0.549</i>	<i>-268.9</i>	<i>0.16</i>	✓	<i>outside temp = 95°</i>		
B3-T1-2	12.4	<i>9.68</i>	<i>6.34</i>	<i>26.80</i>	<i>0.548</i>	<i>-153.4</i>	<i>0.34</i>				
B3-T1-3	12.85	<i>9.32</i>	<i>6.04</i>	<i>24.94</i>	<i>0.462</i>	<i>-267.9</i>	<i>0.27</i>				
B3-T2-1	9.67	<i>dry</i>	-	-	-	-	-	no			
B3-T2-2	10.01	<i>dry</i>	-	-	-	-	-	no			
B3-T3-1	9.96	<i>9.23</i>	<i>6.53</i>	<i>33.85</i>	<i>0.513</i>	<i>-201.9</i>	<i>0.11</i>	no			
B3-T3-2	7.4	<i>dry</i>	-	-	-	-	-	no			
B3-T4-1	6.32	<i>dry</i>	-	-	-	-	-	no			
B3-T5-1	9.33	<i>dry</i>	-	-	-	-	-	no			
B3-T5-2	7.98	<i>dry</i>	-	-	-	-	-	no			
B3-T6-1	11.45	<i>10.75</i>	<i>6.48</i>	<i>24.31</i>	<i>0.412</i>	<i>-201.7</i>	<i>0.18</i>	✓			
B3-T6-2	12.34	<i>10.60</i>	<i>6.49</i>	<i>26.82</i>	<i>0.529</i>	<i>-223.5</i>	<i>0.25</i>	✓			
B3-UIC											
B-3 Transfer System Monitoring											
Flow Meters Readings											
Meter	Monday		Tuesday		Wednesday		Thursday		Friday		
Date/Time:	<i>9-2-10</i>	<i>1330</i>	<i>9-31-10</i>		<i>9-1-10</i>	<i>1225</i>	<i>9-2-10</i>	<i>1230</i>	<i>9-5-10</i>	<i>1130</i>	
	Rate (gpm) / Cumulative Total (gal)										
T-1	<i>2.75</i>	<i>4760840</i>			<i>18.9</i>	<i>4792200</i>	<i>18.8</i>	<i>4807956</i>	<i>7.05</i>	<i>4823195</i>	
T-2											
T-3											
T-4											
T-5											
T-6	<i>10.2</i>	<i>1592201</i>	<i>Not monitored</i>		<i>45.2</i>	<i>1649549</i>	<i>44.2</i>	<i>1677790</i>	<i>8.01</i>	<i>1705448</i>	
B-3 (Total)											
CS-MW16-LGR	<i>1243</i>				<i>not</i>	<i>270656</i>	<i>not</i>	<i>281911</i>	<i>11.48</i>	<i>292111</i>	
CS-MW16-CC	<i>23.10</i>				<i>pumping</i>	<i>996272</i>	<i>not</i>	<i>18860</i>	<i>23.33</i>	<i>39611</i>	
B3-EXW01	<i>12.34</i>				<i>pumping</i>	<i>3714732</i>	<i>pumping</i>	<i>3726758</i>	<i>12.49</i>	<i>3737807</i>	
B3-EXW02	<i>not on line</i>				<i>not on line</i>		<i>off-line</i>		<i>off-line</i>		
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)= *Note: If bag filter pressure drop is > or = 10 psi change filter.											
	PB-1 - PB-2 = <i>40-34=6</i>		PB-1 - PB-2 =		PB-1 - PB-2 = <i>41-32=9</i>		PB-1 - PB-2 = <i>42-32=10</i>		PB-1 - PB-2 = <i>changed filter, 0</i>		
Notes:	MW16LGR	<i>224.75'</i>	<i>ran normally - no problems</i>		<i>200.45</i>	<i>206.04</i>		<i>222.58</i>			
	MW16CC	<i>350.55'</i>			<i>274.49</i>	<i>281.13</i>		<i>347.38</i>			
	B3EXW01	<i>226.9'</i>			<i>192.9</i>	<i>206.8</i>		<i>223.0</i>			
	B3EXW02	-			<i>SCADA - OK</i>	<i>SCADA - OK</i>		<i>SCADA - OK</i>			
	SCADA	<i>OK</i>			<i>Tank = 9/16, Pumping</i>		<i>Tank = 3/4, T/P running</i>		<i>Tank = 7/16, filling</i>		

Personnel: Tennyson

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvs		weekly Monthly Field Parameters					Notes
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	
B3-MW26-UGR	20.32	9-2-10	1745	14.32	6.72	20.75	0.470	-277.9	0.21	
B3-MW27-UGR	17.00		1721	11.90	6.66	22.12	0.489	-301.0	0.23	
B3-MW28-UGR	18.33		1712	dry	-	-	-	-	-	dry
B3-MW29-UGR	20.40		1703	20.02	-	-	-	-	-	insufficient water (<6")
B3-MW30-UGR	23.90		1648	23.41	6.84	21.28	0.463	103.1	4.23	
B3-MW31-UGR	39.06		1635	35.19	6.74	21.90	0.464	96.1	0.72	
B3-MW32-UGR	58.45		1620	50.95	7.05	21.27	0.346	25.4	4.40	
B3-MW33-UGR	29.55		1605	24.71	6.76	21.36	0.422	71.4	1.14	
B3-MW34-UGR	25.40		✓ 1550	19.53	6.45	20.75	0.466	-223.5	0.17	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel		<i>Tennyson</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	<i>9-2-10</i>	1230	<i>14.01</i>	14.09 14.11	21.24
CS-WB05-LGR-02	182		1228		14.13 14.15	14.16
CS-WB05-LGR-03A	216		1226		14.17 14.16	25.02
CS-WB05-LGR-03B	262		1224		23.90 22.89	44.94
CS-WB05-LGR-04A	277		1222		30.43 29.39	50.48
CS-WB05-LGR-04B	329		1220		53.06 52.01	72.96
CS-WB05-BS-01	362		1218		67.40 66.35	89.02
CS-WB05-CC-01	432		1216		97.81 96.74	81.09
CS-WB05-CC-02	460		1214		109.95 108.91	93.72
CS-WB06-UGR-01	20		1326	<i>14.04</i>	14.05 14.06	16.77
CS-WB06-LGR-01	93		1324		14.11 14.10	16.40
CS-WB06-LGR-02	174		1322		14.13 14.13	36.69
CS-WB06-LGR-03A	207		1320		14.17 14.17	42.77
CS-WB06-LGR-03B	260		1318		24.88 25.17	65.66
CS-WB06-LGR-04	320		1316		50.95 51.23	75.77
CS-WB07-UGR-01	14		1255	<i>14.05</i>	14.07 14.06	15.44
CS-WB07-LGR-01	90		1253		14.10 14.11	18.02
CS-WB07-LGR-02	175		1251		14.13 14.12	36.11
CS-WB07-LGR-03A	208		1249		14.17 14.14	32.32
CS-WB07-LGR-03B	257		1247		15.14 14.87	53.51
CS-WB07-LGR-04	318		1245		41.65 41.40	71.64
CS-WB08-UGR-01	38		1348	<i>14.03</i>	14.07 14.08	18.06
CS-WB08-LGR-01	115		1346		14.09 14.10	22.76
CS-WB08-LGR-02	193		1344		14.13 14.14	25.89
CS-WB08-LGR-03A	228		1342		14.17 14.19	26.13
CS-WB08-LGR-03B	273		1340		26.15 26.33	45.61
CS-WB08-LGR-04	341		1338		55.69 55.88	75.72

