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

May 19, 2010

U-080-10

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 31 – Month 36, November, 2009 - April, 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, U.S. Army Field Support 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 (Figure 1). 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 November, 2009 through April, 2010 (Months 31-36). 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 November 1, 2009 and April 30, 2010 approximately 3,852,000 gallons of groundwater from wells CS-MW16-CC (~1,695,000 gallons), CS-MW16-LGR (~662,000 gallons), and B3-EXW-01 (~1,495,000 gallons) were injected into SWMU B-3 bioreactor trenches 1 and 2. A total of 23,251,104 gallons of recovered groundwater from CS-MW16-LGR, CS-MW16-CC, and B3-EXW-01 have been injected into bioreactor trenches 1 and 2 since normal bioreactor operations began. Samples of the injected groundwater, for this reporting period, were collected on November 11 and December 15, 2009, and January 26, February 23, March 23, and April 20, 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.

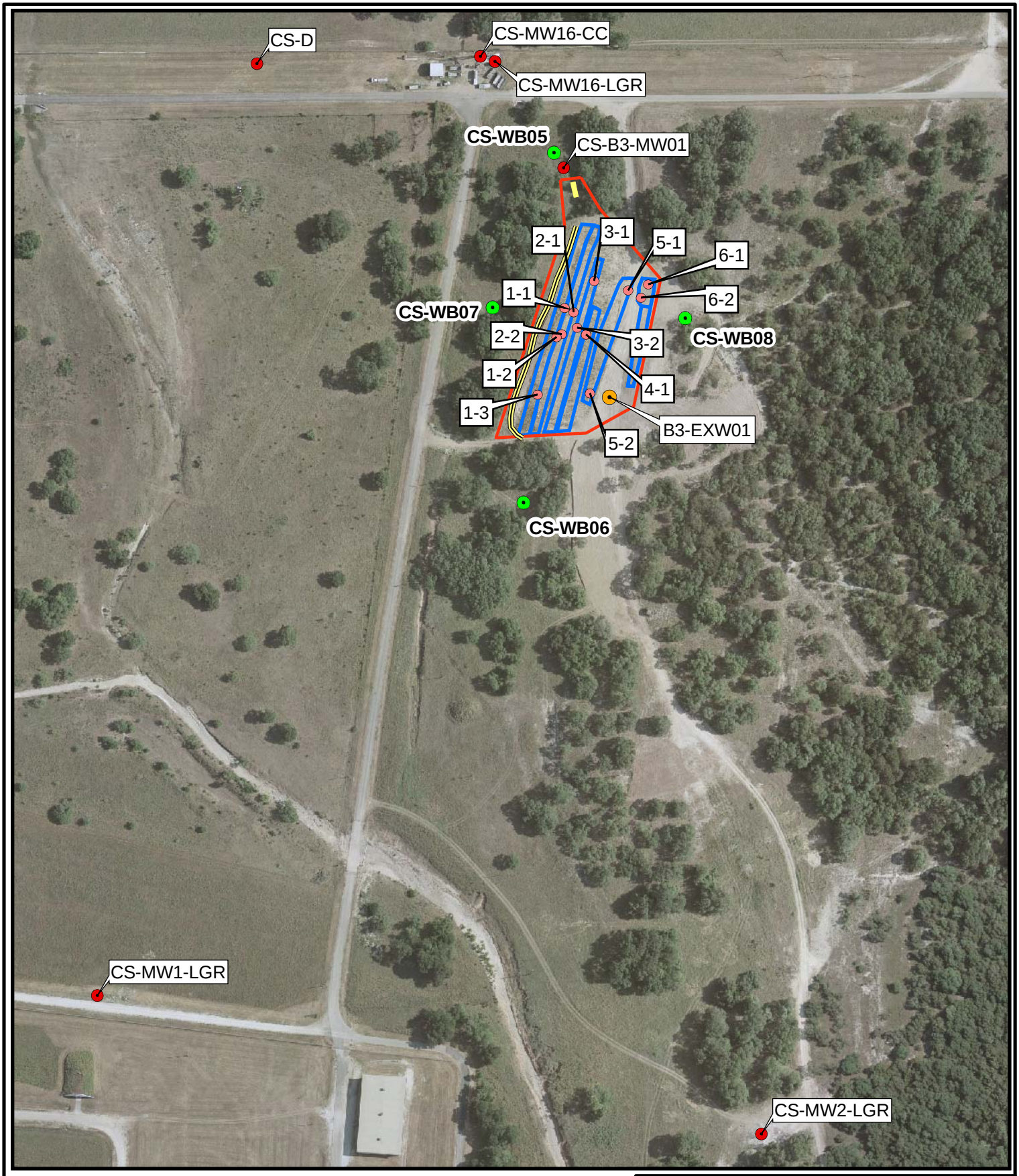
If you have any questions regarding the information contained in this letter, please feel free to contact Glare Sanchez, CSSA Environmental Program Manager, at (210) 698-5208 or Ken Rice, Parsons, at (512) 719-6050.

Sincerely,

Jason D. Shirley
Installation Manager

Enclosures

cc: Glare Sanchez, CSSA Environmental Program Manager
Wayne Elliott, USAE (ltr only)
Julie Burdey, Parsons (ltr only)
Ken Rice, Parsons
File: 745953.03000



N
W E
S

250 125 0 250 Feet

New Extraction Well
Bioreactor Trench Sumps
B-3 Monitoring Wells
Westbay Wells
B3 Boundary
Berm Location
Tank
Former Trench Locations

Figure 1

B-3 Bioreactor System
Camp Stanley Storage Activity

PARSONS

J:\744\744223 B3 & AOC65\gis\b3-monitoring_wells.mxd - 9/1/2009 @ 9:35:36 AM

Analytical Summary Data

Table 1
B3 - UIC Analytical Results

			Sample ID	B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC		
			Sample Date	11/18/09			12/15/09			01/26/10			02/23/10			03/23/10			04/20/10		
			Sample Type	N1			N1			N1			N1			N1			N1		
			Sampling Method	Grab			Grab			Grab			Grab			Grab			Grab		
			Lab ID	AY08028			AY09058			AY10228			AY11832			AY13402			AY14479		
	Lab MDL	**Lab PQL**	**B-3 UIC Criteria (RCRA Haz.)**	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	--	150		1	180		5	70		1	92		1	29		1	73		1
Trans-DCE	0.19	0.6	--	3.1		1	1.4		1	2.4		1	2.2		1	4.0		1	2.3		1
TCE	0.16	1.0	500.	150		1	160		5	78		1	100		1	32		1	89		1
PCE	0.15	1.4	700.	110		1	150		1	52		1	68		1	2.9		1	50		1
Toluene	0.17	1.1	--	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
Vinyl Chloride	0.23	1.1	200.	0.23	U	1	0.31	J	1	0.23	U	1	0.23	U	1	0.23	U	1	0.23	U	1
EPA 160.1 (mg/L)																					
TDS	4.4	10.	--	353		1	315		1	364		1	397		1	393		1	350		1
Field measured																					
pH				7.43			6.98			* 7.22			7.06			7.40			7.30		

Tables present all laboratory results for analytes.
Data packages for laboratory analysis results are presented in Attachment 1.
All samples were analyzed by APPL Laboratory Services.
pH results reported were field measured
UIC criteria specified in 40 CFR 261.24 Table 1
* This pH value was derived from pHs and contributing volumes from extraction wells CS-MW16-LGR and CS-MW16-CC.

Abbreviations:

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

Field Forms

SWMU B-3 Tree Mulch Bioreactor

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: 11.5.09		Time: 0935	7.14	20.77	0.348	-2.8	2.15		
B3-T1-1	12.9	3.80	~~7.28~~ (VOB)	~~25.74~~ (VOB)	~~0.539~~ (VOB)	~~-0.8~~ (VOB)	~~0.520~~ (VOB)		
B3-T1-2	12.4	3.58	6.94	21.05	0.448	-61.4	0.31		
B3-T1-3	12.85	3.21	7.20	17.93	0.377	-43.4	0.54	✓	
B3-T2-1	9.67	5.20	7.28	25.74	0.539	-1.0	0.45	✓	
B3-T2-2	10.01	5.58	6.53	23.16	0.530	-46.8	0.45	✓	
B3-T3-1	9.96	~~3.27~~ 7.14	7.12	26.84	0.677	-79.6	0.26		
B3-T3-2	7.4	6.95	7.10	22.10	0.437	-18.2	0.72		
B3-T4-1	6.32	5.52	7.19	24.94	0.657	-10.8	2.44		
B3-T5-1	9.33	6.26	7.19	21.37	0.325	-16.4	0.63		
B3-T5-2	7.98	6.12	6.78	23.57	0.498	-20.0	0.40		
B3-T6-1	11.45	5.61	7.22	24.38	0.325	-17.9	2.89		
B3-T6-2	12.34	5.49	7.04	20.88	0.341	-22.1	0.340		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11.2.09	0915	11.3.09	0815	11.4.09	0830	11.5.09	0935	11.6.09	0830
Rate (gpm) / Cumulative Total (gal)										
T-1	9.72	5,087,119	8.79	5,111,286	0	5,120,316	23.7	5,150,282	27.8	5,182,478
T-2	3.72	2,265,169	3.54	2,275,901	0	2,279,953	10.1	2,291,535	10.1	2,304,863
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR			0	156,888	0	156,888	0	159,838	9.32	164,255
CS-MW16-CC	24.67	1,080,888	0	376,888	0	376,888	0	382,014	18.18	390,113
B3-EXW01	~~63.68~~	~~2,952,325~~	24.48	1,052,942	0 / 42	1,064,155	24.17	1,100,822	23.93	1,133,041

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

PB-1 - PB-2 = 46-46 = 0	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 52 - 38 = 14	PB-1 - PB-2 = 44 - 44 = 0

Notes: Tank 3/4 full

Tank is 4/16 full
MW16LGR = 186.9
MW16CC = 233.9

MW16LGR = 187.8
MW16CC = 233.9
CC - DTW - 230.25 (MW water level)

Tank is 3/4 full
Changed bf
16 LGR = 196.0
16CC = 242.5

MW16LGR = 196.6
MW16CC = 237.9
Tank is 9/16 full

* MW16 wells off

* 16 wells still not working
turned off EX well to drain tank to test 16 wells tomorrow

LGR = 187.6
Week 132
Tank empty * BACK

-63.68 / 2,952,325 | 16.51 / 1,039,787 | 17.91 / 1,140,018 | 20.21 / 1,253,946 | 20.4 / 1,337,848

Personnel: S. Elliott + J. Bovch

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	11/2/09	0907	14.12	14.07 14.22	21.55
CS-WB05-LGR-02	182		0906		14.11 14.25	15.18
CS-WB05-LGR-03A	216		0905		14.14 14.27	29.93
CS-WB05-LGR-03B	262		0904		16.17 15.68	49.86
CS-WB05-LGR-04A	277		0904		22.70 22.25	55.51
CS-WB05-LGR-04B	329		0903		45.33 44.86	77.84
CS-WB05-BS-01	362		0902		59.67 59.21	90.88
CS-WB05-CC-01	432		0900		90.08 89.60	100.68
CS-WB05-CC-02	460		0900		102.24 101.76	112.66
CS-WB06-UGR-01	20		1047	14.13	14.04 14.16	18.39
CS-WB06-LGR-01	93		1046		14.07 14.21	16.28
CS-WB06-LGR-02	174		1045		14.11 14.24	38.02
CS-WB06-LGR-03A	207		1044		14.14 14.26	32.03
CS-WB06-LGR-03B	260		1041		21.60 25.49	54.93
CS-WB06-LGR-04	320		1040		47.66 51.54	76.73
CS-WB07-UGR-01	14		1104	14.14	14.05 14.17	16.49
CS-WB07-LGR-01	90		1103		14.10 14.21	17.82
CS-WB07-LGR-02	175		1101		14.14 14.25	28.68
CS-WB07-LGR-03A	208		1100		14.17 14.28	30.40
CS-WB07-LGR-03B	257		1059		15.58 15.65	51.59
CS-WB07-LGR-04	318		1058		42.13 42.18	75.27
CS-WB08-UGR-01	38		1029	14.13	14.03 14.17	20.00
CS-WB08-LGR-01	115		1028		14.08 14.21	21.40
CS-WB08-LGR-02	193		1026		14.12 14.24	20.51
CS-WB08-LGR-03A	228		1025		14.14 14.25	28.29
CS-WB08-LGR-03B	273		1023		18.87 26.07	47.75
CS-WB08-LGR-04	341		1022		48.45 55.61	75.70

Sample time = 0945 X

no sample dry X

Week 132

* checked water levels in 16 wells — tank empty tried to turn on wells — would not turn on. Turned on extraction well and transfer pump* Need to contact Richard.

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch; S. Elliott; 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: 11.11.09		Time: 0815							
B3-T1-1	12.9	3.04	7.15	20.58	0.668	-86.6	0.39		
B3-T1-2	12.4	2.70	7.03	20.05	0.617	-87.0	0.24		
B3-T1-3	12.85	2.33	7.18	19.86	0.593	-115.1	0.23		
B3-T2-1	9.67	4.49	7.08	24.79	0.815	-80.0	~~0.21~~ 0.66		
B3-T2-2	10.01	4.79	6.48	22.70	0.961	-111.4	0.36		
B3-T3-1	9.96	6.86	6.85	26.44	1.021	-112.0	0.16		
B3-T3-2	7.4	6.78	7.06 ~~6.97~~	22.37	0.714	0.56	-83.3		
B3-T4-1	6.32	5.41	7.12	21.19	0.630	-82.6	0.40		
B3-T5-1	9.33	5.44	7.19	22.02	0.524	-82.3	0.28		
B3-T5-2	7.98	5.66	6.72	22.08	0.743	-92.8	0.24		
B3-T6-1	11.45	5.61	7.13	22.08	0.517	-75.1	3.02		
B3-T6-2	12.34	5.42	7.05	21.58	0.536	-86.9	0.27		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11.9.09	0845	11.10.09	0840	11.11.09	0803	11.12.09	1240	11.13.09	10.30
Rate (gpm) / Cumulative Total (gal)										
T-1	21.0	5200059	21.6	5322571	27.3	5355072	24.3	5393858	27.3	5418341
T-2	11.5	2350737	10.5	2366016	11.1	2380528	11.7	2398019	11.3	2409137
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	Ø	180422	9.49	185,227	9.38	190519	Ø	196763	Ø	199382
CS-MW16-CC	Ø	421,616	*18.10	430763	15.07	439412	Ø	449782	Ø	454297
B3-EXW01	23.73	1235906	23.63	1269968	23.59	1302698	23.46	1343266	23.41	1373940

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

PB-1 - PB-2 = 48 - 44 = 4	PB-1 - PB-2 = 48 - 44 = 4	PB-1 - PB-2 = 47 - 42 = 5	PB-1 - PB-2 = 48 - 40 = 8	PB-1 - PB-2 = 44 - 44 = 0
Notes: MW16 LGR = 209.4 MW16 CC = 256.4	MW16 LGR = 214.2 MW16 CC = 291.5 Tank 9/16 full	Tank is 5/16 full	Tank is 13/16 full Changed BF (44-44=0) MW16 LGR = 203.4 MW16 CC = 241.9	Tank is ~~5/16~~ 15/16
Tank is 13/16 full	*pinched back flow to 16.0	Week 133		
70.29 / 4,644,610	71.55 / 4747071	4853054 / 70.05	4,967,088 / 69.70	5,059522 / 70.4