Bioreactor Monitoring

Personnel: *Tennyson*

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 (v)	Notes
Date: <i>9-10-10</i>		Time: <i>1500</i>							
B3-T1-1	12.9	7.49	6.57	25.20	0.751	-35.4*	0.35	✓	* checked twice.
B3-T1-2	12.4	7.15	6.52	27.39	0.775	-281.2	0.23		
B3-T1-3	12.85	6.79	7.08	24.43	0.376	-141.1	0.19		
B3-T2-1	9.67	8.90	6.60	31.39	1.448	-173.4	0.84	no	
B3-T2-2	10.01	8.84	6.74	33.74	0.805	-206.4	0.18		
B3-T3-1	9.96	8.56	6.84	29.71	0.376	-29.6*	0.20	no	
B3-T3-2	7.4	7.27	-	-	-	-	-	no	} insufficient water.
B3-T4-1	6.32	6.25	-	-	-	-	-	no	
B3-T5-1	9.33	9.22	-	-	-	-	-	no	
B3-T5-2	7.98	7.78	-	-	-	-	-		
B3-T6-1	11.45	10.54	6.69	24.20	0.510	-94.5	0.22	✓	No standing water in trenches despite 5-6" rain Tue-Wed.
B3-T6-2	12.34	10.35	6.61	26.08	0.554	-236.7	0.24		
B3-UIC									

B-3 Transfer System Monitoring

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
	Date/Time		Date/Time		Date/Time		Date/Time		Date/Time	
	<i>9-6-10</i>	-	<i>9-7-10</i>	<i>1426</i>	<i>9-8-10</i>	<i>1350</i>	<i>9-9-10</i>	<i>0945</i>	<i>9-10-10</i>	<i>1105</i>
	Rate (gpm) / Cumulative Total (gal)									
T-1			<i>7.56</i>	<i>4889619</i>	<i>7.21</i>	<i>4905776</i>	<i>7.90</i>	<i>4919208</i>	<i>19.2</i>	<i>4936436</i>
T-2										
T-3										
T-4										
T-5										
T-6			<i>9.77</i>	<i>1829730</i>	<i>7.95</i>	<i>1860149</i>	<i>9.98</i>	<i>1884618</i>	<i>45.1</i>	<i>1916997</i>
B-3 (Total)										
CS-MW16-LGR			<i>11.34</i>	<i>339541</i>	<i>13.74</i>	<i>351176</i>	<i>13.96</i>	<i>362538</i>	n/r	<i>376517</i>
CS-MW16-CC			<i>23.09</i>	<i>135950</i>	<i>24.51</i>	<i>157777</i>	<i>23.07</i>	<i>176884</i>	n/r	<i>199960</i>
B3-EXW01			<i>12.25</i>	<i>3789002</i>	<i>13.28</i>	<i>3801028</i>	<i>13.60</i>	<i>3812152</i>	n/r	<i>3825846</i>
B3-EXW02			off line		off line		off line		n/r	
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) *Note: If bag filter pressure drop is > or = 10 psi change filter.										
	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =
		<i>4</i>	<i>38-35 = 3</i>	<i>40-35 = 5</i>	<i>40-34 = 6</i>					
Notes:	MW16LGR	<i>226.2</i>	<i>181.0</i>	<i>167.41</i>	<i>155.76</i>					
	MW16CC	<i>356.4</i>	<i>326.9</i>	<i>353.28</i>	<i>350.24</i>					
	B3EXW01	<i>230.2</i>	<i>175.8</i>	<i>183.50</i>	<i>177.2</i>					
	B3EXW02									
	SCADA	sys. SCADA - OK	SCADA - ?	SCADA - ?	SCADA - OK					
		Tank = 5/8, filling	Tank 5/16, filling	Tank 3/4, filling	13/16, filling, T/P just on					

Personnel: Tennyson

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvs		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	9-10-10	1500	13.69	6.65	20.90	0.469	-281.3	0.34	
B3-MW27-UGR	17.00	↓	1450	9.07	6.27	21.98	0.486	-272.2	0.41	
B3-MW28-UGR	18.33		1443	dry	-	-	-	-	-	dry
B3-MW29-UGR	20.40		1200	20.03	-	-	-	-	-	insufficient H ₂ O
B3-MW30-UGR	23.90		1145	23.41	6.77	21.14	0.463	174.1	4.46	
B3-MW31-UGR	39.06		1130	32.98	6.51	21.42	0.492	168.9	1.02	
B3-MW32-UGR	58.45		1428	38.88	6.39	20.95	0.339	73.9	4.74	
B3-MW33-UGR	29.55		1415	21.17	6.49	20.54	0.727	9.3	1.28	
B3-MW34-UGR	25.40		1400	18.55	6.42	20.87	0.488	-255.8	0.61	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

28.50
29.9

Personnel		<i>Tennyson</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	9-10-10	0945	14.04	14.09 14.10	21.31
CS-WB05-LGR-02	182	↓	0943		14.13 14.15	16.86
CS-WB05-LGR-03A	216		0940		14.17 14.16	49.77
CS-WB05-LGR-03B	262		0937		23.90 22.90	64.70
CS-WB05-LGR-04A	277		0935		30.43 29.42	76.81
CS-WB05-LGR-04B	329		0933		53.06 52.03	100.19
CS-WB05-BS-01	362		0931		67.40 66.37	106.44
CS-WB05-CC-01	432		0929		97.81 96.77	86.18
CS-WB05-CC-02	460		↓		109.95 108.92	97.93
CS-WB06-UGR-01	20		9-10-10	1035	14.07	14.05 14.07
CS-WB06-LGR-01	93	↓	1032	14.11 14.11		19.41
CS-WB06-LGR-02	174		1029	14.13 14.15		50.99
CS-WB06-LGR-03A	207		1026	14.17 14.16		49.11
CS-WB06-LGR-03B	260		1024	24.88 25.20		72.00
CS-WB06-LGR-04	320		↓	50.95 51.26		102.28
CS-WB07-UGR-01	14		9-10-10	1059	14.05	14.07 14.07
CS-WB07-LGR-01	90	↓	1057	14.10 14.11		18.46
CS-WB07-LGR-02	175		1055	14.13 14.14		14.31 41.31
CS-WB07-LGR-03A	208		1053	14.17 14.16		39.94
CS-WB07-LGR-03B	257		1049	15.14 14.90		61.11
CS-WB07-LGR-04	318		↓	41.65 41.41		100.74
CS-WB08-UGR-01	38		9/10/10	1010	14.04	14.07 14.08
CS-WB08-LGR-01	115	↓	1008	14.09 14.10		22.57
CS-WB08-LGR-02	193		1005	14.13 14.15		25.75
CS-WB08-LGR-03A	228		1004	14.17 14.18		48.15
CS-WB08-LGR-03B	273		1002	26.15 26.35		67.61
CS-WB08-LGR-04	341		↓	55.69 55.91		99.26