Personnel: S. Elliott + J. Bosch

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	11.10.09	1409	14.14	14.07 14.16	21.61
CS-WB05-LGR-02	182		1408		14.11 14.18	14.22
CS-WB05-LGR-03A	216		1407		14.14 14.21	22.50
CS-WB05-LGR-03B	262		1406		16.17 15.60	42.45
CS-WB05-LGR-04A	277		1405		22.70 22.14	48.12
CS-WB05-LGR-04B	329		1404		45.33 44.82	70.52
CS-WB05-BS-01	362		1403		59.67 59.19	85.41
CS-WB05-CC-01	432		1355		90.08 89.57	96.41
CS-WB05-CC-02	460		1354		102.24 101.72	108.80
CS-WB06-UGR-01	20		1441	14.12	14.04 14.13	18.44
CS-WB06-LGR-01	93		1440		14.07 14.15	16.29
CS-WB06-LGR-02	174		1439		14.11 14.20	37.75
CS-WB06-LGR-03A	207		1438		14.14 14.22	32.55
CS-WB06-LGR-03B	260		1436		21.60 25.47	55.48
CS-WB06-LGR-04	320		1436		47.66 51.54	70.82
CS-WB07-UGR-01	14		1458	14.12	14.05 14.13	16.64
CS-WB07-LGR-01	90		1457		14.10 14.18	17.86
CS-WB07-LGR-02	175		1456		14.14 14.19	28.73
CS-WB07-LGR-03A	208		1455		14.17 14.24	28.22
CS-WB07-LGR-03B	257		1454		15.58 15.63	49.44
CS-WB07-LGR-04	318		1453		42.13 42.18	68.57
CS-WB08-UGR-01	38		1424	14.10	14.03 14.12	20.03
CS-WB08-LGR-01	115		1423		14.08 14.15	21.50
CS-WB08-LGR-02	193		1422		14.12 14.20	21.20
CS-WB08-LGR-03A	228		1421		14.14 14.21	21.85
CS-WB08-LGR-03B	273		1420		18.87 26.04	41.34
CS-WB08-LGR-04	341		1419		48.45 55.63	69.71

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bauch; 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: 11.18.09		Time: 0840							
B3-T1-1	12.9	3.01	7.00	16.46	0.663	-67.6	0.18		@ 1045
B3-T1-2	12.4	2.64	7.07	15.44	0.636	~~-58.9~~ -60.2	~~1.27~~ 0.57		@ 0945
B3-T1-3	12.85	2.35	7.14	16.42	0.621	-70.6	0.61		@ 0920
B3-T2-1	9.67	4.44	6.91	23.05	0.780	-94.0	0.15		@ 1110
B3-T2-2	10.01	4.78	6.50	21.53	1.208	-87.2	0.35		@ 1020
B3-T3-1	9.96	6.84	7.12 5	21.74 5	0.744 5	-65.4 5	0.20 5		@ 1145
B3-T3-2	7.4	6.78	6.89 2	25.43 2	1.102	-101.2 2	0.08 2		@ 1115
B3-T4-1	6.32	5.57	7.04	20.61	0.655	-64.9	0.11		@ 1045
B3-T5-1	9.33	6.15	6.74 5	21.51 5	0.757 5	-79.5 5	0.19 5		@ 1020
B3-T5-2	7.98	5.88	7.04 2	20.69 2	0.539 2	-63.6 2	0.45 2		@ 1000
B3-T6-1	11.45	5.68	7.14	20.40	0.535	-51.8	2.74		@ 0900
B3-T6-2	12.34	5.48	7.10	20.32	0.553	-56.3	0.42		@ 0930
B3-UIC			7.43	22.64	0.597	-65.7	5.77		@ 1120

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11.16.09		11.17.09	0848	11.18.09	0836	11.19.09	0840	11.20.09	1031
Rate (gpm) / Cumulative Total (gal)										
T-1	21.1	5510269	21.4	5544587	23.4	5572132	24.4	5,606,109	5.36	5638268
T-2	11.3	2450899	11.7	2466377	10.9	2479060	11.4	2494395	3.54	2508015
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	Ø	214,816	9.11	223301	9.21	228365	Ø	236,649	Ø	242320
CS-MW16-CC	Ø	498820	14.60	492,642	14.42	500661	Ø	514191	Ø	523386
B3-EXW01	—	—	24.75	1496658	Ø	1524806	23.4	1552903	23.94	1585044

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

PB-1 - PB-2 = 45-45=0	PB-1 - PB-2 = 46-46=0	PB-1 - PB-2 = 44-44=0	PB-1 - PB-2 = 48-48=0	PB-1 - PB-2 = 0-0=0

Notes:
- Tank is 10/16 full
- Tank 3/4 full
- MW16 LGR = 233.6; MW16 CC = 289.4; Tank is 3/4 full
- MW16 LGR = 220.7; MW16 CC = 240.4; Tank is 13/16 full
- TP is off - would not come on in auto. Turned B3EXW01 off for weekend and closed. Tank is full

Week 13 4

454,164/68.81

68.87/65,673

752192/64.04

Personnel: J. Bouch; A. Lindley; 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	11.18.09	1347		14.07 14.13	21.57	
CS-WB05-LGR-02	182		1346		14.11 14.17	14.20	
CS-WB05-LGR-03A	216		1345		14.14 14.20	19.04	Sample 11-16-09
CS-WB05-LGR-03B	262		1344		16.17 15.49	38.96	11-16-09 0925 — 17.60 / 40.09
CS-WB05-LGR-04A	277		1343	14.03	22.70 22.01	43.84	
CS-WB05-LGR-04B	329		1342		45.33 44.63	66.29	
CS-WB05-BS-01	362		1341		59.67 58.98	81.64	
CS-WB05-CC-01	432		1339		90.08 89.39	96.54	
CS-WB05-CC-02	460		1338		102.24 101.54	108.49	
CS-WB06-UGR-01	20		1436		14.04 14.09	18.35	
CS-WB06-LGR-01	93		1435		14.07 14.14	16.23	
CS-WB06-LGR-02	174		1434	14.07	14.11 14.17	37.71	
CS-WB06-LGR-03A	207		1433		14.14 14.18	32.95	Sample 11-16-09
CS-WB06-LGR-03B	260		1431		21.60 25.34	55.85	11-16-09 1300 — 26.91 / 55.76
CS-WB06-LGR-04	320		1430		47.66 51.38	67.20	
CS-WB07-UGR-01	14		1450		14.05 14.09	16.66	
CS-WB07-LGR-01	90		1449		14.10 14.13	17.83	
CS-WB07-LGR-02	175		1448		14.14 14.17	28.73	14.12 AFL 11/16/09
CS-WB07-LGR-03A	208		1447	14.06	14.17 14.19	26.24	Sample
CS-WB07-LGR-03B	257		1445		15.58 15.52	47.44	11/16/09 1325 — 17.62 / 47.95
CS-WB07-LGR-04	318		1444		42.13 42.03	63.84	
CS-WB08-UGR-01	38		1417		14.03 14.10	19.93	
CS-WB08-LGR-01	115		1416		14.08 14.13	21.22	
CS-WB08-LGR-02	193		1414	14.06	14.12 14.16	21.64	
CS-WB08-LGR-03A	228		1413		14.14 14.20	18.03	11/16/09
CS-WB08-LGR-03B	273		1412		~~18.87~~ ~~27.50~~ 25.90 AFL	~~38.38~~ 37.49 AFL	Sample 11/16/09 1025 — 27.50 / 38.33
CS-WB08-LGR-04	341		1358		48.45 55.44	66.02	

Week 34

valve at Tank. TP is off also. TP would turn on in hand.

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: 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: 11.25.09		Time: 1330							
B3-T1-1	12.9	3.59	7.16	18.96	0.596	-48.0	1.11		** can't calibrate DO because internet is down, it is what it is
B3-T1-2	12.4	3.27	7.06	17.33	0.626	-61.1	0.47	✓	
B3-T1-3	12.85	2.92	7.05	16.49	0.594	-88.5	0.48		
B3-T2-1	9.67	4.97	6.94	21.84	0.697	-54.4	0.73		
B3-T2-2	10.01	5.33	6.35	21.64	1.123	-78.3	0.79	✓	
B3-T3-1	9.96	6.97	6.84	24.06	0.906	-55.4	0.49		
B3-T3-2	7.4	~~6.97~~ 7.77	7.02	20.13	0.651	-57.0	0.60		
B3-T4-1	6.32	5.30	7.04	19.11	0.595	-60.9	0.51		
B3-T5-1	9.33	5.94	7.10	20.28	0.519	-52.6	~~1.30~~ 1.34		
B3-T5-2	7.98	5.86	6.80	20.78	0.724	-61.5	0.46		
B3-T6-1	11.45	5.35	7.10	20.90	0.516	-51.2	1.72		
B3-T6-2	12.34	5.15	7.04	20.30	0.528	-60.4	0.28		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday	Friday
Date/Time:	11.23.09	0880	11.24.09	1500	11.25.09	0830	11.26.09	11.27.09
Rate (gpm) / Cumulative Total (gal)								
T-1 *	8.3/24.9	5,673,252	23.3	28033	8.71	45,135		
T-2	2.21/10.6	2,520,978	10.4	2532775	3.12	2,539,752		
T-3								
T-4								
T-5								
T-6								
B-3 (Total)							Holiday	Holiday
CS-MW16-LGR	9.61	262,277	9.32	279,648	9.16	289,474		
CS-MW16-CC	14.7	554,431	14.31	581,030	14.20	596,132		
B3-EXW01	Ø	1,585,049	Ø	off	Ø	off		

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

PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =
45-44	47-42=5			

Notes: tank = 5/8 full
* changed out meter at T-1, hard to read screen old = 5,673,252 gallons new = 0

tank = ½ full

tank = 3/8 full
mw16-LGR = 211.6
mw16-CC = 306.7

mw16-LGR = 203.6
mw16-CC = 294.6
CS-12 to T-6 = 6,024,450 / 66.87

T6 = 70.23 gpm
TOT_2 = 6,152,699

Week 135

70.40 / 6,227,051

- will gravity feed all weekend, transfer pump off, B3-EXW01 will remain off

Personnel	Rice, Tennyson 11-25-09

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	11/25/09	1441	14.13	14.07 14.20	21.56
CS-WB05-LGR-02	182		1439		14.11 14.26	14.26
CS-WB05-LGR-03A	216		1437		14.14 14.27	25.95
CS-WB05-LGR-03B	262		1436		16.17 15.53	45.86
CS-WB05-LGR-04A	277		1435		22.70 22.05	52.98
CS-WB05-LGR-04B	329		1433		45.33 44.68	75.70
CS-WB05-BS-01	362		1431		59.67 59.03	88.75
CS-WB05-CC-01	432		1429		90.08 89.43	86.50
CS-WB05-CC-02	460		1427		102.24 101.60	98.80
CS-WB06-UGR-01	20		1407	14.13	14.04 14.15	18.43
CS-WB06-LGR-01	93		1405		14.07 14.21	16.31
CS-WB06-LGR-02	174		1403		14.11 14.26	38.33
CS-WB06-LGR-03A	207		1401		14.14 14.27	34.38
CS-WB06-LGR-03B	260		1359		21.60 25.42	57.28
CS-WB06-LGR-04	320		1357		47.66 51.47	78.37
CS-WB07-UGR-01	14		1421	14.13	14.05 14.17	16.75
CS-WB07-LGR-01	90		1420		14.10 14.21	17.80
CS-WB07-LGR-02	175		1418		14.14 14.25	29.31
CS-WB07-LGR-03A	208		1416		14.17 14.27	29.14
CS-WB07-LGR-03B	257		1414		15.58 15.60	50.34
CS-WB07-LGR-04	318		1412		42.13 42.11 ~~51.47~~	78.30
CS-WB08-UGR-01	38		1350	14.13	14.03 14.17	20.03
CS-WB08-LGR-01	115		1348		14.08 14.21	22.65
CS-WB08-LGR-02	193		1346		14.12 14.25	22.00
CS-WB08-LGR-03A	228		1344		14.14 14.28	27.31
CS-WB08-LGR-03B	273		1342		18.87 25.99	46.77
CS-WB08-LGR-04	341		1340		48.45 55.53	78.46

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch, 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: 12-3-09		Time: 1400							
B3-T1-1	12.9	3.48	6.99	15.24	0.414	-57.1	3.43		
B3-T1-2	12.4	3.21	6.60	19.86	0.544	-108.7	0.59	✓	
B3-T1-3	12.85	2.07	6.91	12.91	0.466	-57.7	0.70		Temp?
B3-T2-1	9.67	4.88	7.08	20.37	0.507	-59.7	0.28	✓	
B3-T2-2	10.01	5.28	6.40	21.35	0.751	-91.6	0.80		
B3-T3-1	9.96	6.86	7.01	22.37	0.654	-71.20	0.41		
B3-T3-2	7.4	6.69	7.04	18.11	0.479	-59.3	1.16		
B3-T4-1	6.32	5.28	6.99	16.91	0.429	-65.3	0.75		
B3-T5-1	9.33	5.94	7.11	19.52	0.403	-62.2	1.30		
B3-T5-2	7.98	5.88	6.71	18.91	0.511	-62.4	1.01		
B3-T6-1	11.45	5.32	7.11	20.90	0.403	-60.3	2.60		
B3-T6-2	12.34	5.13	7.08	19.75	0.407	-62.4	0.64		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11.30.09	1119	12.1.09	0915	12.2.09	0828	12.3.09	0900	12.4.09	1043
Rate (gpm) / Cumulative Total (gal)										
T-1	23.4	93077.4	25.4	124490	24.1	157757	24.1	192702	—	—
T-2	11.6	2550819	10.1	2563919	9.97	2577652	9.23	2592147	—	—
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	Ø	318313	Ø	323508	Ø	329164	Ø	334895	—	—
CS-MW16-CC	Ø	642148	Ø	650636	Ø	659639	Ø	668730	—	—
B3-EXW01	41.18	1585059	24.12	1617236	23.94	1650443	24.13	1685066	—	—

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

38.51	PB-1 - PB-2 = 48-40=8	PB-1 - PB-2 = 44-44=0	PB-1 - PB-2 = 44-44=0	PB-1 - PB-2 = 44-44=0	PB-1 - PB-2 = —

Notes: Tank is 10/16 full
Turned on TP and B3EX01 - opened valve.

Tank is 3/4 full

MW16 LGR = 199.3
MW16 CC = 241.2
Tank 3/4 full

MW16 LGR = 197.1
MW16 CC = 238.9
Tank is 9/16 full

System off and lines drained for the weekend

Changed BF (42-42=0)

Week 136

Turning off all 3 wells → and draining lines

CS-12 is still injecting into T-6.

68.16/6,734,623 | 71.23/6,828,133 | 70.9/6,926,466 | 70.99/7,029,379 | 69.23/7,137,925

Personnel: S. Elliott & M. Zugelder

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	12/3/09	0813	14.14	14.07 14.21	21.49
CS-WB05-LGR-02	182		0812		14.11 14.25	14.20
CS-WB05-LGR-03A	216		0810		14.14 14.27	23.20
CS-WB05-LGR-03B	262		0809		16.17 15.55	43.10
CS-WB05-LGR-04A	277		0808		22.70 22.07	49.37
CS-WB05-LGR-04B	329		0807		45.33 44.70	71.88
CS-WB05-BS-01	362		0806		59.67 59.04	86.~~30~~ 27
CS-WB05-CC-01	432		0804		90.08 89.45	98.41
CS-WB05-CC-02	460		0802		102.24 101.61	110.33
CS-WB06-UGR-01	20		0846	14.16	14.04 14.18	18.40
CS-WB06-LGR-01	93		0845		14.07 14.22	16.27
CS-WB06-LGR-02	174		0844		14.11 14.27	37.94
CS-WB06-LGR-03A	207		0843		14.14 14.28	34.76
CS-WB06-LGR-03B	260		0842		21.60 25.42	57.66
CS-WB06-LGR-04	320		0840		47.66 51.47	71.76
CS-WB07-UGR-01	14		0904	14.15	14.05 14.18	16.74
CS-WB07-LGR-01	90		0901		14.10 14.22	17.76
CS-WB07-LGR-02	175		0900		14.14 14.27	29.54
CS-WB07-LGR-03A	208		0858		14.17 14.28	28.99
CS-WB07-LGR-03B	257		0857		15.58 15.63	50.18
CS-WB07-LGR-04	318		0856		42.13 42.11	69.61
CS-WB08-UGR-01	38		0829	14.13	14.03 14.18	19.99
CS-WB08-LGR-01	115		0828		14.08 14.22	20.78
CS-WB08-LGR-02	193		0827		14.12 14.26	22.32
CS-WB08-LGR-03A	228		0826		14.14 14.28	22.96
CS-WB08-LGR-03B	273		0825		18.87 25.98	42.41
CS-WB08-LGR-04	341		0823		48.45 55.52	70.55

Week 136

weather is supposed to get very cold and freeze tomorrow night.
Don't want lines to burst.

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: 12.8.09		Time: 10:10							
B3-T1-1	12.9	3.94	7.04	18.92	0.551	-46.6	1.21	✓	MW27UGR 6.46 DTW (MW27 UGR)
B3-T1-2	12.4	3.85	6.62	18.54	0.653	-100.7	0.69		
B3-T1-3	12.85	3.54	7.03	13.63	0.595	-53.9	0.67		
B3-T2-1	9.67	5.37	7.07	18.99	0.590	-47.4	0.70	✓	
B3-T2-2	10.01	5.20	6.54	19.44	0.832	-49.6	0.83		
B3-T3-1	9.96	6.99	7.00	21.16	0.761	-54.6	0.45		
B3-T3-2	7.4	6.71	6.88	16.27	0.542	-57.3	1.14		
B3-T4-1	6.32	5.25	6.91	15.20	0.503	-52.5	0.89		
B3-T5-1	9.33	5.98	7.16	20.26	0.491	-50.6	0.92		
B3-T5-2	7.98	6.12	6.74	17.55	0.650	-52.7	0.71		
B3-T6-1	11.45	5.40	7.14	20.18	0.489	-50.4	2.53		
B3-T6-2	12.34	5.19	7.14	20.55	0.494	-52.5	0.67		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12.7.09	1327	12.8.09	0943	12.9.09	1006	12.10.09	0943	12.11.09	0825
Rate (gpm) / Cumulative Total (gal)										
T-1	4.39	202,824	22.2	223,979	22.9	257,425	23.4	290,122	23.0	321,858
T-2	3.25	2,596,082	9.82	2,604,473	9.66	2,618,649	10.7	2,632,426	10.2	2,645,626
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	9.83	337,935	Ø	338,987	8.48	343,908	8.19	348,705	8.32	353,290
CS-MW16-CC	15.02	673,345	Ø	674,975	15.67	683,972	15.56	693,067	15.72	701,887
B3-EXW01	41.29	1,694,175	24.21	1,723,929	23.82	1,758,536	23.51	1,792,252	23.48	1,824,299

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

	PB-1 - PB-2 = 0-0=0	PB-1 - PB-2 = 0-0=0	PB-1 - PB-2 = 42-42=0	PB-1 - PB-2 = 44-44=0	PB-1 - PB-2 = 45-44=1
Notes:	Tank is 1/4 full	MW16 LGR = 197.4 MW16 CC = 223.1 Tank is 9/16 full	MW16 LGR = 199.2 MW16 CC = 230.2 Tank is 1/2 full	Tank is 9/16 full	Tank is 1/2 full

turned on 16 wells and extraction well - closed all valves

changed BF

Week 137

70.64 / 7,449,394 (~~863,679~~) 70.17 / 7535132 69.93 / 7640294 70.52 / 7736205 70.10 / 7831754

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	12.10.09	1402	14.12	14.07 14.16	21.47
CS-WB05-LGR-02	182		1401		14.11 14.22	14.20
CS-WB05-LGR-03A	216		1400		14.14 14.23	23.04
CS-WB05-LGR-03B	262		1359		16.17 15.49	42.95
CS-WB05-LGR-04A	277		1358		22.70 22.01	48.41
CS-WB05-LGR-04B	329		1357		45.33 44.65	70.84
CS-WB05-BS-01	362		1356		59.67 59.00	85.78
CS-WB05-CC-01	432		1355		90.08 89.40	101.03
CS-WB05-CC-02	460		1353		102.24 101.55	112.97
CS-WB06-UGR-01	20		1433	14.12	14.04 14.13	18.33
CS-WB06-LGR-01	93		1432		14.07 14.17	16.28
CS-WB06-LGR-02	174		1431		14.11 14.22	38.07
CS-WB06-LGR-03A	207		1430		14.14 14.23	35.26
CS-WB06-LGR-03B	260		1429		21.60 25.37	58.16
CS-WB06-LGR-04	320		1428		47.66 51.43	70.91
CS-WB07-UGR-01	14		1453	14.11	14.05 14.14	16.63
CS-WB07-LGR-01	90		1452		14.10 14.19	17.73
CS-WB07-LGR-02	175		1451		14.14 14.21	29.64
CS-WB07-LGR-03A	208		1450		14.17 14.23	28.88
CS-WB07-LGR-03B	257		1449		15.58 15.58	50.07
CS-WB07-LGR-04	318		1447		42.13 42.07	68.41
CS-WB08-UGR-01	38		1418	14.11	14.03 14.14	19.94
CS-WB08-LGR-01	115		1417		14.08 14.18	20.73
CS-WB08-LGR-02	193		1416		14.12 14.23	22.47
CS-WB08-LGR-03A	228		1415		14.14 14.24	22.17
CS-WB08-LGR-03B	273		1414		18.87 25.93	41.63
CS-WB08-LGR-04	341		1413		48.45 55.48	69.81

Week 137

SWMU B-3 Tree Mulch Bioreactor

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: 12/15/09		Time: 905							
B3-T1-1	12.9	2.85	6.82	17.33	0.559	-52.0	0.53		@ 1000
B3-T1-2	12.4	3.18	6.91	18.76	0.565	-48.0	0.33		@ 1306
B3-T1-3	12.85	2.45	7.16	16.43	0.586	-42.9	2.48	✓	@ 0920
B3-T2-1	9.67	4.62	6.84	17.84	0.569	-47.9	0.42		@ 1330
B3-T2-2	10.01	4.93	6.39	19.19	0.924	-69.1	0.45	✓	@ 1025
B3-T3-1	9.96	6.82	6.97	20.45	0.750	-79.5	0.47		
B3-T3-2	7.4	6.62	6.92	16.10	0.570	-54.6	1.03		
B3-T4-1	6.32	5.21	6.96	16.75	0.521	-51.4	0.76		
B3-T5-1	9.33	6.04	7.07	21.27	0.503	-53.9	0.55		
B3-T5-2	7.98	6.03	6.66	16.70	0.577	-50.1	0.49		
B3-T6-1	11.45	5.44	7.07	20.97	0.502	-54.0	2.26		
B3-T6-2	12.34	5.27	7.05	21.38	0.505	-54.1	0.43		@ 1415
B3-UIC			6.99	19.88	0.543	-52.4	4.16		@ 1405

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12.14.09	0924	12.15.09	0855	12.16.09	0940	12.17.09	0909	12.18.09	0837
Rate (gpm) / Cumulative Total (gal)										
T-1	23.4	421083	22.4	452702	22.6	484408	22.3	516587	23.4	541142
T-2	10.1	2,686,444	8.5	2,699,775	9.4	2,713,279	10.9	2,727,567	12.2	2,735,366
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.81	367,223	8.09	371,400	8.04	375,947	Ø	380,640	Ø	384015
CS-MW16-CC	15.56	729,163	15.80	737,423	15.23	746,000	Ø	754,947	Ø	761,373
B3-EXW01	23.3	1926840	23.31	1959970	23.09	1993115	23.41	2026517	23.0	2059664

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

PB-1 - PB-2 = 48-44=4	PB-1 - PB-2 = 48-42=6	PB-1 - PB-2 = 48-42=6	PB-1 - PB-2 = 48-40=8	PB-1 - PB-2 = 42-42=0
Notes: Tank is 3/4 full MW16LGR = 205.9 MW16CC = 243.0	Tank is 9/16 full	Tank 9/16 full MW16CC = 246.0 MW16LGR = 210.2	Tank is 1/2 full changed BF	Tank was overflowing - turned out to be floats at sump 1-1 * MW16LGR = 225.9 MW16CC = 284.4

Week 138

70.17 / 8,138812 | 69.70 / 8,262,044 | 69.58 / 8,337,799 | 8,440,262 / 69.7 | 69.53 / 8,539,73

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	12/16/09	0914	14.20	14.20 14.26	21.54	
CS WB05 LGR 02	182		0913		14.25 14.32	14.28	
CS-WB05-LGR-03A	216		0912		14.30 14.34	21.18	14.03
CS WB05 LGR 03B	262		0911		20.50 15.53	41.09	12.14.09 | 0950 — 17.41 | 41.60
CS-WB05-LGR 04A	277		0910	~~14.05~~	27.00 22.09	46.64	
CS WB05 LGR 04B	329		0910		49.85 44.70	68.98	
CS WB05 BS 01	362		0909		64.00 59.04	84.16	
CS WB05 CC 01	432		0908		94.00 89.46	97.73	
CS WB05 CC 02	460		0907		106.85 101.6	110.17	
CS WB06 UGR 01	20		0949		14.20 14.25	18.47	
CS WB06 LGR 01	93		0948		14.20 14.28	16.39	
CS WB06 LGR 02	174		0947	14.20	14.30 14.33	38.22	
CS WB06 LGR 03A	207		0946		14.35 14.35	35.41	14.01
CS WB06 LGR 03B	260		0945		22.81 25.48	58.38	12/14/09 | 1350 — 26.72 | 58.2
CS WB06 LGR 04	320		0943		48.80 51.54	69.66	
CS WB07 UGR 01	74		1006		14.20 14.24	16.94	
CS-WB07-LGR-01	90		1005		14.25 14.27	17.75	
CS-WB07-LGR-02	175		1004	14.22	14.20 14.32	29.62	
CS-WB07 LGR 03A	208		1003		14.30 14.33	27.74	14.00
CS WB07 LGR 03B	257		1002		16.70 15.65	48.94	12/14/09 | ~~1300~~ 1045 — 17.43 | 49.22
CS-WB07-LGR-04	318		1000		43.22 42.15	66.70	
CS WB08 UGR 01	38		0931		14.20 14.24	15.16	
CS-WB08-LGR-01	175		0930		14.25 14.28	20.74	
CS WB08 LGR 02	193		0928	14.20	14.25 14.33	22.66	
CS-WB08 LGR 03A	228		0927		14.30 14.35	20.60	
CS WB08 LGR 03B	273		0926		20.55 26.03	40.04	09 14:10 — 27.88 | 40.5
CS WB08 LGR 04	341		0924		50.00 55.57	68.47	

SWMU B-3 Tree Mulch Bioreactor

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: ~~12.21.09~~ 12.23.09		Time: ~~0855~~ 1104							
B3-T1-1	12.9	3.09	7.05	19.23	0.416	-54.3	0.68		
B3-T1-2	12.4	2.74	6.76	16.66	0.415	-63.2	0.49	✓	
B3-T1-3	12.85	2.36	6.82	14.64	0.425	-51.7	0.69		
B3-T2-1	9.67	4.53	6.89	17.94	0.420	-71.7	0.55		
B3-T2-2	10.01	4.83	6.42	18.84	0.696	-83.1	0.65	✓	
B3-T3-1	9.96	6.77	7.00	19.44	0.557	-88.2	0.35		
B3-T3-2	7.4	6.62	6.93	16.52	0.426	-49.5	0.73		
B3-T4-1	6.32	5.17	6.98	17.04	0.386	-50.5	0.48		
B3-T5-1	9.33	6.09	7.16	21.17	0.372	-56.8	0.70		
B3-T5-2	7.98	6.04	6.70	16.53	0.426	-50.0	0.46		
B3-T6-1	11.45	5.46	7.16	21.70	0.371	-55.1	2.42		
B3-T6-2	12.34	5.26	7.14	21.60	0.371	-60.8	0.42		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday
Date/Time:	12.21.09	0855	12.22.09	0925	12.23.09	0932	12.24.09	1000	
	Rate (gpm) / Cumulative Total (gal)								
T-1	23.0	624468	9.27	656528	7.43	677879	9.24	698082	
T-2	11.1	2,779,845	5.88	2,795,650	4.0	2,806,533	3.74	2,816,957	
T-3									
T-4									
T-5									
T-6									
B-3 (Total)									
CS-MW16-LGR	8.09	395987	Ø	402316	8.09	411349	8.19	423661	
CS-MW16-CC	15.61	784169	Ø	796369	15.27	814532	15.07	836741	
B3-EXW01	Ø	2,156,018	23.11	2,188,411	Ø	2,191,534	Ø	2,219,534	

Holiday
Merry Christmas!

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

PB-1 - PB-2 =	42-42=0	PB-1 - PB-2 = 0-0=0	PB-1 - PB-2 = 52-30=18	PB-1 - PB-2 = 0-0=0	PB-1 - PB-2 =

Notes:
Tank is 9/16 full
MW16CC = * SCADA DOWN
MW16LGR = * SCADA DOWN

Tank is 3/4 full
MW16CC = 293.1
MW16LGR = 226.1
*Turned off extraction well

MW16 LGR = 227.2
MW16 CC = 301.8
Tank is 1/4 full
Week 139
changed bag filter

Tank is 1/2 full
Turned of 16 wells and drained tank for weekend | also drained lines.