Bioreactor Monitoring

Personnel: <i>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>9-17-10</i>		Time: <i>1015</i>																												
B3-T1-1	12.9	8.27	6.56	25.70	0.730	-97.3	0.28																							
B3-T1-2	12.4	7.88	6.52	27.26	0.763	-278.4	0.25	✓																						
B3-T1-3	12.85	7.54	6.49	24.43	0.389	-264.0	0.26	✓																						
B3-T2-1	9.67	9.11	6.65	32.07	1.266	-141.0	0.69	no																						
B3-T2-2	10.01	9.15	6.81	32.68	0.844	-186.2	0.39	no																						
B3-T3-1	9.96	9.18	6.40	30.85	0.388	-52.8	0.33	no	(ORP = -52.8)																					
B3-T3-2	7.4	dry	—	—	—	—	—	no	} insufficient water																					
B3-T4-1	6.32	dry	—	—	—	—	—	no																						
B3-T5-1	9.33	9.27	—	—	—	—	—	no																						
B3-T5-2	7.98	7.84	—	—	—	—	—	no																						
B3-T6-1	11.45	10.66	6.60	23.82	0.469	-276.9	0.29	✓																						
B3-T6-2	12.34	10.52	6.60	25.69	0.528	-219.0	0.31	✓																						
B3-UIC																														
B-3 Transfer System Monitoring																														
Flow Meters Readings																														
Meter	Monday		Tuesday		Wednesday		Thursday		Friday																					
Date/Time:	<i>9-13-10</i>	<i>1120</i>	<i>9-14</i>	<i>1030</i>	<i>9-15</i>	<i>1004</i>	<i>9-16</i>	<i>1345</i>	<i>9-17-10</i>	<i>0925</i>																				
	Rate (gpm) / Cumulative Total (gal)																													
T-1	<i>18.6</i>	<i>4985345</i>	<i>18.6</i>	<i>5800977</i>	<i>7.25</i>	<i>5016509</i>	<i>19.8</i>	<i>5035685</i>	<i>7.82</i>	<i>5049529</i>																				
T-2																														
T-3																														
T-4																														
T-5																														
T-6	<i>44.8</i>	<i>2009608</i>	<i>43.5</i>	<i>2039850</i>	<i>8.65</i>	<i>2069045</i>	<i>49.8</i>	<i>2106764</i>	<i>10.5</i>	<i>2132748</i>																				
B-3 (Total)																														
CS-MW16-LGR	n/r	<i>415170</i>	n/r	<i>427029</i>	<i>13.80</i>	<i>439822</i>	n/r	<i>455168</i>	<i>13.74</i>	<i>465956</i>																				
CS-MW16-CC	n/r	<i>265270</i>	n/r	<i>285482</i>	<i>23.82</i>	<i>307340</i>	n/r	<i>333759</i>	<i>24.00</i>	<i>352488</i>																				
B3-EXW01	n/r	<i>3865250</i>	n/r	<i>3877436</i>	<i>14.23</i>	<i>3890511</i>	n/r	<i>3906171</i>	<i>14.01</i>	<i>3917165</i>																				
B3-EXW02	n/r		n/r		n/r		n/r		n/r																					
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2))= *Note: If bag filter pressure drop is > or = 10 psi change filter.																														
	PB-1 - PB-2 = <i>42-32=10</i>		PB-1 - PB-2 = <i>42-30=12</i>		PB-1 - PB-2 = <i>φ dx'd filter</i>		PB-1 - PB-2 = <i>37-37=0</i>		PB-1 - PB-2 = <i>n/r</i>																					
Notes:	MW16LGR <i>127.15</i>	MW16CC <i>266.53</i>	B3EXW01 <i>135.8</i>	B3EXW02 <i>—</i>	SCADA <i>OK</i>	<i>tank - 3/4, TP running</i>	MW16LGR <i>127.53</i>	MW16CC <i>246.89</i>	B3EXW01 <i>122.0</i>	B3EXW02 <i>—</i>	SCADA <i>OK</i>	<i>tank - 5/16, TP on</i>	MW16LGR <i>147.64</i>	MW16CC <i>326.46</i>	B3EXW01 <i>168.0</i>	B3EXW02 <i>—</i>	SCADA <i>OK</i>	<i>tank @ 1/16, filling</i>	MW16LGR <i>131.26</i>	MW16CC <i>242.49</i>	B3EXW01 <i>135.7</i>	B3EXW02 <i>—</i>	SCADA <i>OK</i>	<i>tank @ 3/4, TP running</i>	MW16LGR <i>157.13</i>	MW16CC <i>321.14</i>	B3EXW01 <i>175.4</i>	B3EXW02 <i>—</i>	SCADA <i>OK</i>	<i>tank 5/8, filling</i>

n/r = not running.

Personnel: Tennyson

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvls		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW25-UGR	20.32	9/17/10	1310	13.32	6.63	21.00	0.476	-268.6	0.35	
B3-MW27-UGR	17.00	↓	1254	9.35	6.56	22.41	0.484	-240.6	0.38	
B3-MW28-UGR	18.33	↓	1246	dry	-	-	-	-	-	dry
B3-MW29-UGR	20.40	↓	1240	20.03	-	-	-	-	-	insufficient water
B3-MW30-UGR	23.90	↓	1225	23.40	6.87	21.15	0.470	18.6	5.26	only 6" water column
B3-MW31-UGR	39.06	↓	1207	33.02	6.77	21.13	0.480	-39.4	0.72	
B3-MW32-UGR	58.45	↓	1147	39.46	6.37	20.98	0.338	35.6	4.84	
B3-MW33-UGR	29.55	↓	1130	23.38	6.74	20.58	0.428	-112.7	0.57	
B3-MW34-UGR	25.40	↓	1115	18.43	6.26	20.82	0.485	257.0	0.37	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel		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	9/16	1548	14.06	14.09 14.11	21.25
CS-WB05-LGR-02	182		1545		14.13 14.15	37.60
CS-WB05-LGR-03A	216		1543		14.17 14.17	52.26
CS-WB05-LGR-03B	262		1541		23.90 22.91	72.18
CS-WB05-LGR-04A	277		1539		30.43 28.42	79.45
CS-WB05-LGR-04B	329		1537		53.06 52.03	101.94
CS-WB05-BS-01	362		1535		67.40 66.37	113.37
CS-WB05-CC-01	432		1532		97.81 96.77	95.13
CS-WB05-CC-02	460		1530		109.95 108.93	107.66
CS-WB06-UGR-01	20		V		1502	14.06
CS-WB06-LGR-01	93	1500		14.11 14.12	16.15	
CS-WB06-LGR-02	174	1450		14.13 14.15	48.33	
CS-WB06-LGR-03A	207	1448		14.17 14.18	53.49	
CS-WB06-LGR-03B	260	1446		24.88 25.20	76.39	
CS-WB06-LGR-04	320	1443		50.95 51.25	103.28	
CS-WB07-UGR-01	14	V		1605	14.06	
CS-WB07-LGR-01	90		1603	14.10 14.11		18.07
CS-WB07-LGR-02	175		1601	14.13 14.14		46.97
CS-WB07-LGR-03A	208		1559	14.17 14.16		51.79
CS-WB07-LGR-03B	257		1557	15.14 14.88		72.97
CS-WB07-LGR-04	318		1555	41.65 41.41		100.63
CS-WB08-UGR-01	38	V	1518	14.06	14.07 14.07	19.03
CS-WB08-LGR-01	115		1516		14.09 14.10	22.82
CS-WB08-LGR-02	193		1515		14.13 14.14	31.31
CS-WB08-LGR-03A	228		1510		14.17 14.16	53.18
CS-WB08-LGR-03B	273		1508		26.15 26.35	72.63
CS-WB08-LGR-04	341		1506		55.69 55.89	101.95

Bioreactor Monitoring

Personnel: J. Bouch, A. Lindley, Tennyson

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 (X)	Notes
Date: 9-21-10		Time: 0910							
B3-T1-1	12.9	8.18	6.66	30.56	1.273	-246.0	0.29	✓	00915
B3-T1-2	12.4	7.82	6.47	27.76	1.226	-205.1	0.26	✓	@0950
B3-T1-3	12.85	7.32	6.57	23.71	0.680	-206.7	0.20	✓	@1030
B3-T2-1	9.67	7.05	6.65	31.92	1.871	-161.5	1.10		
B3-T2-2	10.01	9.02	6.73	32.34	1.445	-149.9	0.25	0.17	
B3-T3-1	9.96	7.15	6.38	30.93	0.671	-64.0	0.40		
B3-T3-2	7.4								Approx. 1.25" precip. this week sporadically SAT - FRI (9/18-9/24)
B3-T4-1	6.32								
B3-T5-1	9.33	7.24							
B3-T5-2	7.98	7.73							
B3-T6-1	11.45	10.63	6.51	23.47	0.754	-220.5	0.18	✓	* not enough water for a sample
B3-T6-2	12.34	10.45	6.47	25.77	0.881	-238.9	0.26	✓	@1100
B3-UIC		7.26	7.26	23.74	0.674	-6.6	5.55		@1045

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	9-20-10 0855	9-21-10 0910	9-22-10 0936	9-23-10 1143	9-24-10 1105
Rate (gpm) / Cumulative Total (gal)					
T-1	20.4	7.37	8.01	6.97	7.76
T-2					
T-3					
T-4					
T-5					
T-6	48.9 ↑	9.68 ↑	9.04 ↑	7.87 ↑	9.61
CS-MW16-LGR	507819	5116512	5133681	5152147	5168382
CS-MW16-CC	421174	444311	467720	492381	515179
B3-EXW01	3956457	3990000	3983422	3997666	4010829
B3-EXW02					

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = *Note: If bag filter pressure drop is > cr = 10 psi change filter.