69.58 / 9,840,911 | 69.46 / 9,942,496 | 69.46 / 10,042,751 | 68.87 / 10,144,051

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	12.21.09	1347	14.08	14.26 14.13	21.58
CS-WB05-LGR-02	182		1346		14.32 14.19	14.21
CS-WB05-LGR-03A	216		1345		14.34 14.21	19.98
CS-WB05-LGR-03B	262		1344		15.53 15.37	39.89
CS-WB05-LGR-04A	277		1343		22.09 21.93	45.33
CS-WB05-LGR-04B	329		1342		44.70 44.55	67.82
CS-WB05-BS-01	362		1341		59.04 58.90	82.86
CS-WB05-CC-01	432		1340		89.46 89.30	98.96
CS-WB05-CC-02	460		1339		101.60 101.45	110.91
CS-WB06-UGR-01	20		1415	14.08	14.25 14.10	18.37
CS-WB06-LGR-01	93		1414		14.28 14.14	16.28
CS-WB06-LGR-02	174		1413		14.33 14.19	38.15
CS-WB06-LGR-03A	207		1412		14.35 14.22	35.43
CS-WB06-LGR-03B	260		1411		25.48 25.32	58.32
CS-WB06-LGR-04	320		1410		51.54 51.38	68.55
CS-WB07-UGR-01	14		1430	14.07	14.24 14.10	16.92
CS-WB07-LGR-01	90		1429		14.27 14.13	17.76
CS-WB07-LGR-02	175		1428		14.32 14.18	29.52
CS-WB07-LGR-03A	208		1427		14.33 14.20	26.98
CS-WB07-LGR-03B	257		1426		15.65 15.50	48.16
CS-WB07-LGR-04	318		1425		42.15 42.01	65.49
CS-WB08-UGR-01	38		1402	14.07	14.24 14.11	19.96
CS-WB08-LGR-01	115		1401		14.28 14.15	20.79
CS-WB08-LGR-02	193		1400		14.33 14.19	22.68
CS-WB08-LGR-03A	228		1359		14.35 14.20	19.37
CS-WB08-LGR-03B	273		1358		26.03 25.88	38.82
CS-WB08-LGR-04	341		1357		55.57 55.42	67.30

Week 139

* TP was not on ~~yest~~ when I arrived to check morning readings. Ile wells were off. Water in Trench 1 was higher than it has been. I think that the Sump 1-1 float has turned off everything. Turned off B3 EX 01 in order to allow water to go down abit in Trench 1. Kept checking on it all day. TP did kick on at the end of the day. Kept extraction well off. *

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: Tennyson; J. Bonch

Trench Sumps Water Levels ('BTOC) * see page back

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: 12.31.09		Time: 10:24							
B3-T1-1	12.9	3.84	7.03	19.04	0.468	-47.3	1.60 *	✓	T1 pond water level subsided ~2' 12/24 to 12/28
B3-T1-2	12.4	3.65	6.53	16.63	0.500	-82.0	0.52	✓	
B3-T1-3	12.85	3.28	6.70	10.48	0.470	-43.8	0.72		
B3-T2-1	9.67	5.25	6.82	16.90	0.451	-46.3	1.02		
B3-T2-2	10.01	5.64	6.34	17.78	0.754	-61.7	0.75		
B3-T3-1	9.96	6.96	6.91	18.37	0.596	-66.3	0.43		
B3-T3-2	7.4	6.80	–	–	–	–	–		not enough water.
B3-T4-1	6.32	5.34	6.92	16.34	0.432	-45.3	1.09		
B3-T5-1	9.33	6.35	7.00	19.97	0.421	-47.7	0.95		
B3-T5-2	7.98	7.75	–	–	–	–	–		not enough water.
B3-T6-1	11.45	6.65	7.05	22.41	0.429	-50.6	2.33		
B3-T6-2	12.34	5.48	7.00	20.11	0.421	-47.8	0.48		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12-28-09	1625	12.29.09	1300	12.30.09	1000	12.31.09	1017		
Rate (gpm) / Cumulative Total (gal)										
T-1	9 gpm	699914	8.70	720,315	24.2	748,688	24.9	783,538		
T-2	Ø	2817253	2.78	2825,056	10.9	2,836,716	9.92	2,851,225		
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	6.5	394099	15.07	860,115	7.36	439,438	Ø	446,962		
CS-MW16-CC	15.2	762567	6.47	433,669	15.10	872,681	Ø	887,960		
B3-EXW01	off		OFF		24.291	2216690	23.26	2245496		

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 = Ø	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 46 - 46 = 0	PB-1 - PB-2 = 48 - 46 = 2	PB-1 - PB-2 =
Notes: All ext. wells off since 12/24. MW16s on @ 1121. B3 EXW01 left off.	MW16 LGR - 225.7 MW16 CC = 301.7 Tank is 1/4 full	Tank is 1/2 full	Tank is 3/4 full Wells turned off, T/P off for winterizing. Tank gravity drains. 16LGR = 213.8, 16CC = 249.3	No monitoring - Holiday off.

Tank 3/4 full, gravity draining TP not on yet, left on auto TP test on "Hand" = OK.

changed BF Turned on extraction well

Week 140

66.70 / 10,635,118

65.92 / 10,718,246

66.04 / 10,815,732

system off.

Personnel: J Bowchj, E. Tennysen

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	12.30.09	1122	14.10	14.26 14.13	21.57
CS-WB05-LGR-02	182		1121		14.32 14.17	14.17
CS-WB05-LGR-03A	216		1120		14.34 14.21	19.50
CS-WB05-LGR-03B	262		1119		15.53 15.37	39.43
CS-WB05-LGR-04A	277		1118		22.09 21.89	43.73
CS-WB05-LGR-04B	329		1117		44.70 44.53	66.09
CS-WB05-BS-01	362		1116		59.04 58.89	81.93
CS-WB05-CC-01	432		1115		89.46 89.29	91.70
CS-WB05-CC-02	460		1114		101.60 101.45	104.10
CS-WB06-UGR-01	20		1157	14.11	14.25 14.11	18.28
CS-WB06-LGR-01	93		1156		14.28 14.14	16.29
CS-WB06-LGR-02	174		1155		14.33 14.19	38.03
CS-WB06-LGR-03A	207		1154		14.35 14.21	35.79
CS-WB06-LGR-03B	260		1153		25.48 25.34	58.68
CS-WB06-LGR-04	320		1152		51.54 51.38	67.24
CS-WB07-UGR-01	14		1215	14.09	14.24 14.07	16.77
CS-WB07-LGR-01	90		1214		14.27 14.12	17.74
CS-WB07-LGR-02	175		1213		14.32 14.16	29.39
CS-WB07-LGR-03A	208		1212		14.33 14.19	24.90
CS-WB07-LGR-03B	257		1211		15.65 15.48	48.10
CS-WB07-LGR-04	318		1210		42.15 42.01	63.69
CS-WB08-UGR-01	38		1143	14.09	14.24 14.12	19.87
CS-WB08-LGR-01	115		1142		14.28 14.15	20.90
CS-WB08-LGR-02	193		1140		14.33 14.21	22.64
CS-WB08-LGR-03A	228		1138		14.35 14.22	18.10
CS-WB08-LGR-03B	273		1137		26.03 25.89	37.58
CS-WB08-LGR-04	341		1136		55.57 55.43	66.06

SWMU B-3 Tree Mulch Bioreactor

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: 1.7.09		Time: 0845							
B3-T1-1	12.9	4.51	7.24	19.16	0.360	-51.3	0.75		
B3-T1-2	12.4 4.14	~~6.22~~	6.69	14.30	~~0.521~~ 0.364	-54.0	0.71		
B3-T1-3	12.85	3.75	6.91	13.33	0.348	-43.70	1.48	✓	
B3-T2-1	9.67	5.93	7.06	17.06	0.343	-59.0	0.70		
B3-T2-2	10.01	6.22	6.59	19.16	0.521	-54.0	1.00	✓	
B3-T3-1	9.96	7.08	6.98	17.31	0.422	-48.8	0.69		
B3-T3-2	7.4	6.98	7.04	16.42	0.318	-45.8	2.47		
B3-T4-1	6.32	5.51							
B3-T5-1	9.33	6.59							
B3-T5-2	7.98	7.85	7.09	19.89	0.315	-47.5	1.07		
B3-T6-1	11.45	5.85	7.40	19.35	0.311	-46.4	2.60		
B3-T6-2	12.34	5.70	7.07	20.45	0.314	-50.1	0.80		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday
Date/Time:	1.4.10	0900	1.5.10	0822	1.6.10	0855	1.7.10	0830	
Rate (gpm) / Cumulative Total (gal)									
T-1	2.01	786632	6.03	803139	5.46	812709	9.04	824454	
T-2	0.70	2,852299	12.8	2,871443	13.9	2,893560	17.3	2,920,903	
T-3									
T-4									
T-5									
T-6									
B-3 (Total)									
CS-MW16-LGR	6.47	447067	6.63	455060	6.58	464826	6.47	474382	
CS-MW16-CC	15.40	888180	15.12	906388	14.90	928501	14.98	950339	
B3-EXW01	40.0	2245591	Ø	2257227	Ø/21.8	2258415	11.7	2271382	

System off.

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 = 0-0=0	PB-1 - PB-2 = 0-0=0	PB-1 - PB-2 =
Notes:	Started up B-3 / turned on B3EXW01 and 16 wells Trench here was almost dry and Tank empty	Tank is 1/4 full MW16CC = 301.9 MW16LGR = 231.1	MW16LGR = 231.7 MW16CC = 308.0 Tank is 1/4 full	Tank 3/4 full B3EXW01 WL 253.91	

Week 141

* Turned off and drained System for the weekend due to cold temps*

05.10 / 11,186,882 | 02.86 / 11,274,335 | 62.63 / 11,366,689 | 62.62 / 11,462055

* January 14 – opened Trench 2 line and pinched back B3 EX 01 flow as well as the pressure at the tank in order to keep water flowing and lines from freezing.*

Personnel: J. Bauch, 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	12 5.09	1458		14.26 14.23	21.62
CS-WB05-LGR-02	182		1457		14.32 14.29	14.31
CS-WB05-LGR-03A	216		1456		14.34 14.32	18.60
CS-WB05-LGR-03B	262		1455		15.53 15.43	38.52
CS-WB05-LGR-04A	277		1453	14.19	22.09 21.97	43.78
CS-WB05-LGR-04B	329		1452		44.70 44.59	66.25
CS-WB05-BS-01	362		1450		59.04 58.95	81.61
CS-WB05-CC-01	432		1449		89.46 89.35	89.57
CS-WB05-CC-02	460		1447		101.60 101.51	101.94
CS-WB06-UGR-01	20		1409		14.25 14.22	18.33
CS-WB06-LGR-01	93		1408		14.28 14.25	16.40
CS-WB06-LGR-02	174		1406		14.33 14.29	37.95
CS-WB06-LGR-03A	207		1405	14.15	14.35 14.33	35.80
CS-WB06-LGR-03B	260		1404		25.48 25.43	58.77
CS-WB06-LGR-04	320		1403		51.54 51.48	70.20
CS-WB07-UGR-01	14		1435		14.24 14.22	16.72
CS-WB07-LGR-01	90		1434		14.27 14.24	17.75
CS-WB07-LGR-02	175		1433	14.18	14.32 14.29	29.28
CS-WB07-LGR-03A	208		1432		14.33 14.31	26.30
CS-WB07-LGR-03B	257		1431		15.65 15.61	47.49
CS-WB07-LGR-04	318		1430		42.15 42.12	64.97
CS-WB08-UGR-01	38		1333		14.24 14.21	19.90
CS-WB08-LGR-01	115		1331		14.28 14.25	20.98
CS-WB08-LGR-02	193		1330		14.33 14.30	22.74
CS-WB08-LGR-03A	228		1329	14.17	14.35 14.31	19.03
CS-WB08-LGR-03B	273		1327		26.03 25.17	38.51
CS-WB08-LGR-04	341		1326		55.57 55.53	70.44

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: Tennyson, J. Bouch

Trench Sumps Water Levels ('BTOC)

Sump Name	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp (deg. C)	Specific Conductivity	ORP	DO (mg/L)	Trench Currently Being Used (✓)	Notes
Date: 01-14-10		Time: 10:00 AM							
B3-T1-1	12.9	5.19	7.05	18.92	0.600	-114.9	0.46		3rd
B3-T1-2	12.4	4.95	6.81	17.04	0.611	108.6	0.61	✓	2nd
B3-T1-3	12.85	4.80	7.15	19.05	0.642	-114.1	0.98		1st monitored
B3-T2-1	9.67	6.63	6.94	16.85	05.80	-110.8	0.46		
B3-T2-2	10.01	6.95	6.56	17.59	0.834	-110.9	0.54	✓	
B3-T3-1	9.96	7.15	6.99	17.06	0.688	-108.9	0.62		
B3-T3-2	7.4	7.03	-	-	-	-	-		insufficient water
B3-T4-1	6.32	5.58	6.99	15.55	0.546	-94.8	3.66		
B3-T5-1	9.33	6.70	7.08	20.14	0.545	-101.4	0.79		
B3-T5-2	7.98	dry	-	-	-	-	-		dry
B3-T6-1	11.45	5.97	7.08	21.10	0.551	-106.5	1.77		
B3-T6-2	12.34	5.78	7.09	20.60	0.543	-100.5	0.50		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday		Wednesday		Thursday		Friday	
Date/Time:		01-12-10	1740	1.13.10	0823	1.14.10	1145	1.15.10	0909
Rate (gpm) / Cumulative Total (gal)									
T-1		9.6 gpm	827024	8.87	838612	24.0	861035	8.61	880519
T-2		2.8 gpm	2924465	3.23	2928573	10.1	2936970	2.99	2944351
T-3									
T-4									
T-5	off								
T-6									
B-3 (Total)		Total:							
CS-MW16-LGR		6.43	475889	6.19	481457	6.41	491871	6.41	500005
CS-MW16-CC		14.30	953680	14.03	966232	14.35	989520	14.42	1.08 - flipped
B3-EXW01		off		off		off		off	

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 = 0	PB-1 - PB-2 = 0	PB-1 - PB-2 = 55 - 50 = 5	PB-1 - PB-2 =
Notes: freeze damage repairs underway.	Tank = 9/16 full wells on at 1354, CC T1 = 959379 LGR = 474385	tank is 3/4 full	13/16 tank T/P just on.	MW16CC = 312.3 MW16LGR = 237.0 Tank is half full

T/P tests good, leave on "auto".