	PB-1 - PB-2 = 36.38 - 22.22 = 14.16	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 6 - 0 = 6	PB-1 - PB-2 = 40 - 34 = 6	PB-1 - PB-2 = 0 - 0 = 0
Notes:	MW16LGR 139.85 MW16CC 235.76 B3EXW01 133.80 B3EXW02 SCADA offline →	155.4 311.5 174.8 SCADA looks funny Tank is 3/4 full	132.6 234.8 135.4 SCADA looks ok Tank is 1/2 full	145.2 235.1 153.3 SCADA LOOKS OK changed bag filter Tank is 1/4 full	152.88 305.68 172.3 SCADA OK tank 2/3 full, filling, T/P off

quicktrends is flatlined

Week 178

Personnel: J. Bouch

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvls		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	9.23.10	1312	20.02	—	—	not enough water			—
B3-MW27-UGR	17.00	9.23.10	1257	8.93	6.65	25.10	0.783	29.7	1.06	
B3-MW28-UGR	18.33	9.23.10	—	—	—	—	DRY			—
B3-MW29-UGR	20.40	9.23.10	1252	13.25	6.58	21.40	0.794	-158.6	^(mV) 0.794	0.58
B3-MW30-UGR	23.90	9.23.10	1145	23.39	—	—	not enough water			—
B3-MW31-UGR	39.06	9.23.10	1200	33.02	6.48	21.18	0.801	101.5	0.53	
B3-MW32-UGR	58.45	9.23.10	1215	39.28	6.19	21.03	0.563	121.4	4.90	
B3-MW33-UGR	29.55	9.23.10	1223	23.31	6.82	20.50	0.715	-116.2	0.6	0.60
B3-MW34-UGR	25.40	9.23.10	1237	18.40	6.28	22.83	0.055	-195.1	4.64	mS is bouncing around

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel: J. Bouch, A. Lindley

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	9/22/10	0955	14.06	14.09 14.13	21.17
CS-WB05-LGR-02	182		0954		14.13	35.62
CS-WB05-LGR-03A	216		0953		14.17	50.99
CS-WB05-LGR-03B	262		0952		23.90 22.88	70.92
CS-WB05-LGR-04A	277		0951		30.43 29.40	78.04
CS-WB05-LGR-04B	329		0950		53.06 52.02	100.60
CS-WB05-BS-01	362		0949		67.40 66.35	113.18
CS-WB05-CC-01	432		0948		97.81 96.74	100.83
CS-WB05-CC-02	460		0947		109.95 108.91	113.36
CS-WB06-UGR-01	20	9/22/10	1022	14.08	14.05 14.10	17.47
CS-WB06-LGR-01	93		1021		14.11 14.14	16.45
CS-WB06-LGR-02	174		1020		14.13 14.19	45.66
CS-WB06-LGR-03A	207		1019		14.17 14.21	54.50
CS-WB06-LGR-03B	260		1018		24.88 25.17	77.39
CS-WB06-LGR-04	320		1017		50.95 51.22	100.64
CS-WB07-UGR-01	14	9/22/10	1036	14.09	14.07 14.09	16.18
CS-WB07-LGR-01	90		1035		14.10 14.13	17.97
CS-WB07-LGR-02	175		1034		14.13 14.16	44.71
CS-WB07-LGR-03A	208		1033		14.17 14.20	51.84
CS-WB07-LGR-03B	257		1032		15.14 14.86	73.03
CS-WB07-LGR-04	318		1031		41.65 41.41	99.42
CS-WB08-UGR-01	38	9/22/10	1010	14.08	14.07 14.10	18.95
CS-WB08-LGR-01	115		1009		14.09 14.14	22.88
CS-WB08-LGR-02	193		1008		14.13 14.19	34.86
CS-WB08-LGR-03A	228		1007		14.17 14.20	51.57
CS-WB08-LGR-03B	273		1006		26.15 26.31	71.02
CS-WB08-LGR-04	341		1005		55.69 55.86	100.06

9/20/10
In Zone
24.85 / 69.64
Atm: 14.09
Sample 0925

9/20/10
In Zone
27.15 / 76.81
Atm: 14.08
Sample 1325

9/20/10
In Zone
16.91 / 72.16
Sample 1020
Atm: 14.10

9/20/10
In Zone
28.32 / 70.49
Atm: 14.07
Sample 1420

Bioreactor Monitoring

Personnel: J Bouch; S 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: <u>9.29.10</u>		Time: <u>1000</u>							
B3-T1-1	12.9	8.44	6.73	22.83	1.247	-258.1	0.42		
B3-T1-2	12.4	8.05	6.55	25.74	1.239	-266.3	0.44	✓	
B3-T1-3	12.85	7.59	6.70	23.48	0.711	-117.9	0.34		
B3-T2-1	9.67	9.08							
B3-T2-2	10.01	9.06	6.86	31.22	1.358	-115.6	0.29		
B3-T3-1	9.96	8.92							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	9.17							
B3-T5-2	7.98	7.71							
B3-T6-1	11.45	11.01							
B3-T6-2	12.34	10.68	6.49	24.85	0.921	-244.7	0.37	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	<u>9.27.10 1000</u>	<u>9.28.10 1400</u>	<u>9.29.10 0843</u>	<u>9.30.10 0833</u>	<u>10.1.10</u>
	Rate (gpm) / Cumulative Total (gal)				
T-1	7.26	5217.118	7.43	5232.279	19.1
T-2					
T-3					
T-4					
T-5					
T-6	5.32	2449.486	6.41	2475.489	47.0
B-3 (Total)					
CS-MW16-LGR	13.68	5960.92	13.74	607.997	620.921
CS-MW16-CC	24.83	5835.04	24.93	605.224	628.660
B3-EXW01	14.94	405.012	14.09	406.0624	4073.866
B3-EXW02					

System off for tank repair

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2) = Note: If bag filter pressure drop is > 10 psi change filter.

	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =
	<u>0 - 0 = 0</u>	<u>0 - 0 = 0</u>	<u>0 - 0 = 0</u>	<u>38 - 36 = 0</u>	<u>0</u>
Notes:	MW16LGR 151.78 MW16CC 297.07 B3EXW01 144.30 B3EXW02 SCADA OK Tank is 4/10 full	Tank 3/4 full	145.4 242.2 151.0 OK Tank is 1/2 full	136.11 217.06 135.50 Tank is 1/2 full	Turned System on @ 1500.

Tank is leaking - Southern end of tank toward trenches. Turned off wells to let it drain. Called Ken and Adrien

Week 179
* Tank leaking called Rene sent pictures to Ken and Adrien

* Rene came out and fixed leak - wells back on 11/15/10

Turned off B3 @ 0845 for Rene to fix the tank on 10/1/10

* System still on

Personnel: J. Bouch; S. Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	ID (ft BTOC)	Date Sampled	Weekly/Monthly Wtrvlvs		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp (deg. F)	Sp. Cond. (mcS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	9.29.10	1135	13.02	6.67	21.43	0.816	-243.5	0.63	
B3-MW27-UGR	17.00	9.29.10	1143	8.80	6.64	24.87	0.831	55.9	0.63	0.63
B3-MW28-UGR	18.33	9.29.10		dry						
B3-MW29-UGR	20.40	9.29.10	1143	20.02						
B3-MW30-UGR	23.90	9.29.10	1146	23.38						
B3-MW31-UGR	39.06	9.29.10	1050	33.10	6.54	20.97	0.817	95.9	0.56	
B3-MW32-UGR	58.45	9.29.10	1105	39.00	6.08	20.95	0.582	151.4	4.65	
B3-MW33-UGR	29.55	9.29.10	1117	21.40	6.84	20.77	0.648	113.1	3.50	
B3-MW34-UGR	25.40	9.29.10	1128	18.01	6.76	21.23	0.781	-210.9	0.61	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp (deg. F)	Sp. Cond. (mcS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Week 179