Week 142

T6 Q = 60.55 gpm
tot = 92,070

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	01-13-10	1537	14.12	14.26 14.20	21.68
CS-WB05-LGR-02	182		1535		14.32 14.23	14.24
CS-WB05-LGR-03A	216		1534		14.34 14.25	16.84
CS-WB05-LGR-03B	262		1533		15.53 15.36	36.74
CS-WB05-LGR-04A	277		1532		22.09 21.87	40.93
CS-WB05-LGR-04B	329		1531		44.70 44.51	63.63
CS-WB05-BS-01	362		1530		59.04 58.87	79.25
CS-WB05-CC-01	432		1529		89.46 89.28	88.93
CS-WB05-CC-02	460		1528		101.60 101.75 ~~99.35~~	101.31
CS-WB06-UGR-01	20		1608	14.13	14.25 14.17	~~14.17~~ 18.19 JRS
CS-WB06-LGR-01	93		1607		14.28 14.21	~~14.20~~ JRS 16.42
CS-WB06-LGR-02	174		1606		14.33 14.25	~~14.24~~ JRS 37.48 *
CS-WB06-LGR-03A	207		1605		14.35 14.27	35.72
CS-WB06-LGR-03B	260		1604		25.48 25.34	58.62
CS-WB06-LGR-04	320		1601		51.54 51.42	67.56
CS-WB07-UGR-01	14		1444	14.14	14.24 14.16	16.51
CS-WB07-LGR-01	90		1443		14.27 14.21	17.78
CS-WB07-LGR-02	175		1442		14.32 14.25	29.07
CS-WB07-LGR-03A	208		1441		14.33 14.28	25.26
CS-WB07-LGR-03B	257		1421		15.65 15.56	46.46
CS-WB07-LGR-04	318		1418		42.15 42.06	~~42.06~~ JRS 63.06
CS-WB08-UGR-01	38		1352	14.12	14.24 14.15	19.78
CS-WB08-LGR-01	115		1351		14.28 14.19	20.94
CS-WB08-LGR-02	193		1350		14.33 14.21	22.73
CS-WB08-LGR-03A	228		1349		14.35 14.25	14.19
CS-WB08-LGR-03B	273		1348		26.03 25.91	35.67
CS-WB08-LGR-04	341		1344		55.57 ~~56.01~~ JRS	~~98.93~~ JRS
					55.46	47.70

Week 142 * Shoe broke off

Bioreactor Monitoring

Personnel: S. Elliott + B. Martin

Trench Sumps Water Levels ('BTOC)

Date: 1.19.10 Time: 0900

B3-T1-1	12.9	3.08	6.82	17.74	0.596	-89.7	1.24	✓	0930
B3-T1-2	12.4	8.89	6.48	16.48	0.620	-91.7	0.65		1100
B3-T1-3	12.85	2.30	6.75	14.97	0.653	-127.2	0.84		1330
B3-T2-1	9.67	4.52	6.77	16.38	0.575	-87.6	0.70	✓	0945
B3-T2-2	10.01	4.83	6.75	16.58	0.773	-114.3	0.56		1025
B3-T3-1	9.96	6.57	6.88	16.71	0.661	-95.3	0.84		
B3-T3-2	7.4	6.62	6.85	15.38	0.613	-85.7	1.71		
B3-T4-1	6.32	5.25	6.94	16.60	0.542	-88.8	1.67		
B3-T5-1	9.33	6.18	7.00	20.53	0.515	-97.1	0.84		
B3-T5-2	7.98	5.40	6.56	14.23	0.675	-83.8	0.88		
B3-T6-1	11.45	5.45	7.05	21.82	0.512	-99.4	1.90		
B3-T6-2	12.34	5.25	7.02	21.17	0.513	-98.9	0.59		
B3-UIC									

B-3 Transfer System Monitoring

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	1.18.10	0925	1.19.10	0830	1.20.10	0850	1.21.10	0830	1.22.10	0800
T-1	26.8	943642	28.8	965130	8.43	988,463	8.30	1000678	8.34	1013032
T-2	10.6	2,968,501	10.9	2,976,654	2.94	2,985,744	2.53	2,998,022	2.78	2994,352
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.78	532,425	7.87	543,315	7.92	554854	8.15	562,349	0	569,219
CS-MW16-CC	14.47	62305	14.47	82,211	14.52	103364	14.63	116,805	0	129,092
B3-EXW01	off ~~7.98~~	~~532,425~~	off		off		off		off	

	PB-1 - PB-2 = 53 - 52	PB-1 - PB-2 = 53-52	PB-1 - PB-2 =	PB-1 - PB-2 = 54-50	PB-1 - PB-2 = 54-50
Notes:	tank = 3/4 full	tank = 1/2 full	tank = 1/4	tank = 1/2 full TP off for SCADA installation	tank = 3/4

Week 143 - month 37 - Quarter 11

CS-12 435935 / 62.15 65.10 / 525,543 624,205 / 68.40 721,339 / 68.64

Personnel	S. Elliott + B. Martin

Weekly Water Level Monitoring

CS-WB05-LGR-01	99	1.20.10	1001	13.90	14.07 13.94	21.49
CS-WB05-LGR-02	182		1000		14.11 13.99	15.84
CS-WB05-LGR-03A	216		0959		14.14 14.01	38.30
CS-WB05-LGR-03B	262		0958		16.17 15.15	58.25
CS-WB05-LGR-04A	277		0956		22.70 21.69	68.51
CS-WB05-LGR-04B	329		0955		45.33 44.29	91.52
CS-WB05-BS-01	362		0954		59.67 58.63	100.19
CS-WB05-CC-01	432		0953		90.08 89.06	85.93
CS-WB05-CC-02	460		0952		102.24 101.23	98.19
CS-WB06-UGR-01	20		0926	13.90	14.04 13.93	18.57
CS-WB06-LGR-01	93		0925		14.07 13.96	16.29
CS-WB06-LGR-02	174		0923		14.11 14.01	44.38
CS-WB06-LGR-03A	207		0922		14.14 14.02	40.58
CS-WB06-LGR-03B	260		0921		21.60 25.14	63.47
CS-WB06-LGR-04	320		0920		47.66 51.19	94.61
CS-WB07-UGR-01	14		0910	13.87	14.05 13.94	17.10
CS-WB07-LGR-01	90		0908		14.10 13.96	17.75
CS-WB07-LGR-02	175		0907		14.14 14.00	33.80
CS-WB07-LGR-03A	208		0906		14.17 14.05	34.34
CS-WB07-LGR-03B	257		0905		15.58 15.32	55.55
CS-WB07-LGR-04	318		0903		42.13 41.83	92.57
CS-WB08-UGR-01	38		0941	13.90	14.03 13.92	20.28
CS-WB08-LGR-01	115		0940		14.08 13.97	20.47
CS-WB08-LGR-02	193		0939		14.12 14.01	23.12
CS-WB08-LGR-03A	228		0938		14.14 14.02	40.68
CS-WB08-LGR-03B	273		0937		18.87 25.71	60.14
CS-WB08-LGR-04	341		0936		48.45 55.24	92.76

Week 143 - Month 33 - Quarter 11

Personnel: S. Elliott + J. Bosch

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	1/25/10	0838	13.96	14.26 14.10	21.27
CS-WB05-LGR-02	182		0837		14.32 14.14	23.18
CS-WB05-LGR-03A	216		0836		14.34 14.16	40.10
CS-WB05-LGR-03B	262		0835		15.53 14.94	60.03
CS-WB05-LGR-04A	277		0834		22.09 21.48	67.81
CS-WB05-LGR-04B	329		0833		44.70 44.11	90.52
CS-WB05-BS-01	362		0832		59.04 58.45	102.04
CS-WB05-CC-01	432		0831		89.46 88.85	103.29
CS-WB05-CC-02	460		0830		101.60 101.00	115.15
CS-WB06-UGR-01	20		0913	14.05	14.25 14.07	18.42
CS-WB06-LGR-01	93		0912		14.28 14.10	16.38
CS-WB06-LGR-02	174		0910		14.33 14.16	41.77
CS-WB06-LGR-03A	207		0909		14.35 14.17	41.77
CS-WB06-LGR-03B	260		0908		25.48 25.29	64.65
CS-WB06-LGR-04	320		0907		51.54 51.34	91.60
CS-WB07-UGR-01	14		0927	14.04	14.24 14.07	17.01
CS-WB07-LGR-01	90		0926		14.27 14.11	17.74
CS-WB07-LGR-02	175		0925		14.32 14.14	35.21
CS-WB07-LGR-03A	208		0924		14.33 14.18	39.90
CS-WB07-LGR-03B	257		0923		15.65 15.45	61.09
CS-WB07-LGR-04	318		0922		42.15 41.99	90.14
CS-WB08-UGR-01	38		0856	14.03	14.24 14.06	20.08
CS-WB08-LGR-01	115		0855		14.28 14.11	20.16
CS-WB08-LGR-02	193		0854		14.33 14.13	23.99
CS-WB08-LGR-03A	228		0853		14.35 14.17	40.98
CS-WB08-LGR-03B	273		0852		26.03 25.85	60.44
CS-WB08-LGR-04	341		0850		55.57 55.39	91.61

Week 144

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch; S. Elliott, 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: 1-29-10		Time: 1500							
B3-T1-1	12.9	3.95	6.92	17.39	0.521	-103.4	0.53		Standing water remains in S. half T1.
B3-T1-2	12.4	3.80	6.55	17.04	0.528	-129.3	0.84		
B3-T1-3	12.85	3.45	6.76	14.78	0.521	-125.7	0.58		1.3" precip
B3-T2-1	9.67	5.34	6.78	18.08	0.493	-120.9	0.54	NONE 1-27 to 1-29	overnight 1/28-1/29.
B3-T2-2	10.01	5.72	6.31	17.18	0.699	-109.5	0.75		
B3-T3-1	9.96	6.55		17.05	0.521	-103.0	0.55		
B3-T3-2	7.4	6.49		17.87	0.541	-100.1	0.98		
B3-T4-1	6.32	5.10		18.34	0.467	-103.0	0.77		
B3-T5-1	9.33	5.86		19.48	04.55	-101.7	2.49		
B3-T5-2	7.98	5.28		16.28	0.535	-95.5	1.53		
B3-T6-1	11.45	4.90	7.10	22.25	0.466	-110.9	2.20		
B3-T6-2	12.34	4.69	6.96	18.95	0.452	-105.5	0.69		
B3-UIC									No water, system down

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday
Date/Time:	1.25.10	0815	1.26.10	0874	1.27.09	0930	1-28-09	1450	1-29-10
Rate (gpm) / Cumulative Total (gal)									
T-1	4.84	1,044,414	8.62	050658	Ø	1,054,156	Ø	no change	
T-2	6.75	3,002,444	7.33	3002920	Ø	3,003,475			
T-3									
T-4									
T-5									
T-6									
B-3 (Total)									
CS-MW16-LGR	Ø	586990	Ø	589945	Ø	590332	Ø	wo change	
CS-MW16-CC	Ø	161236	Ø	166681	Ø	167,412			
B3-EXW01	Ø	2271716	off		off				

system powered down - winterized

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

	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 = Ø	PB-1 - PB-2 =
Notes:	Tank is 3/4 full	Tank is 3/4 full	Tank is empty	Tank is M.T. system off for SCADA work and freeze prevention	16LGR = 148.41, 16CC = 193.46

*SCI working on SCADA system →

75.64/12,590,450

Week 144

T6 = 75.64/12,480,660

16LGR = 161.83; 16CC = 190.51'

Quarter 11

71.70 / 134,355 71.93 / 236967

75.35/372,398

Personnel S. Elliott & B. Martin & J. Bosch

Quarterly Monitoring

MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure
CS-WB05-LGR-01	99	1.20.10	1045	13.87	21.52
CS-WB05-LGR-02	182	1.20.10	1120	13.96	15.91
CS-WB05-LGR03A	216	1.20.10	1445	13.96	37.65
CS-WB05-LGR03B	262	1.20.10	1345	17.06	58.44
CS-WB05-LGR04A	277	1.20.10	1545	23.53	68.55
CS-WB05-LGR04B	329	1.21.10	1400	46.02	91.97
CS-WB05-BS-01	362	1.21.10	1300	60.47	101.17
CS-WB05-CC-01	432	1.21.10	1100	91.01	90.71
CS-WB05-CC-02	460	1.21.10	0945	103.31	104.19 ~~145.70~~
A CS-WB06-UGR-01	20	1.27.10	1400	14.07	18.39
A CS-WB06-LGR-01	93	1.27.10	1325	14.11	16.45
A CS-WB06-LGR-02	174	1.27.10	1255	14.17	40.88
B CS-WB06-LGR03A	207	1.27.10	1100	14.20	38.83
B CS-WB06-LGR03B	260	1.27.10	1025	27.19	64.80
B CS-WB06-LGR-04	320	1.27.10	0945	53.31	89.71
CS-WB07-UGR-01	14	1.25.10	1430	14.01	17.00
CS-WB07-LGR-01	90	1.25.10	1350	14.06	17.72
CS-WB07-LGR-02	175	1.25.10	1315	14.11	35.20
CS-WB07-LGR03A	208	1.25.10	1130	14.15	35.87
CS-WB07-LGR03B	257	1.25.10	1100	17.40	61.09
CS-WB07-LGR-04	318	1.25.10	1015	43.94	90.13
CS-WB08-UGR-01	38	1.26.10	1350	14.10	20.09
CS-WB08-LGR-01	115	1.26.10	1300	14.16	20.28
CS-WB08-LGR-02	193	1.26.10	1100	14.21	24.16
CS-WB08-LGR03A	228	1.26.10	1030	14.23	40.45
CS-WB08-LGR03B	273	1.26.10	0950	27.83	59.92
CS-WB08-LGR-04	341	1.26.10	0910	57.42	90.96

Monitroing Wells	Sample Date	Sample Time	pH	Temp	SpCond	ORP	DO
B3-MW01	1.18.10	1600	6.42	20.81	0.867	-137.4	0.74
CS-D	1.18.10	1145	6.96	20.74	0.476	-82.0	2.44
CS-MW16-LGR	1.18.10	1045	7.04	20.45	0.492	-87.4	2.63
CS-MW16-CC	1.18.10	1015	7.53	22.11	0.602	-90.3	3.46
CS-MW1-LGR	1.18.10	1420	6.71	21.04	0.485	-79.9	2.47
B3-EXW01	1.18.10	1510	6.82	21.85	0.532	-86.1	1.81

Bioreactor Monitoring

Personnel: Tennyson, J. Bouch, 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: 2·5·10		Time: 1100							
B3-T1-1	12.9	2.42	6.75	17.31	0.545	-114.5	0.75	✓	
B3-T1-2	12.4	2.05	6.63	16.79	0.545	-101.5	0.63	✓	
B3-T1-3	12.85	1.68	6.72	11.61	0.575	-103.2	0.79	✓	
B3-T2-1	9.67	3.88	6.86	16.41	0.500	-106.4	0.65	✓	
B3-T2-2	10.01	4.18	6.47	15.89	0.685	-94.2	0.78		
B3-T3-1	9.96	6.01	6.81	16.71	0.523	-94.2	0.69		
B3-T3-2	7.4	5.89	6.95	16.11	0.510	-97.3	1.05		
B3-T4-1	6.32	4.43	6.95	16.57	0.495	-113.8	0.88		
B3-T5-1	9.33	5.43	7.04	19.82	0.485	-87.9	1.79		
B3-T5-2	7.98	3.75	6.71	14.54	0.606	-91.5	1.04		
B3-T6-1	11.45	4.2	7.05	21.08	0.482	-88.4	2.20		
B3-T6-2	12.34	3.94	7.04	19.88	0.483	-96.3	1.45		
B3-UIC			7.06	21.35	0.510	-97.0	6.57		

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	02-01-10	12:00	2·2·10	0930	2·3·10	0947	2·4·10	1545	2·5·10	0836
Rate (gpm) / Cumulative Total (gal)										
T-1			27.5	1055339	Ø	1075730	8.22	1096070	8.11	1104464
T-2			11.2	3003862	Ø	3011943	2.33	3018361	2.13	3020587
T-3										
T-4			System started up							
T-5			@ 1400							
T-6			Ext well not working							
B-3 (Total)			in auto - well off!							
CS-MW16-LGR			Ø	593,243	Ø	609355	11.5	629858	11.34	641,338
CS-MW16-CC			Ø	168947	Ø	177373	15.5	187950	Ø	189,535
B3-EXW01			Ø	2271724	off		off		off	

System off - winterized - SCADA work

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 = N/A	PB-1 - PB-2 = 52-52=0	PB-1 - PB-2 = 0-0=0	PB-1 - PB-2 = T/P off	PB-1 - PB-2 = TP is off 0-0=0
Notes: T6 flow: 76.70 gpm Total: 12,904,920 gal. 16LGR: 126.61', 16CC: 202.85'	16LGR: 125.8 16CC: 205.7 changed BF Tank is 13/16 full 77.23/13,001294	16LGR = 128.26 } GAL 16CC = 201.70 reading Tank empty - TP on	16LGR = 131.7 16CC = non-op changed BF syst. on + off for SCADA upgrades. 77.05/13,255,560	Tank is at 1/4 full 77.59/13,222,7[illegible]