Personnel		Bouch + Elliott					
Weekly Water Level Monitoring							
Well Interval	Sampling Port Depth (ft BTDC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)	
CS-WB05-LGR-01	99	9/29/10	0915	14.02	^{14.09} 14.10	21.13	
CS-WB05-LGR-02	182		0914		^{14.13} 14.13	37.22	
CS-WB05-LGR-03A	216		0913		^{14.17} 14.15	51.60	
CS-WB05-LGR-03B	262		0913		^{23.90} 22.82	71.53	
CS-WB05-LGR-04A	277		0912		^{30.43} 29.35	77.86	
CS-WB05-LGR-04B	329		0911		^{53.06} 51.96	100.27	
CS-WB05-BS-01	362		0910		^{67.40} 66.31	114.15	
CS-WB05-CC-01	432		0909		^{97.81} 96.70	108.91	
CS-WB05-CC-02	460		0908		^{109.95} 108.84	121.47	
CS-WB06-UGR-01	20		0941	14.03	^{14.05} 14.06	17.41	
CS-WB06-LGR-01	93		0941		^{14.11} 14.09	16.41	
CS-WB06-LGR-02	174		0939		^{14.13} 14.13	44.88	
CS-WB06-LGR-03A	207		0938		^{14.17} 14.17	55.34	
CS-WB06-LGR-03B	260		0938		^{24.88} 25.12	78.24	
CS-WB06-LGR-04	320		0937		^{50.95} 51.17	99.75	
CS-WB07-UGR-01	14		0955	14.04	^{14.07} 14.05	14.19	
CS-WB07-LGR-01	90		0954		^{14.10} 14.10	17.91	
CS-WB07-LGR-02	175		0953		^{14.13} 14.15	44.09	
CS-WB07-LGR-03A	208		0952		^{14.17} 14.16	53.23	
CS-WB07-LGR-03B	257		0951		^{15.14} 14.83	74.41	
CS-WB07-LGR-04	318		0950		^{41.65} 41.35	98.23	
CS-WB08-UGR-01	38		0928	14.04	^{14.07} 14.05	19.03	
CS-WB08-LGR-01	115		0928		^{14.09} 14.09	22.29	
CS-WB08-LGR-02	193		0927		^{14.13} 14.12	37.76	
CS-WB08-LGR-03A	228		0926		^{14.17} 14.16	51.63	
CS-WB08-LGR-03B	273		0925		^{26.15} 26.26	71.09	
CS-WB08-LGR-04	341		0924		^{55.69} 55.81	99.68	

Bioreactor Monitoring

Personnel: J. Bouch, S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth ('BTOC)	Sump Water Level ('BTOC)	ft	Temp (deg C)	SpCond (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (✓)	Notes
Date: <u>10.7.10</u>		Time: <u>1300</u>							
B3-T1-1	12.9	8.32	6.60	25.75	0.780	-288.1	0.23	✓	
B3-T1-2	12.4	7.92	6.52	25.33	0.772	-276.6	0.37		
B3-T1-3	12.85	7.49	6.75	22.60	0.459	-160.0	0.44		
B3-T2-1	9.67	9.13							
B3-T2-2	10.01	9.38	7.01	30.26	0.890	-84.0	0.86		
B3-T3-1	9.96	9.16							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	9.20							
B3-T5-2	7.98	7.86							
B3-T6-1	11.45	10.65	6.49	22.66	0.482	-192.9	0.31	✓	
B3-T6-2	12.34	10.46	6.57	23.62	0.543	-267.7	0.35		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	<u>10.4.10</u> <u>0900</u>	<u>10.5.10</u> <u>0826</u>	<u>10.6.10</u> <u>0827</u>	<u>10.7.10</u> <u>1012</u>	<u>10.8.10</u> <u>0953</u>
	Rate (gpm) / Cumulative Total (gal)				
T-1	20.5 / 5,296,830	21.9 / 5,314,95	8.04 / 5,334,22	7.51 / 5,350,49	20.7 / 5,366,660
T-2					
T-3					
T-4					
T-5					
T-6	48.2 / 2,592,511	50 / 2,624,63	9.72 / 2,655,738	7.97 / 2,689,199	48.6 / 2,718,695
B-3 (Total)					
CS-MW16-LGR	Ø / 65,671.7	Ø / 66,890.2	13.01 / 68,104.2	12.46 / 69,483.4	Ø / 70,580.0
CS-MW16-CC	Ø / 65,341	Ø / 71,814.5	24.67 / 74,233	24.61 / 76,733.6	Ø / 79,032.5
B3-EXW01	Ø / 4,116,930	Ø / 4,132,86	13.78 / 4,136,751	13.36 / 4,150,474	Ø / 4,162,738
B3-EXW02					

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2))

Note: If bag filter pressure drop is > 20 psi change filter

	PB-1 - PB-2 = 31 - 38 = -1	PB-1 - PB-2 = 30 - 36 = -2	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 38 - 36 = 2
Notes checked	152.4 MW16LGR 149.93 222.03 MW16CC 221.11 149.57 B3EXW01 150.00 149.57 B3EXW02	152.4 221.9 154.1 OK	178.94 303.53 193.80	180.03 305.83 196.00 OK	163.1 233.1 167.5 OK
Water level (to line) SCADA	Tank is 3/4 full	Tank is 1/2 full	Tank is 1/2 full	Tank is 1/4 full	Tank is 1/2 full

Tank held over the weekend

Week 180

Personnel: J. Bouch; S. Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	ID (ft BTOC)	Date Sampled	Weekly/Monthly Wtrvlis		Monthly Field Parameters						
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes	
B3-MW26-UGR	20.32	10.7.10	1425	13.30	6.62	22.0	0.532	-200.7	0.55		
B3-MW27-UGR	17.00	10.7.10	1438	9.32	6.57	22.60	0.574	-263.8	0.50		
B3-MW28-UGR	18.33	10.7.10	1415	DRY	6.75	20.61	0.470	-39.5	0.49		
B3-MW29-UGR	20.40	10.7.10	1423	20.03		NOT ENOUGH WATER					
B3-MW30-UGR	23.90	10.7.10	1425	23.36		NOT ENOUGH WATER					
B3-MW31-UGR	39.06	10.7.10	1340	33.13	6.69	20.98	0.510	-44.2	0.67		
B3-MW32-UGR	58.45	10.7.10	1348	39.75	6.43	20.91	0.387	47.2	4.69		
B3-MW33-UGR	29.55	10.7.10	1358	23.42	6.75	20.61	0.470	-39.5	0.49		
B3-MW34-UGR	25.40	10.7.10	1404	18.45	6.66	21.07	0.529	-213.1	0.43		

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel		Elliott + Birch				
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	10/7/10	1031	14.23	^{14.09} 14.29	21.24
CS-WB05-LGR-02	182		1030		^{14.13} 14.33	30.19
CS-WB05-LGR-03A	216		1029		^{14.17} 14.37	42.09
CS-WB05-LGR-03B	262		1029		^{23.90} 22.99	62.04
CS-WB05-LGR-04A	277		1028		^{30.43} 29.50	67.71
CS-WB05-LGR-04B	329		1027		^{53.06} 52.13	90.05
CS-WB05-BS-01	362		1026		^{67.40} 66.48	106.69
CS-WB05-CC-01	432		1025		^{97.81} 96.87	104.38
CS-WB05-CC-02	460		1025		^{109.95} 109.01	116.94
CS-WB06-UGR-01	20		1056	14.23	^{14.05} 14.25	17.57
CS-WB06-LGR-01	93		1055		^{14.11} 14.28	16.58
CS-WB06-LGR-02	174		1055		^{14.13} 14.31	41.91
CS-WB06-LGR-03A	207		1054		^{14.17} 14.34	52.30
CS-WB06-LGR-03B	260		1053		^{24.88} 25.30	75.19
CS-WB06-LGR-04	320		1052		^{50.95} 51.34	89.33
CS-WB07-UGR-01	14		1109	14.24	^{14.07} 14.24	16.24
CS-WB07-LGR-01	90		1108		^{14.10} 14.28	17.85
CS-WB07-LGR-02	175		1107		^{14.13} 14.33	40.70
CS-WB07-LGR-03A	208		1106		^{14.17} 14.35	47.03
CS-WB07-LGR-03B	257		1105		^{15.14} 15.01	68.23
CS-WB07-LGR-04	318		1104		^{41.65} 41.54	87.94
CS-WB08-UGR-01	38		1044	14.23	^{14.07} 14.26	18.99
CS-WB08-LGR-01	115		1043		^{14.09} 14.29	20.84
CS-WB08-LGR-02	193		1042		^{14.13} 14.34	35.86
CS-WB08-LGR-03A	228		1041		^{14.17} 14.35	42.14
CS-WB08-LGR-03B	273		1040		^{26.15} 26.43	61.59
CS-WB08-LGR-04	341	V	1039		^{55.69} 55.99	90.07