Week 145

Personnel	S. Elliott + J. Bach

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	2/5/10	1006	13.95	14.26 14.07	21.64
CS-WB05-LGR-02	182		1005		14.32 14.11	39.91
CS-WB05-LGR-03A	216		1004		14.34 14.15	57.09
CS-WB05-LGR-03B	262		1004		15.53 15.65	77.04
CS-WB05-LGR-04A	277		1003		22.09 22.19	88.24
CS-WB05-LGR-04B	329		1002		44.70 44.81	111.44
CS-WB05-BS-01	362		1001		59.04 59.16	119.11
CS-WB05-CC-01	432		1000		89.46 89.57	122.60
CS-WB05-CC-02	460		0959		101.60 101.71	134.50
CS-WB06-UGR-01	20		1034	14.02	14.25 14.04	20.55
CS-WB06-LGR-01	93		1033		14.28 14.07	22.51
CS-WB06-LGR-02	174		1032		14.33 14.12	56.38
CS-WB06-LGR-03A	207		1031		14.35 14.14	52.34
CS-WB06-LGR-03B	260		1030		25.48 24.18	75.24
CS-WB06-LGR-04	320		1029		51.54 51.23	114.46
CS-WB07-UGR-01	14		1047	14.00	14.24 14.05	17.97
CS-WB07-LGR-01	90		1046		14.27 14.08	18.51
CS-WB07-LGR-02	175		1045		14.32 14.12	45.20
CS-WB07-LGR-03A	208		1044		14.33 14.14	53.39
CS-WB07-LGR-03B	257		1043		15.65 15.36	74.60
CS-WB07-LGR-04	318		1042		42.15 41.89	113.33
CS-WB08-UGR-01	38		1020	14.00	14.24 14.04	22.40
CS-WB08-LGR-01	115		1019		14.28 14.07	20.33
CS-WB08-LGR-02	193		1018		14.33 14.12	28.14
CS-WB08-LGR-03A	228		1018		14.35 14.17	60.23
CS-WB08-LGR-03B	273		1017		26.03 25.75	79.69
CS-WB08-LGR-04	341		1016		55.57 55.28	112.11

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch, 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: 2.12.10		Time: 1010							
B3-T1-1	12.9	1.84	6.55	9.97	0.353	-80.8	0.90	✓	System off due to winterization and SCADA work
B3-T1-2	12.4	1.48	6.50	10.51	0.358	-78.8	0.85		
B3-T1-3	12.85	1.12	6.58	9.54	0.373	-80.0	0.73		
B3-T2-1	9.67	3.35	6.83	15.24	0.336	-88.8	0.76	✓	
B3-T2-2	10.01	3.53	6.44	12.20	0.459	-80.2	0.82		
B3-T3-1	9.96	5.82	6.91	17.49	0.364	-93.4	0.88		*DO Membrane may need to be changed*
B3-T3-2	7.4	5.90	6.98	15.83	0.341	-88.1	1.34	OK	
B3-T4-1	6.32	4.75	6.93	15.17	0.323	-85.8	1.62		
B3-T5-1	9.33	5.53	7.10	19.06	0.319	-88.9	1.75	OK	
B3-T5-2	7.98	4.48	6.78	14.74	0.410	-94.3	0.94		
B3-T6-1	11.45	4.32	7.34	19.75	0.328	3.22 ↔	-82.0		
B3-T6-2	12.34	4.10	7.21	19.18	0.324	1.61 ↔	-91.2		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	2-8-10	1500	2.9.10	0841	2.10.10	—	2.11.10	—	2.12.10	1000
Rate (gpm) / Cumulative Total (gal)										
T-1	8.4	1110639	7.63	1,119,045	System off SCADA work and winterization		System off SCADA work and winterization			
T-2	(?) 0.1+/-	3021700	0.19	3,022,502						
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	11.34	649,990	11.9	661,554						
CS-MW16-CC	off		Ø	189,535						
B3-EXW01	off		off							

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 = Ø	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =

Notes: Syst. all off overweekend except discharge into T6.
Tank ½ full 16LGR DTW=115.1' (turn'd on 1016)

Tank is 1/2 full

1050-Turned off CS-12

TG Q = 81.87 gpm
tot2 = 13,716,920

Turned of Well 16LGR
Trench 1 and 2 Full
81.93 / 13,803,821

Week 146

81.69 / 14,165,972

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	2/10/10	0930	14.18	14.26 14.24	22.12
CS-WB05-LGR-02	182		0929		14.32 14.30	50.91
CS-WB05-LGR-03A	216		0928		14.34 14.32	66.80
CS-WB05-LGR-03B	262		0927		15.53 18.19	86.77
CS-WB05-LGR-04A	277		0926		22.09 24.75	95.16
CS-WB05-LGR-04B	329		0925		44.70 47.36	117.91
CS-WB05-BS-01	362		0924		59.04 61.71	126.84
CS-WB05-CC-01	432		0923		89.46 92.10	133.39
CS-WB05-CC-02	460		0922		101.60 104.25	145.31
CS-WB06-UGR-01	20		0957	14.18	14.25 14.19	19.65
CS-WB06-LGR-01	93		0956		14.28 14.24	25.58
CS-WB06-LGR-02	174		0955		14.33 14.29	59.56
CS-WB06-LGR-03A	207		0954		14.35 14.38	58.74
CS-WB06-LGR-03B	260		0953		25.48 25.36	81.62
CS-WB06-LGR-04	320		0952		51.54 51.41	119.15
CS-WB07-UGR-01	14		1011	14.16	14.24 14.20	17.94
CS-WB07-LGR-01	90		1010		14.27 14.25	19.40
CS-WB07-LGR-02	175		1009		14.32 14.30	55.03
CS-WB07-LGR-03A	208		1008		14.33 14.31	63.18
CS-WB07-LGR-03B	257		1008		15.65 15.55	84.39
CS-WB07-LGR-04	318		1007		42.15 42.07	118.40
CS-WB08-UGR-01	38		0944	14.19	14.24 14.23	21.58
CS-WB08-LGR-01	115		0943		14.28 14.26	21.00
CS-WB08-LGR-02	193		0942		14.33 14.31	34.31
CS-WB08-LGR-03A	228		0941		14.35 14.33	66.97
CS-WB08-LGR-03B	273		0940		26.03 25.93	86.42
CS-WB08-LGR-04	341		0939		55.57 55.47	117.84

Week 46

SWMU B-3 Tree Mulch Bioreactor

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: 2-18-10		Time: 1437							
B3-T1-1	12.9	4.25	6.69	14.86	0.542	-86.0	0.99		
B3-T1-2	12.4	3.96	6.41	10.71	0.528	-78.2	1.05	✓	
B3-T1-3	12.85	3.55	6.48	10.13	0.551	-72.2	0.91		
B3-T2-1	9.67	5.69	6.72	14.15	0.515	-93.3	0.97		
B3-T2-2	10.01	6.05	6.54	14.46	0.696	-80.0	1.04	✓	
B3-T3-1	9.96	8.60	6.80	17.66	0.558	-85.3	1.53		
B3-T3-2	7.4	7.24							
B3-T4-1	6.32	6.22							
B3-T5-1	9.33	9.24							
B3-T5-2	7.98	7.85							
B3-T6-1	11.45	11.23							
B3-T6-2	12.34	12.33							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday		Thursday		Friday	
Date/Time:		2-16-10	2-17-10	1610	2-18-10		2-19-10	0924
Rate (gpm) / Cumulative Total (gal)								
T-1			27.9	1122930	9.41	1173120	27.7	1165291
T-2			11.1	3023189	2[illegible].68	3026115	9.60	3037764
T-3		System off						
T-4								
T-5								
T-6	Holiday	SCADA Work						
B-3 (Total)								
CS-MW16-LGR			not running	664908	11.78	671400	11.79	683012
CS-MW16-CC			not running	193832	15.72	202401	15.61	217695
B3-EXW01			off	2274559	~~11.78~~	~~671400~~	19.75	2293207

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 = 53-52 = 1	PB-1 - PB-2 =	PB-1 - PB-2 = 56-42 = 7
Notes: CS-12 off, T6 dry	CS-12 off.	CS-12 off. Run EXW01 few mins. Tank 1/16 full MW16s FT/P in "auto"	CS-12 off, EXW01 off. LGR = 109.70', CC = 200.86' Tank 3/4 full, T/P not running.	Tank is 3/4 full changed BF

Week 147

Turned off B3-EX01 and TP for the weekend to ensure that system would be OK. Closed valve.

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	2/18/10	1336	14.11	14.26 14.16	22.52
CS-WB05-LGR-02	182		1335		14.32 14.19	53.46
CS-WB05-LGR-03A	216		1334		14.34 14.22	68.54
CS-WB05-LGR-03B	262		1333		15.53 19.85	88.52
CS-WB05-LGR-04A	277		1333		22.09 26.41	95.62
CS-WB05-LGR-04B	329		1332		44.70 49.01	118.39
CS-WB05-BS-01	362		1331		59.04 63.36	130.00
CS-WB05-CC-01	432		1330		89.46 93.77	135.95
CS-WB05-CC-02	460		1329		101.60 105.92	147.82
CS-WB06-UGR-01	20		1407	14.09	14.25 14.11	18.29
CS-WB06-LGR-01	93		1406		14.28 14.15	28.04
CS-WB06-LGR-02	174		1405		14.33 14.21	61.34
CS-WB06-LGR-03A	207		1404		14.35 14.22	66.29
CS-WB06-LGR-03B	260		1403		25.48 25.24	89.18
CS-WB06-LGR-04	320		1402		51.54 51.28	118.85
CS-WB07-UGR-01	14		1421	14.09	14.24 14.09	17.16
CS-WB07-LGR-01	90		14:20		14.27 14.14	22.17
CS-WB07-LGR-02	175		14:19		14.32 14.19	59.59
CS-WB07-LGR-03A	208		1418		14.33 14.20	69.94
CS-WB07-LGR-03B	257		1418		15.65 15.46	91.17
CS-WB07-LGR-04	318		1417		42.15 41.97	118.30
CS-WB08-UGR-01	38		1353	14.09	14.24 14.12	19.74
CS-WB08-LGR-01	115		1352		14.28 14.16	23.24
CS-WB08-LGR-02	193		1351		14.33 14.20	49.75
CS-WB08-LGR-03A	228		1350		14.35 14.22	68.30
CS-WB08-LGR-03B	273		1349		26.03 25.82	87.75
CS-WB08-LGR-04	341		1348		55.57 55.36	118.43

Week 147

SWMU B-3 Tree Mulch Bioreactor

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 (√)	Notes	Sump Total
Date: 2-23-10		Time: 0930								16:15
B3-T1-1	12.9	6.76	6.89	16.09	0.441	-81.1	1.33	✓	@ 0945	7.29
B3-T1-2	12.4	6.48	6.56	14.23	0.437	-84.6	0.33		@ 1050	6.96
B3-T1-3	12.85	5.73	6.80	13.48	0.456	-85.5	1.08	✓	@ 1350	6.59
B3-T2-1	9.67	8.22	6.53	14.47	0.439	-92.4	0.41		@ 1005	8.68
B3-T2-2	10.01	8.27	6.32	14.71	0.671	-79.6	0.44	✓	@ 1320	8.68
B3-T3-1	9.96	9.12								9.14
B3-T3-2	7.4	7.28								7.28
B3-T4-1	6.32	6.23								6.25
B3-T5-1	9.33	9.23								9.22
B3-T5-2	7.98	7.91								7.93
B3-T6-1	11.45	11.20								11.24
B3-T6-2	12.34	12.23								12.25
B3-UIC			7.02	16.43	0.439	-82.7	5.90		@ 1400	

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday
Date/Time:	2-22-10	0918	2-23-10	0930	2-24-10	1220	2-25-10	1600	2-26-10
Rate (gpm) / Cumulative Total (gal)									
T-1	0.0	1173018	2.10	1178835	26.5	1,183,570	off	1191145	
T-2	0.0	3,040,212	0	3040527	9.81	3,041,762		3,044,508	
T-3									
T-4									
T-5									
T-6									
B-3 (Total)									
CS-MW16-LGR	Ø	684464	Ø	689,689	10.56	693,003	off	695206	
CS-MW16-CC	Ø	222,351	Ø	229,082	15.78	232,010		235269	
B3-EXW01	off		off		19.85	2,297,370		2301,754	

everything off

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	PB-1 - PB-2 = 0 - 0	PB-1 - PB-2 = 52 - 52 = Ø	PB-1 - PB-2 = N/A	PB-1 - PB-2 =
Notes: Tank = empty lle wells were off - turned off Friday.	Tank empty Syst. off + winterized overnight	Tank = 17/32 16LGR = 110.2', CC = 189.9' all wells on @ 1041, T/P on 1205	Syst. off LGR = 89.87' CC = 122.56' B3EXW01 = 91.93' MW27 = 6.60' } BTOC	

Week 148

syst off overnight.

New Probe
old Mosdax
worked

Personnel: A. Lindley + E.T.

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	2/24/10	1510	14.08	14.26 14.19	22.72	
CS-WB05-LGR-02	182		1509		14.32 14.22	53.56	
CS-WB05-LGR-03A	216		1508		14.34 14.21	68.04	Sample 2/22/10 0950
CS-WB05-LGR-03B	262	~~2.22.10~~	1507 ~~0950~~		15.53 21.08	88.00	22.45/89.59
CS-WB05-LGR-04A	277		1506		22.09 27.63	93.89	
CS-WB05-LGR-04B	329		1505		44.70 50.28	116.16	
CS-WB05-BS-01	362		1504		59.04 64.64	129.88	
CS-WB05-CC-01	432		1503		89.46 95.04	137.72	
CS-WB05-CC-02	460		1502		101.60 107.21	150.08	
CS-WB06-UGR-01	20	2/24/10	1540	14.08	14.25 14.11	17.86	
CS-WB06-LGR-01	93		1539		14.28 14.14	26.55	
CS-WB06-LGR-02	174		1538		14.33 14.17	60.39	
CS-WB06-LGR-03A	207		1537		14.35 14.23	68.31	Sample 2/22/10 1240
CS-WB06-LGR-03B	260	~~2.22.10~~	1535 ~~1240~~		25.48 25.25	91.20	27.04/90.88
CS-WB06-LGR-04	320		1534		51.54 51.33	115.15	
CS-WB07-UGR-01	14	2/24/10	1554	14.06	14.24 14.11	16.86	
CS-WB07-LGR-01	90		1553		14.27 14.13	23.36	
CS-WB07-LGR-02	175		1552		14.32 14.17	59.99	
CS-WB07-LGR-03A	208		1551		14.33 14.19	70.58	Sample 2/22/10 1320
CS-WB07-LGR-03B	257	~~2/22/10~~	1549 ~~1320~~		15.65 15.37	91.79	17.29/91.83
CS-WB07-LGR-04	318		1548		42.15 41.94	114.42	
CS-WB08-UGR-01	38	2/24/10	1526	14.09	14.24 14.12	19.36	
CS-WB08-LGR-01	115		1525		14.28 14.15	23.57	
CS-WB08-LGR-02	193		1524		14.33 14.18	53.18	
CS-WB08-LGR-03A	228		1522		14.35 14.21	66.55	Sample 2/22/10 1055
CS-WB08-LGR-03B	273	~~2/22/10~~	1521 ~~1055~~		26.03 25.81	86.01	27.68/88.28
CS-WB08-LGR-04	341		1520		55.57 55.39	113.89	

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: Tennyson ; J. Bauch ; 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: 3·4·10		Time: 1445							
B3-T1-1	12.9	8.52	6.72	17.65	0.469	-110.7	0.58		
B3-T1-2	12.4	8.19	6.71	16.41	0.470	-93.5	0.45		
B3-T1-3	12.85	7.90	6.69	15.26	0.493	-90.3	0.40		
B3-T2-1	9.67	9.48							
B3-T2-2	10.01	9.35	6.53	0.761	0.761	-99.1	0.58		
B3-T3-1	9.96	9.18							
B3-T3-2	7.4	7.31							
B3-T4-1	6.32	6.29							
B3-T5-1	9.33	9.21							
B3-T5-2	7.98	7.93							
B3-T6-1	11.45	11.23							
B3-T6-2	12.34	DRY							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	3-1-10	3.2.10	3.3.10	3.4.10 1330	3.5.10
Rate (gpm) / Cumulative Total (gal)					
T-1				0 1191454	
T-2				0 3044507.9	
T-3		System off	System off	System Off	System Off
T-4					
T-5					
T-6					
B-3 (Total)					
CS-MW16-LGR				0 695,206	
CS-MW16-CC				0 235,269	
B3-EXW01				0 2301754	
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 =

Notes: system off for CS-Env. Dept. observations.

Week 149

Personnel	J. Bouch + 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	3/4/10	1342	14.04	14.26 14.09	22.30
CS-WB05-LGR-02	182		1341		14.32 14.13	52.86
CS-WB05-LGR-03A	216		1340		14.34 14.17	67.59
CS-WB05-LGR-03B	262		1339		15.53 23.05	87.52
CS-WB05-LGR-04A	277		1338		22.09 29.57	93.92
CS-WB05-LGR-04B	329		1337		44.70 52.23	116.40
CS-WB05-BS-01	362		1336		59.04 66.59	129.78
CS-WB05-CC-01	432		1335		89.46 96.98	148.84
CS-WB05-CC-02	460		1334		101.60 109.12	160.81
CS-WB06-UGR-01	20		1413	14.07	14.25 14.04	17.40
CS-WB06-LGR-01	93		1413		14.28 14.10	23.22
CS-WB06-LGR-02	174		1411		14.33 14.12	57.53
CS-WB06-LGR-03A	207		1410		14.35 14.15	68.55
CS-WB06-LGR-03B	260		1410		25.48 25.18	91.44
CS-WB06-LGR-04	320		1408		51.54 51.26	116.35
CS-WB07-UGR-01	14		1428	14.04	14.24 14.07	16.68
CS-WB07-LGR-01	90		1427		14.27 14.11	22.77
CS-WB07-LGR-02	175		1426		14.32 14.13	58.49
CS-WB07-LGR-03A	208		1425		14.33 14.18	69.46
CS-WB07-LGR-03B	257		1424		15.65 15.29	90.65
CS-WB07-LGR-04	318		1423		42.15 41.85	115.48
CS-WB08-UGR-01	38		1359	14.02	14.24 14.04	19.08
CS-WB08-LGR-01	115		1357		14.28 14.10	22.99
CS-WB08-LGR-02	193		1356		14.33 14.13	53.43
CS-WB08-LGR-03A	228		1355		14.35 14.16	66.90
CS-WB08-LGR-03B	273		1355		26.03 25.75	86.35
CS-WB08-LGR-04	341	✓	1353		55.57 55.32	116.60

Personnel: Tennyson, Bouch, Rice
3-12-10 B-3 system off all week

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	3/12/10	1109	13.99	14.07 14.06	21.88
CS-WB05-LGR-02	182		1108		14.11 14.10	48.29
CS-WB05-LGR-03A	216		1107		14.14 14.11	62.85
CS-WB05-LGR-03B	262		1106		16.17 24.13	82.79
CS-WB05-LGR-04A	277		1104		22.70 30.68	88.96
CS-WB05-LGR-04B	329		1103		45.33 53.33	111.41
CS-WB05-BS-01	362		1102		59.67 67.67	126.11
CS-WB05-CC-01	432		1100		90.08 98.07	148.91
CS-WB05-CC-02	460		1058		102.24 110.21	160.91
CS-WB06-UGR-01	20		1037	14.01	14.04 14.03	17.13
CS-WB06-LGR-01	93		1036		14.07 14.05	18.68
CS-WB06-LGR-02	174		1035		14.11 14.10	52.53
CS-WB06-LGR-03A	207		1034		14.14 14.11	65.71
CS-WB06-LGR-03B	260		1033		21.60 25.13	88.60
CS-WB06-LGR-04	320		1031		47.66 51.22	111.47
CS-WB07-UGR-01	14		1048	14.00	14.05 14.02	15.34
CS-WB07-LGR-01	90		1047		14.10 14.05	20.84
CS-WB07-LGR-02	175		1046		14.14 14.09	55.68
CS-WB07-LGR-03A	208		1045		14.17 14.13	65.19
CS-WB07-LGR-03B	257		1043		15.58 15.24	86.39
CS-WB07-LGR-04	318		1041		42.13 41.83	110.47
CS-WB08-UGR-01	38		1025	14.01	14.03 14.03	18.83
CS-WB08-LGR-01	115		1023		14.08 14.06	22.00
CS-WB08-LGR-02	193		1021		14.12 14.10	50.53
CS-WB08-LGR-03A	228		1019		14.14 14.11	62.62
CS-WB08-LGR-03B	273		1018		18.87 25.66	82.07
CS-WB08-LGR-04	341		1015		48.45 55.26	111.88

SWMU B-3 Tree Mulch Bioreactor

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 (√)	Notes
Date: 3.12.10		Time: 0935							
B3-T1-1	12.9	9.30	6.45	18.13	0.437	-120.0	0.53		System off due to maintenance — no water being discharged.
B3-T1-2	12.4	9.03	6.36	17.38	0.440	-85.8	0.54		
B3-T1-3	12.85	8.78	6.29	16.27	0.476	-99.3	0.46		
B3-T2-1	9.67	DRY							
B3-T2-2	10.01	10.0							
B3-T3-1	9.96	9.18							
B3-T3-2	7.4	7.33							
B3-T4-1	6.32	6.32							
B3-T5-1	9.33	9.22							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.18							
B3-T6-2	12.34	DRY							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	3.8.10 1340	3.9.10	3.10.10	3.11.10	
	Rate (gpm) / Cumulative Total (gal)				
T-1	Ø 1191145				
T-2	Ø 3,144507				
T-3					
T-4	System off	System off	System off	System off	System off
T-5					
T-6					
B-3 (Total)					
CS-MW16-LGR	Ø 695,206				
CS-MW16-CC	Ø 235,269				
B3-EXW01	off				

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

PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =

Notes:

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: 3·18·10		Time: 1230		0.39		-110.8			
B3-T1-1	12.9	10.15	6.29	18.~~52~~	0.519	~~-117.9~~	~~0.64~~ 0.49		*System off
B3-T1-2	12.4	9.87	6.35	17.89	0.520	-101.0	0.43		due to SCADA
B3-T1-3	12.85	9.52	6.36	14.80	0.590	-110.1	0.38		work*
B3-T2-1	9.67	9.60							
B3-T2-2	10.01	10.00							
B3-T3-1	9.96	9.18							
B3-T3-2	7.4	7.39							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	9.25							
B3-T5-2	7.98	7.97							
B3-T6-1	11.45	11.20							
B3-T6-2	12.34	DRY							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday	
Date/Time:	3·15·10	3·16·10	3·17·10	3·18·10	3·19·10	1530
Rate (gpm) / Cumulative Total (gal)						
T-1	System Off	System off	off	off	27.5	1191521
T-2					10.5	3044656
T-3						
T-4				SCADA work finishing.		
T-5						
T-6						
B-3 (Total)						
CS-MW16-LGR					off	
CS-MW16-CC					stopped	240420
B3-EXW01					off	

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

PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 = 53-53 = ∅

Notes:

Tank = 13/16
16CC ≈ 16-20 gpm
Filled tank first B4 starting T/P

Week 151

No T-6 Q

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	3/19/10	1124	13.99	14.07 14.07	21.88
CS-WB05-LGR-02	182		1123		14.11 14.10	46.47
CS-WB05-LGR-03A	216		1123		14.14 14.11	61.09
CS-WB05-LGR-03B	262		1122		16.17 24.43	81.07
CS-WB05-LGR-04A	277		1121		22.70 30.96	87.61
CS-WB05-LGR-04B	329		1120		45.33 53.62	110.09
CS-WB05-BS-01	362		1119		59.67 67.97	124.25
CS-WB05-CC-01	432		1118		90.08 98.38	144.51
CS-WB05-CC-02	460		1117		102.24 110.51	157.01
CS-WB06-UGR-01	20		1055	13.98	14.04 14.01	16.76
CS-WB06-LGR-01	93		1054		14.07 14.05	16.09
CS-WB06-LGR-02	174		1053		14.11 14.09	50.46
CS-WB06-LGR-03A	207		1052		14.14 14.10	63.90
CS-WB06-LGR-03B	260		1051		21.60 25.08	86.79
CS-WB06-LGR-04	320		1050		47.66 51.19	110.28
CS-WB07-UGR-01	14		1108	13.98	14.05 14.02	16.05
CS-WB07-LGR-01	90		1107		14.10 14.04	18.89
CS-WB07-LGR-02	175		1106		14.14 14.08	53.55
CS-WB07-LGR-03A	208		1105		14.17 14.12	62.56
CS-WB07-LGR-03B	257		1104		15.58 15.22	83.76
CS-WB07-LGR-04	318		1103		42.13 41.81	108.88
CS-WB08-UGR-01	38		1040	13.99	14.03 13.99	16.70
CS-WB08-LGR-01	115		1039		14.08 14.04	21.32
CS-WB08-LGR-02	193		1038		14.12 14.07	47.75
CS-WB08-LGR-03A	228		1037		14.14 14.10	61.16
CS-WB08-LGR-03B	273		1036		18.87 25.41	80.61
CS-WB08-LGR-04	341	✓	1035		48.45 55.20	110.68

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: A. Lindley, J. Bosch

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (✓)	Notes
Date: 3/23/10		Time: 0940							
B3-T1-1	12.9	6.69	6.42	20.06	0.882	-107.4	0.39		@ 0945
B3-T1-2	12.4	6.29	6.42	18.67	1.112	-93.9	0.39	✓	@ 1315
B3-T1-3	12.85	5.73	6.45	18.99	0.900	-109.6	0.40		@ 1350
B3-T2-1	9.67	8.15	6.46	19.55	1.709	-88.5	1.04	✓	@ 1005
B3-T2-2	10.01	8.50	6.45	17.59	1.188	-87.7	0.38		@ 1045
B3-T3-1	9.96	9.12							
B3-T3-2	7.4	7.35							
B3-T4-1	6.32	6.22							CS-MW27-UGR
B3-T5-1	9.33	9.25							sampled @ 1440
B3-T5-2	7.98	7.80							DTW @ 7.60
B3-T6-1	11.45	11.18							Parameters OVER →
B3-T6-2	12.34	12.30							
B3-UIC			7.40	24.16	0.653	-77.7	4.89		@ 1400

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3/22/10	0900	3.23.10	0930	3.24.10	0845	3.25.10	1030	3.26.10	1030
	Rate (gpm) / Cumulative Total (gal)									
T-1	25.3	1238255	26.8	1262820	26.4	1290138	9.55	1321497	8.63	1352357
T-2	10.6	3063114	10.9	3072892	10.7	3083060	3.35	3096303	2.87	3108492
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	Ø	695213	Ø	695,213	Ø	695213	Ø	695213	Ø	695,213
CS-MW16-CC	17.69	310019	30.18	345963	30.07	388,161	29.40	434152	29.40	476,661
B3-EXW01	Ø	230,754	Ø	230,754	Ø	230,754	Ø	230754	Ø	230,754

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

Monday	Tuesday	Wednesday	Thursday	Friday
PB-1 - PB-2 = 54-48=6	PB-1 - PB-2 = 52-52 = 0	PB-1 - PB-2 = 54-53=1	PB-1 - PB-2 = 0-0 = 0	PB-1 - PB-2 = 0-0 = 0

Notes:

Monday	Tuesday	Wednesday	Thursday	Friday
Tank 3/4 full changed BF	Tank is 10/16 full	Tank is 13/16 full	Tank is 3/4 full	16 CC = 315.4 16 LGR = 105.8 Tank 7/16 full

Week 152

Personnel: J Bouch, A Lindley

Weekly Water Level Monitoring

CS-WB05-LGR-01	99	3/24/10	1000	13.99	14.07 14.03	21.83	
CS-WB05-LGR-02	182		959		14.11 14.08	48.38	
CS-WB05-LGR-03A	216		957		14.14 14.11	63.09	3/22/10
CS-WB05-LGR-03B	262		956		16.17 24.36	83.05	26.47 / 82.77
CS-WB05-LGR-04A	277		957		22.70 30.90	89.70	@ 1320
CS-WB05-LGR-04B	329		956		45.33 53.54	112.21	
CS-WB05-BS-01	362		955		59.67 67.91	125.71	
CS-WB05-CC-01	432		954		90.08 98.32	112.84	
CS-WB05-CC-02	460		952		102.24 110.45	125.43	
CS-WB06-UGR-01	20	3/24/10	927	13.98	14.04 14.02	17.38	
CS-WB06-LGR-01	93		926		14.07 14.03	17.17	
CS-WB06-LGR-02	174		925		14.11 14.08	51.84	
CS-WB06-LGR-03A	207		924		14.14 14.12	64.63	3/22/10
CS-WB06-LGR-03B	260		923		21.60 25.06	87.52	26.67 / 87.39
CS-WB06-LGR-04	320		922		47.66 51.16	112.34	@ 1000
CS-WB07-UGR-01	14	3/24/10	942	14.00	14.05 14.00	16.92	
CS-WB07-LGR-01	90		941		14.10 14.03	18.68	
CS-WB07-LGR-02	175		940		14.14 14.08	53.48	
CS-WB07-LGR-03A	208		939		14.17 14.10	64.02	3.22.10
CS-WB07-LGR-03B	257		938		15.58 15.21	85.23	17.31 / 84.63
CS-WB07-LGR-04	318		937		42.13 41.75	111.21	@ 1030
CS-WB08-UGR-01	38	3/24/10	909	13.99	14.03 13.99	19.18	
CS-WB08-LGR-01	115		908		14.08 14.03	21.03	
CS-WB08-LGR-02	193		906		14.12 14.08	48.54	
CS-WB08-LGR-03A	228		905		14.14 14.10	63.00	3.22.10
CS-WB08-LGR-03B	273		903		18.87 25.58	82.45	27.16 / 82.23
CS-WB08-LGR-04	341		902		48.45 55.16	112.74	@ 0930