Bioreactor Monitoring

Personnel: J Bouch, S. 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: 10.13.10		Time: 1028							
B3-T1-1	12.9	8.76	6.61	27.48	0.674	-267.8	0.45	✓	
B3-T1-2	12.4	8.33	6.56	24.30	0.658	-283.7	0.35		
B3-T1-3	12.85	7.79	6.73	23.0	0.389	-252.5	0.38		
B3-T2-1	9.67	9.15							
B3-T2-2	10.01	9.51							
B3-T3-1	9.96	9.23							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	9.24							
B3-T5-2	7.98	7.92							
B3-T6-1	11.45	10.52	6.47	23.08	0.412	-163.5	0.47	✓	
B3-T6-2	12.34	10.52	6.57	23.67	0.449	-270.7	0.53		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings										
Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	10.11.10	0952	10.12.10	0905	10.13.10	0913	10.14.10	0830	10.15.10	0435
	Rate (gpm) / Cumulative Total (gal)									
T-1	7.69	5417.121	19.7	5433.627	7.52	5449.887	14.9	5,465,471	19.5	5481,731
T-2										
T-3										
T-4										
T-5										
T-6	9.17	2811,83	45.12	2841,31	8.03	2871,45	47.7	2901,069	44.9	2931,748
B-3 (Total)										
CS-MW16-LGR	12.01	740051	12.01	752120	- meter out - #		9,095			203811
CS-MW16-CC	24.59	8611623	25.20	884,392	24.56	909,043	430,875			954096
B3-EXW01	13.18	4201,427		4213,588	13.21	4226,320	4238,636		14.20	4251,125
B3-EXW02										

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) = Note: if bag filter pressure drop is > cr = 10 psi change filter

PB-1 - PB-2 =	0 - 0 = 0	PB-1 - PB-2 =	0 - 0 = 0	PB-1 - PB-2 =		PB-1 - PB-2 =	40 - 34 = 6	PB-1 - PB-2 =	40 - 34 = 6
Notes:	MW16LGR 186.1 MW16CC 306.4 B3EXW01 201.4 B3EXW02 SCADA OK Tank is 1/2 full	147.4 231.9 146.6 OK Tank is 1/4 full	188.0 - 189.20 (screen) 229.2 - 309.25 (screen) 146.2 - 202.60 (screen) OK - Quicktrends OK - Bio screen net OK Tank 1/2 full			146.2 - 202.60 (screen) OK - Quicktrends OK - Bio screen net OK Tank 1/2 full	40 - 34 = 6 tank = 1/2 full		40 - 34 = 6 Tank is 5/16 full

Week 181

* zero'd meter out @ 1313. (changed batteries)

Personnel		S. Elliott & J. Boych				
Weekly Water Level Monitoring						
Well Interval	Sampling Port Depth (ft BTDC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	10/13/10	941	14.21	^{14.09} 14.25	21.16
CS-WB05-LGR-02	182		0939		^{14.13} 14.30	25.54
CS-WB05-LGR-03A	216		0939		^{14.17} 14.34	37.37
CS-WB05-LGR-03B	262		0937		^{23.90} 22.94	57.30
CS-WB05-LGR-04A	277		0937		^{30.43} 29.46	63.15
CS-WB05-LGR-04B	329		0936		^{53.06} 52.09	85.61
CS-WB05-BS-01	362		0935		^{67.40} 66.43	102.12
CS-WB05-CC-01	432		0934		^{97.81} 96.82	101.48
CS-WB05-CC-02	460		0928		^{109.95} 108.97	114.30
CS-WB06-UGR-01	20		1008	14.20	^{14.05} 14.22	17.49
CS-WB06-LGR-01	93		1007		^{14.11} 14.26	16.53
CS-WB06-LGR-02	174		1006		^{14.13} 14.29	40.44
CS-WB06-LGR-03A	207		1005		^{14.17} 14.32	49.84
CS-WB06-LGR-03B	260		1004		^{24.88} 25.29	72.73
CS-WB06-LGR-04	320		1003		^{50.95} 51.33	85.53
CS-WB07-UGR-01	14		1021	14.21	^{14.07} 14.25	16.09
CS-WB07-LGR-01	90		1020		^{14.10} 14.28	17.83
CS-WB07-LGR-02	175		1019		^{14.13} 14.32	38.98
CS-WB07-LGR-03A	208		1018		^{14.17} 14.33	42.70
CS-WB07-LGR-03B	257		1017		^{15.14} 14.98	63.89
CS-WB07-LGR-04	318		1016		^{41.65} 41.52	83.24
CS-WB08-UGR-01	38		0954	14.20	^{14.07} 14.24	18.73
CS-WB08-LGR-01	115		0954		^{14.09} 14.26	20.62
CS-WB08-LGR-02	193		0953		^{14.13} 14.30	33.02
CS-WB08-LGR-03A	228		0952		^{14.17} 14.33	37.72
CS-WB08-LGR-03B	273		0951		^{26.15} 26.42	57.18
CS-WB08-LGR-04	341	V	0950		^{55.69} 55.97	86.11

Personnel: Bouch + Elliott

Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	T ₁₀ (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvls		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (µS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	10/13/10	1149	13.52	6.57	21.45	0.462	-228.4	0.83	
B3-MW27-UGR	17.00	↓	1200	9.5	6.60	24.53	0.464	-38.2	0.76	
B3-MW28-UGR	18.33		1210	DRY	—	—	—	—	—	
B3-MW29-UGR	20.40		1212	20.03	—	NOT ENOUGH WATER	—	—	—	
B3-MW30-UGR	23.90		1214	23.35	—	NOT ENOUGH WATER	—	—	—	
B3-MW31-UGR	39.06		1106	33.28	6.58	21.01	0.456	-46.5	0.56	
B3-MW32-UGR	58.45		1117	40.84	6.97	20.85	0.296	44.2	5.60	
B3-MW33-UGR	29.55		1128	23.74	6.80	20.65	0.402	-2.0	1.22	
B3-MW34-UGR	25.40		1137	18.75	6.65	21.07	0.462	-198.0	0.75	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (µS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Personnel: J. Bouch; A. Lindley; S. Elliott
 Weekly Piezometer Water Levels ('BTOC) and Monthly Field Parameters

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvls		Monthly Field Parameters					Notes
			Sample Time	Water Level (ft BTOC)	pH	Temp (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	
B3-MW26-UGR	20.32	10.20.10	1520	—	6.75	25.31	0.559	-162.0	1.71	W.L. 10/22/10 = 13.80' #BGS
B3-MW27-UGR	17.00	10.22.10	1120	9.90	6.64	24.32	0.841	121.3	0.91	
B3-MW28-UGR	18.33	10.22.10	1145	—						dry
B3-MW29-UGR	20.40	10.22.10	1140	20.02						not enough water for parameters or sampling
B3-MW30-UGR	23.90	10/22/10	0930	23.34	6.85	21.33	0.435	98.7	4.72	
B3-MW31-UGR	39.06	10.22.10	1000	33.54	6.75	21.01	0.795	148.7	0.55	
B3-MW32-UGR	58.45	10.22.10	1015	46.18	7.08	20.94	0.532	124.9	5.12	
B3-MW33-UGR	29.55	10.22.10	1050	24.13	6.88	20.61	0.717	-174.7	0.34	
B3-MW34-UGR	25.40	10/20/10	1500	—	6.78	25.00	0.547	-122.7	1.73	W.L. 10/22/10 = 19.08' #BGS

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/l)	Notes
B3-MW01	10.20.10	1420	—	6.67	21.83	0.714	-198.0	0.32	
CS-D	10.20.10	1015	—	7.08	21.58	0.384	68.0	1.81	
CS-MW16-LGR	10.20.10	0945	—	7.12	22.44	0.393	18.9	2.78	
CS-MW16-CC	10.20.10	0915	—	7.34	22.86	0.471	-51.1	2.62	
CS-B3-EXW01	10.20.10	1340	—	7.10	23.08	0.400	59.0 ^{63.9 (mV)}	3.49 ^{2.70}	
CS-B3-EXW02	—	No	SAMPLE	—	—	—	—	—	
CS-MW1-LGR	10.20.10	1050	—	7.10	21.64	0.370	70.4	2.88	

Bioreactor Monitoring

Personnel: J. Bouch; A. Lindley; S. 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: <u>10/14/10</u>		Time: <u>0830</u>							
B3-T1-1	12.9	<u>9.08</u>	<u>6.56</u>	<u>26.52</u>	<u>0.816</u>	<u>-252.0</u>	<u>0.41</u>		Sump time = 0900
B3-T1-2	12.4 <u>8.63</u>	<u>4.23</u>	<u>6.55</u>	<u>24.00</u>	<u>0.755</u>	<u>-280.9</u>	<u>0.34</u>	✓	0920
B3-T1-3	12.85	<u>8.11</u>	<u>6.77</u>	<u>22.76</u>	<u>0.469</u>	<u>-238.0</u>	<u>0.21</u>		1015
B3-T2-1	9.67	<u>9.23</u>							
B3-T2-2	10.01	<u>9.72</u>							
B3-T3-1	9.96	<u>9.26</u>	<u>6.67</u>	<u>30.92</u>	<u>0.603</u>	<u>3.9</u>	<u>1.26</u>		
B3-T3-2	7.4	<u>dry</u>							
B3-T4-1	6.32	<u>dry</u>							
B3-T5-1	9.33	<u>9.30</u>							
B3-T5-2	7.98	<u>dry</u>							
B3-T6-1	11.45	<u>10.67</u>	<u>6.49</u>	<u>23.29</u>	<u>0.505</u>	<u>-244.5</u>	<u>0.49</u>	✓	Sump time = 1040
B3-T6-2	12.34	<u>10.39</u>	<u>6.51</u>	<u>23.87</u>	<u>0.556</u>	<u>-278.9</u>	<u>0.21</u>	✓	Sump time = 1100
B3-UIC			<u>7.22</u>	<u>22.39</u>	<u>0.434</u>	<u>136.0</u>	<u>8.45</u>	<u>6.89</u>	Sump time 0805

B-3 Transfer System Monitoring

Meter	Flow Meters Readings									
	Monday	Tuesday	Wednesday	Thursday	Friday					
Date/Time:	<u>0909</u>	<u>10-19-10</u>	<u>10-19-10</u>	<u>0755</u>	<u>10-20-10</u>	<u>0900</u>	<u>10-21-10</u>	<u>1030</u>	<u>10-22-10</u>	<u>0906</u>
	Rate (gpm) / Cumulative Total (gal)									
T-1	<u>18.7</u>	<u>5529.611</u>	<u>22.1</u>	<u>5545.819</u>	<u>5.17</u>	<u>5560.989</u>	<u>15.2</u>	<u>5576.191</u>	<u>6.31</u>	<u>5582.501</u>
T-2										
T-3										
T-4										
T-5										
T-6	<u>47.1</u>	<u>3,022.036</u>	<u>48.3</u>	<u>3,053.221</u>	<u>10.1</u>	<u>3,065.803</u>	<u>51.0</u>	<u>3,120.416</u>	<u>9.42</u>	<u>3,151.369</u>
B-3 (Total)										
CS-MW16-LGR	<u>11.51</u>	<u>5430.7</u>	<u>0</u>	<u>6486.0</u>	<u>11.45</u>	<u>7642.1</u>	<u>0</u>	<u>8830.2</u>	<u>11.45</u>	<u>9851.5</u>
CS-MW16-CC	<u>24.13</u>	<u>2494.6</u>	<u>0</u>	<u>4782.2</u>	<u>24.13</u>	<u>7215.2</u>	<u>0</u>	<u>9728.3</u>	<u>24.24</u>	<u>11885.8</u>
B3-EXW01	<u>12.92</u>	<u>4281.39</u>	<u>0</u>	<u>4301.045</u>	<u>12.96</u>	<u>4314.044</u>	<u>0</u>	<u>4327.541</u>	<u>12.92</u>	<u>4339.212</u>
B3-EXW02										

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2))= Note: If bag filter pressure drop is > or = 10 psi change filter.

	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =
		<u>37-37</u>	<u>0-0=0</u>	<u>39-39=0</u>	<u>0-0=0</u>
Notes:	MW16LGR <u>196.43</u> MW16CC <u>322.49</u> B3EXW01 <u>210.40</u> B3EXW02 SCADA	- tank = 1/2 full - water shooting from 1 sprinkler head at end of T-1, replaced sprinkler head and the next one inline which was clogged.	<u>197.05</u> <u>319.91</u> <u>269.10</u> Tank is 1/2 full	<u>178.75</u> <u>246.71</u> <u>175.80</u> OK Tank is 3/4 full	_____ Tank is 7/10 full

Week 182
 month 42
 Quarter 1819

Personnel: J. Bouch; A. Lindley						
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	10-22-10	1245	14.06	14.09 14.13	21.14
CS-WB05-LGR-02	182		1244		14.13 14.17	21.15
CS-WB05-LGR-03A	216		1243		14.17 14.20	33.0
CS-WB05-LGR-03B	262		1241		23.90 22.72	59.93
CS-WB05-LGR-04A	277		1239 1240		30.43 29.24	58.71
CS-WB05-LGR-04B	329		1238		53.06 51.86	81.14
CS-WB05-BS-01	362		1237		67.40 66.21	97.40
CS-WB05-CC-01	432		1236		97.81 96.59	94.44
CS-WB05-CC-02	460		1235		109.95 108.76	107.03
CS-WB06-UGR-01	20		1157		14.07	14.05 14.09
CS-WB06-LGR-01	93		1156	14.11 14.13		16.46
CS-WB06-LGR-02	174		1155	14.13 14.16		39.09
CS-WB06-LGR-03A	207		1154	14.17 14.19		47.03
CS-WB06-LGR-03B	260		1153	24.88 25.10		69.93
CS-WB06-LGR-04	320		1152	50.95 51.16		82.17
CS-WB07-UGR-01	14		1253	14.07		14.07 14.08
CS-WB07-LGR-01	90		1252		14.10 14.12	17.78
CS-WB07-LGR-02	175		1251		14.13 14.15	37.37
CS-WB07-LGR-03A	208		1250		14.17 14.18	38.55
CS-WB07-LGR-03B	257		1249		15.14 14.82	59.72
CS-WB07-LGR-04	318		1248		41.65 41.36	79.06
CS-WB08-UGR-01	38		1223	14.06	14.07 14.08	18.37
CS-WB08-LGR-01	115		1222		14.09 14.12	20.49
CS-WB08-LGR-02	193		1221		14.13 14.17	29.92
CS-WB08-LGR-03A	228		1220		14.17 14.18	33.58
CS-WB08-LGR-03B	273		1219		26.15 26.24	53.05
CS-WB08-LGR-04	341		1218		55.69 55.78	82.26

Bioreactor Monitoring

Personnel: J. Bouch, A. Lindley, S. 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: <u>10-28-10</u>		Time: <u>1315</u>							
B3-T1-1	12.9	9.59	6.60	25.14	1.120	-297.3	0.59		
B3-T1-2	12.4	9.18	6.69	24.51	1.021	-288.7	0.47	✓	* changed out DO sensor tip
B3-T1-3	12.85	8.85	6.67	23.45	0.759	-273.3	0.53		
B3-T2-1	9.67	4.39							
B3-T2-2	10.01	dry							
B3-T3-1	9.96	9.29							
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	10.48	6.64	23.23	0.753	-230.9	0.57	✓	
B3-T6-2	12.34	10.16	6.52	23.78	0.832	-283.0	0.57	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	<u>10-25-10</u>	<u>0900</u>	<u>10-26-10</u>	<u>0945</u>	<u>10-27-10</u>	<u>0945</u>	<u>10-28-10</u>	<u>0900</u>	<u>10-29-10</u>	
	Rate (gpm) / Cumulative Total (gal)									
T-1	15.6	5625911	5.75	5638366	5.72	5650984	5.88	5665899	5.80	5675864
T-2							(1315)			
T-3										
T-4										
T-5							(1315)			
T-6	49.6	3248646	11.4	3289190	11.0	3312366	9.72	3350634	9.25	3375834
B-3 (Total)										
CS-MW16-LGR	0	131434	11.17	142381	11.17	152841	11.11	163649	11.0 11.0	173658
CS-MW16-CC	0	188214	23.87	211339	23.92	233703	23.87	256924	23.97	278584
B3-EXW01	0	4376146	12.78	4388516	12.74	4400465			12.79	4424341
B3-EXW02										

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)) = Note: If bag filter pressure drop is > cr = 10 psi change filter.

	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =
	40-36=4	38-40=-2	40-36=4		40-35=5
Notes:	MW16LGR <u>100.2</u> MW16CC <u>263.4</u> B3EXW01 <u>206.1</u> B3EXW02 SCADA OK Tank is 1/2 full	202.28 351.69 215.50 OK Tank is 13/16	202.79 329.93 215.40 Tank is 5/8	204.21 332.20 214.70	Exw02 running; 0 at 290 gpd + 21.2 gpm Tank 1/2 full began cycling at 11:00 am

Personnel: <u>J. Bunch; A. Lindley</u>						
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	10/29/10	1326	14.26	14.09 14.33	20.97
CS-WB05-LGR-02	182		1325		14.13 14.35	19.20
CS-WB05-LGR-03A	216		1324		14.17 14.38	30.77
CS-WB05-LGR-03B	262		1323		23.90 22.53	50.72
CS-WB05-LGR-04A	277		1322		30.43 29.05	56.76
CS-WB05-LGR-04B	329		1321		53.06 51.68	79.26
CS-WB05-BS-01	362		1320		67.40 66.04	95.16
CS-WB05-CC-01	432		1319		97.81 96.43	92.26
CS-WB05-CC-02	460		1318		109.95 108.60	104.84
CS-WB06-UGR-01	20			1240	14.22	14.05 14.22
CS-WB06-LGR-01	93	1239		14.11 14.26		16.58
CS-WB06-LGR-02	174	1238		14.13 14.31		38.51
CS-WB06-LGR-03A	207	1237		14.17 14.43		45.61
CS-WB06-LGR-03B	260	1236		24.88 27.16		68.52
CS-WB06-LGR-04	320	1235		50.95 53.25		80.19
CS-WB07-UGR-01	14			1336		14.27
CS-WB07-LGR-01	90		1335	14.10 14.29	17.60	
CS-WB07-LGR-02	175		1334	14.13 14.33	34.91	
CS-WB07-LGR-03A	208		1333	14.17 14.37	36.61	
CS-WB07-LGR-03B	257		1332	15.14 14.90	57.80	
CS-WB07-LGR-04	318		1331	41.65 41.45	77.45	
CS-WB08-UGR-01	38		1311	14.24	14.07 14.28	18.49
CS-WB08-LGR-01	115		1310		14.09 14.32	20.18
CS-WB08-LGR-02	193		1309		14.13 14.38	28.33
CS-WB08-LGR-03A	228		1308		14.17 14.39	31.64
CS-WB08-LGR-03B	273		1306		26.15 26.28	51.11
CS-WB08-LGR-04	341		1305		55.69 55.82	80.57

Week 102 ^(10/2) 183

Personnel <i>J. Bunch; A. Lindley</i>							
Quarterly Monitoring							
MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure		
B CS-WB05-LGR-01	99	10-24-10	1340	13.97	21.04		
A CS-WB05-LGR-02	182	10/26/10	1245	14.01	19.91		
A CS-WB05-LGR03A	216	10-26-10	1020	14.02	31.72		
(JP) CS-WB05-LGR03B	262	10/26/10	0930	24.73	54.64	14.14	
A CS-WB05-LGR04A	277	10/26/10	0940	30.76	57.74	13.76 ATC	
A CS-WB05-LGR04B	329	10-24-10	0905	53.42	79.99		
CS-WB05-BS-01	362	10-25-10	1315	67.88	96.30		
CS-WB05-CC-01	432	10-25-10	1045	98.43	92.85		
CS-WB05-CC-02	460	10-25-10	0930	110.71	108.52	13.98	
CS-WB06-UGR-01	20	10/29-10	1210	14.22	17.32		
CS-WB06-LGR-01	93	10/29-10	1125	14.26	16.58		
CS-WB06-LGR-02	174	10/29/10	1100	14.31	38.51		
CS-WB06-LGR03A	207	10/29/10	0945	14.43	45.61		
CS-WB06-LGR03B	260	10-18-10	1315	27.06	71.03	14.07	
CS-WB06-LGR-04	320	10/29/10	0850	53.25	80.19	14.22	
C CS-WB07-UGR-01	14	10-27-10	1425	13.99	15.59		
C CS-WB07-LGR-01	90	10-27-10	1330	14.05	17.68		
B CS-WB07-LGR-02	175	10/27/10	1030	14.08	36.81		
B CS-WB07-LGR03A	208	10/27/10	0940	14.10	37.12		
(JP) CS-WB07-LGR03B	257	10/18/10	1045	14.83	61.34	14.10	
B CS-WB07-LGR-04	318	10/27/10	0900	43.22	77.89	13.99	
CS-WB08-UGR-01	38	10-28-10	1400	14.24	18.52		
CS-WB08-LGR-01	115	10/28/10	1310	14.28	20.40		
CS-WB08-LGR-02	193	10-29-10	1045	14.30	28.56		
CS-WB08-LGR03A	228	10/28/10	1000	14.31	32.12		
CS-WB08-LGR03B	273	10/18/10	1430	28.20	54.96	14.04	
CS-WB08-LGR-04	341	10-28-10	0920	57.88	80.67	14.18	
Monitoring Wells	Sample Date	Sample Time	pH	Temp	SpCond	ORP	DO
B3-MW01							
CS-D							*
CS-MW16-LGR							
CS-MW16-CC							
CS-MW1-LGR							

* See other field form

Quarter 182/183
→ 14

Personnel: Elliott

Weekly Piezometer Water Levels (BTOC) and Monthly Field Parameters

Piezometer ID	TW (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvs		Monthly Field Parameters					Notes
			Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	
B3-MW26-UGR	20.32	10/28/10	0954	13.97	6.59	21.42	0.812	-243.1	0.48	* changed out DO sensor tip.
B3-MW27-UGR	17.00		1000	10.39	6.57	22.66	0.863	-227.2	0.46	
B3-MW28-UGR	18.33		1006	dry						
B3-MW29-UGR	20.40		1009	20.14						
B3-MW30-UGR	23.90		1012	23.44						
B3-MW31-UGR	39.06		1016	33.62	6.80	20.94	0.778	131.7	0.52	
B3-MW32-UGR	58.45		1025	47.90	7.19	20.93	0.561	116.7	6.25	
B3-MW33-UGR	29.55		1033	24.25	6.89	20.59	0.720	65.1	0.61	
B3-MW34-UGR	25.40		1040	19.23	6.78	21.20	0.783	-192.8	0.49	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01									
CS-D									
CS-MW16-LGR									
CS-MW16-CC									
CS-B3-EXW01									
CS-B3-EXW02									
CS-MW1-LGR									

Week 183