3.22.10
14.02
psi

1420 3/22/10
Atm 14.01
Zone → 82.27 Inner 25.61

Week 152

CS-WB08-LGR3B
3/24/10 @ 1045 25.68 / 82.43

	pH	Temp	cond	DO	ORP
MW-27	6.54	16.96	0.763	0.47	-86.3

sampled @ 1440

SWMU . .ree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J Bonacin; 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: 3·30·10		Time: 1030							
B3-T1-1	12.9	5.13 5	6.46	21.51	0.890	-134.7	0.59		
B3-T1-2	12.4	5.51	6.92	21.35	0.820	-96.1	0.49	✓	
B3-T1-3	12.85	4.70	7.26	21.79	0.663	-94.3	1.89		
B3-T2-1	9.67	6.96	6.45	21.09	1.408	-112.1	0.44		
B3-T2-2	10.01	7.23	6.47	18.06	1.179	-111.5	0.69	✓	
B3-T3-1	9.96	9.17							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	6.28							
B3-T5-1	9.33	7.84 5							
B3-T5-2	7.98	9.25 2							
B3-T6-1	11.45	11.18							
B3-T6-2	12.34	12.31							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3 29·10	1020	3·30·10	1030	3·31·10	0900	4 1 10	1030	4·2·10	
Rate (gpm) / Cumulative Total (gal)										
T-1	2.34	1429324	8.86	1454623	8.84	1477859	0	1485038		
T-2	9.65	3,138,922	2.94	3,148,178	2.91	3,158,452	0	3,161,269		
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	0	695213	0	695,213	0	695,213	0	695 213		
CS-MW16-CC	25.86	589,022	25.77	626,471	25.77	663,863	0	670,793		
B3-EXW01	0	2301754	0	2301754	0	2301754	0	2301754		

System Off

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

PB-1 - PB-2 =	56 - 44 = 12	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 =
Notes:	Tank is 1/4 full changed the BF	Tank is 1/4 full MW16 LGR = 112.0 MW16 CC - 300.6	- Tank is 7/16 full - turned off well @ 1500 - started logging 1455	Turned off CC well yesterday. Tank is empty	

MW16 LGR = 300.69

Personnel: J. Dougherty, 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	3/31/10	1016	14.03	14.07 14.07	21.79
CS-WB05-LGR-02	182		1015		14.11 14.12	45.58
CS-WB05-LGR-03A	216		1014		14.14 14.14	60.12
CS-WB05-LGR-03B	262		1013		16.17 24.40	80.08
CS-WB05-LGR-04A	277		1012		22.70 30.44	86.36
CS-WB05-LGR-04B	329		1011		45.33 53.59	108.83
CS-WB05-BS-01	362		1011		59.67 67.95	123.55
CS-WB05-CC-01	432		1009		90.08 98.35	109.03
CS-WB05-CC-02	460		1009		102.24 110.44	121.47
CS-WB06-UGR-01	20		0945	14.03	14.04 14.03	17.42
CS-WB06-LGR-01	93		0944		14.07 14.09	16.38
CS-WB06-LGR-02	174		0943		14.11 14.11	49.46
CS-WB06-LGR-03A	207		0942		14.14 14.14	63.30
CS-WB06-LGR-03B	260		0941		21.60 25.10	86.19
CS-WB06-LGR-04	320		0940		47.66 51.19	109.00
CS-WB07-UGR-01	14		0959	14.04	14.05 14.03	17.24
CS-WB07-LGR-01	90		0958		14.10 14.08	48.45
CS-WB07-LGR-02	175		0957		14.14 14.12	52.11
CS-WB07-LGR-03A	208		0956		14.17 14.14	62.16
CS-WB07-LGR-03B	257		0955		15.58 15.24	83.36
CS-WB07-LGR-04	318		0954		42.13 41.80	107.41
CS-WB08-UGR-01	38		0930	14.00	14.03 14.02	19.27
CS-WB08-LGR-01	115		0930		14.08 14.07	20.91
CS-WB08-LGR-02	193		0929		14.12 14.10	47.86
CS-WB08-LGR-03A	228		0928		14.14 14.14	60.17
CS-WB08-LGR-03B	273		0927		18.87 25.60	79.62
CS-WB08-LGR-04	341	✓	0926		48.45 55.19	109.65

SWMU B-3 Tree Mulch Bioreactor

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: 4 9 10		Time: 1020							
B3-T1-1	12.9	8.94	6.53	21.23	0.604	-145.6	0.41		
B3-T1-2	12.4	8.55	6.56	20.52	0.746	-121.6	0.60		
B3-T1-3	12.85	8.34	6.46	21.90	0.479	-119.5	0.59	✓	
B3-T2-1	9.67	9.23							
B3-T2-2	10.01	9.34	6.61	19.50	0.796	-122.9	0.65	✓	
B3-T3-1	9.96	9.19							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	9.28							
B3-T5-2	7.98	7.87							
B3-T6-1	11.45	11.18							
B3-T6-2	12.34	12.32							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.5.10	1200	4.6.10		4.7.10	—	4.8.10	—	4.9.10	1050
Rate (gpm) / Cumulative Total (gal)										
T-1			25.8	1497197					7.11	1506579
T-2			9.93	3166319					0.0	3169666
T-3										
T-4										
T-5					System off		System off			
T-6										
B-3 (Total)										
CS-MW16-LGR			off						off	
CS-MW16-CC			26.46	704408	Float		Float		29.30	715,730
B3-EXW01			off		Maintenance		Maintenance		off	

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 = 52-52 = 0	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =
Notes: -noon -> turned on MW16-CC -system off over weekend	0730 -> tank overflowing transfer pump wont come on in auto			-MW16-CC turned on @ 0945 Tank 1/4 full @ 1050 Turned off CC and TP in order to be able to test the new Float on Monday.

Tank 13/16 @ 0857
16CC = 284.2
* Turned off 16CC and TP * Floats were sticking

Week 154

Personnel: S Elliott + J Bush

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	4.9.10	0957	14.12	14.00 14.18	21.70
CS-WB05-LGR-02	182		0956		14.05 14.22	40.13
CS-WB05-LGR-03A	216		0955		14.07 14.24	54.47
CS-WB05-LGR-03B	262		0954		16.97 24.52	74.43
CS-WB05-LGR-04A	277		0953		23.50 31.06	80.58
CS-WB05-LGR-04B	329		0952		46.1.3 53.70	103.06
CS-WB05-BS-01	362		0951		60.47 68.05	118.52
CS-WB05-CC-01	432		0950		90.88 98.45	137.38
CS-WB05-CC-02	460		0950		103.04 110.60	149.86
CS-WB06-UGR-01	20		0925	14.11	14.00 14.11	17.27
CS-WB06-LGR-01	93		0924		14.03 14.17	16.50
CS-WB06-LGR-02	174		0923		14.07 14.21	46.51
CS-WB06-LGR-03A	207		0922		14.08 14.25	60.30
CS-WB06-LGR-03B	260		0921		21.74 25.19	83.19
CS-WB06-LGR-04	320		0920		47.81 51.28	103.51
CS-WB07-UGR-01	14		0939	14.12	13.98 14.12	16.57
CS-WB07-LGR-01	90		0938		14.02 14.18	18.00
CS-WB07-LGR-02	175		0937		14.05 14.21	48.16
CS-WB07-LGR-03A	208		0936		14.09 14.25	57.09
CS-WB07-LGR-03B	257		0935		15.72 15.34	78.31
CS-WB07-LGR-04	318		0934		42.28 41.89	101.49
CS-WB08-UGR-01	38		0910	14.11	13.99 14.13	18.99
CS-WB08-LGR-01	115		0909		14.02 14.17	20.73
CS-WB08-LGR-02	193		0908		14.04 14.21	43.55
CS-WB08-LGR-03A	228		0907		14.08 14.24	54.86
CS-WB08-LGR-03B	273		0906		19.01 26.33	74.33
CS-WB08-LGR-04	341	✓	0905		48.58 55.91	104.58

Week ___

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch; E. Tennyson; 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: 4.16.10		Time: 1040							
B3-T1-1	12.9	8.98	6.44	22.18	0.707	-148.0	0.38		
B3-T1-2	12.4	8.51	6.49	21.31	0.843	-120.2	0.61	✓	DO = 0.61
B3-T1-3	12.85	8.10	6.62	22.56	0.585	-177.3	0.67		
B3-T2-1	9.67	8.99	6.38	23.14	0.819	-105.0	0.55		
B3-T2-2	10.01	8.95	6.49	20.97	0.873	-116.3	0.51	✓	
B3-T3-1	9.96	8.54							CS-MW27 = 8.16
B3-T3-2	7.[illegible]	dry							pH Temp SpCond ORP DO
B3-T4-1	6.3[illegible]	6.20							6.44 18.09 0.600 -86.5 0.56
B3-T5-1	9.33	9.24							
B3-T5-2	7.98	7.20	6.31	19.64	0.685	-86.2	0.59		
B3-T6-1	11.45	11.17							
B3-T6-2	12.34	12.28							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4-12-10	1200	4.13.10	0900	4.14.10	1030	4.15.10	1115	4.16.10	
Rate (gpm) / Cumulative Total (gal)										
T-1	21.4	1512129	22.0	1535465	21.6	1569591			10.7	1572007
T-2	9.2	317640	8.80	3181327	9.24	3193530			0.0	3196527
T-3										
T-4										
T-5										
T-6										
~~B-3 (Total)~~		725280								
CS-MW16-LGR	28.91	~~[illegible]~~	27.97	760780					695213 → 9.83	
CS-MW16-CC	off				28.13	804071			814187 → 31.56	
B3-EXW01	off									

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

PB-1 - PB-2 = 41-38=3	PB-1 - PB-2 = 54-22=32	PB-1 - PB-2 = 50-28=22	PB-1 - PB-2 =	PB-1 - PB-2 =
Notes: 16CC on @ 0940, system was off over weekend. Tank = 13/32 full by gage.	Tank is 1/2 full Changed BF 16CC = 296.85'	Tank 1/4 full Changed BF Turned off CC @ 1620	MW16LGR = 137.88 MW14CC = 168.29 system off	Wells turned on @ 1130

Week 155

EXW01 = 125.20'
CC DTW = 267.10', 16LGR = 132.36'
Tanic = 48.4% full, quikpod = 28.95 in. full

Personnel	S. Elliott + J. Bach

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	4/14/10	1017	14.04	14.07 14.15	21.73
CS-WB05-LGR-02	182		1016		14.11 14.18	36.63
CS-WB05-LGR-03A	216		1015		14.14 14.22	50.70
CS-WB05-LGR-03B	262		1014		16.17 24.49	70.66
CS-WB05-LGR-04A	277		1013		22.70 31.04	77.54
CS-WB05-LGR-04B	329		1013		45.33 53.68	99.98
CS-WB05-BS-01	362		1012		59.67 68.01	115.03
CS-WB05-CC-01	432		1011		90.08 98.42	132.63
CS-WB05-CC-02	460		1010		102.24 110.56	144.62
CS-WB06-UGR-01	20		0944	14.11	14.04 14.11	16.98
CS-WB06-LGR-01	93		0943		14.07 14.15	16.47
CS-WB06-LGR-02	174		0942		14.11 14.19	44.81
CS-WB06-LGR-03A	207		0941		14.14 14.23	58.08
CS-WB06-LGR-03B	260		0940		21.60 25.16	80.98
CS-WB06-LGR-04	320		0939		47.66 51.25	100.24
CS-WB07-UGR-01	14		1000	14.09	14.05 14.09	16.48
CS-WB07-LGR-01	90		0958		14.10 14.13	17.91
CS-WB07-LGR-02	175		0957		14.14 14.18	45.01
CS-WB07-LGR-03A	208		0956		14.17 14.22	53.45
CS-WB07-LGR-03B	257		0955		15.58 15.30	74.66
CS-WB07-LGR-04	318		0954		42.13 41.87	98.54
CS-WB08-UGR-01	38		0927	14.09	14.03 14.10	18.51
CS-WB08-LGR-01	115		0926		14.08 14.14	20.77
CS-WB08-LGR-02	193		0925		14.12 14.18	40.37
CS-WB08-LGR-03A	228		0924		14.14 14.22	51.29
CS-WB08-LGR-03B	273		0923		18.87 26.44	70.76
CS-WB08-LGR-04	341		0922		48.45 56.03	101.27

Week ___

Bioreactor Monitoring

Personnel: A. Lindley, J. Booth, 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: 4/20/10		Time: 0930							
B3-T1-1	12.9	5.65	6.54	23.04	0.931	-123.7	0.27		Sampled @ 0935
B3-T1-2	12.4	5.34	6.52	22.24	1.119	-113.0	0.31	✓	Sampled @ 1340 DNA 4/21/10 0830
B3-T1-3	12.85	5.00	6.85	22.41	0.730	-91.0	0.25		Sampled @ 1410
B3-T2-1	9.67	7.11	6.56	23.09	0.979	-90.2	0.84	✓	Sample @ 1010
B3-T2-2	10.01	7.43	6.46	21.19	1.148	-113.7	0.30		Sample @ 1045
B3-T3-1	9.96	8.96	6.44	21.19	1.050	-91.1	0.54		
B3-T3-2	7.4	Dry							
B3-T4-1	6.32	6.18							
B3-T5-1	9.33	9.28							
B3-T5-2	7.98	7.79							
B3-T6-1	11.45	11.24							
B3-T6-2	12.34	12.26							
B3-UIC			7.30	22.87	0.623	-82.4	5.58		Sample @ 1115

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4/19/10	0925	4/20/10	0920	4.21.10		4.22.10	0830	4.23.10	0830
Rate (gpm) / Cumulative Total (gal)										
T-1	19.3	1,652,288	22.5	1,681,770	22.6	1,702,40	21.8	1,741,946	Ø	1,745,427
T-2	7.85	3,230,038	9.36	3,242,787	9.41	3,254,336	9.41	3,268,253	Ø	3,269,636
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	9.88	735,937	9.94	750,122	Ø	760,793	9.55	771,414	Ø	771,836
CS-MW16-CC	19.27	896,987	19.27	924,576	Ø	945,032	18.94	966,215	Ø	967,051
B3-EXW01	Ø	2301754	Ø	2301754	Ø	2314485	12.60	2329311	Ø	2329416

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

PB-1 - PB-2 = 32 - 50 = 18	PB-1 - PB-2 = 40 - 40 = 0	PB-1 - PB-2 = 43 - 41 = 2	PB-1 - PB-2 = 44 - 41 = 3	PB-1 - PB-2 =

Notes: Tank 3/4 changed bag filter

Tank 7/16 full

Tank 3/4 full

Tank is 3/4 full
*System turned off at 10:20 for sprinkler head maint.

Kept System off to dry out trench for drilling on Monday
Tank is empty
MW16CC = 156.4
MW16LGR = 92.3
B3EXW01 = 93.5

Week 156

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	4/23	0855	13.82	14.00 13.91	21.37
CS-WB05-LGR-02	182		0854		14.05 13.94	51.40
CS-WB05-LGR-03A	216		0853		14.07 13.96	66.97
CS-WB05-LGR-03B	262		0852		16.97 23.90	84.94
CS-WB05-LGR-04A	277 ✓		0851		23.50 30.43	94.63
CS-WB05-LGR-04B	329 ✓		0850		46.1.3 53.09	117.32
CS-WB05-BS-01	362		0849		60.47 67.45	127.95
CS-WB05-CC-01	432		0848		90.88 97.84	133.52
CS-WB05-CC-02	460		0847		103.04 109.98	145.45
CS-WB06-UGR-01	20		0930	13.87	14.00 13.86	17.39
CS-WB06-LGR-01	93		0929		14.03 13.91	21.32
CS-WB06-LGR-02	174		0928		14.07 13.94	57.19
CS-WB06-LGR-03A	207		0927		14.08 13.98	66.04
CS-WB06-LGR-03B	260		0926		21.74 24.89	88.95
CS-WB06-LGR-04	320 ✓		0925		47.81 50.97	117.48
CS-WB07-UGR-01	14		0944	13.87	13.98 13.86	17.02
CS-WB07-LGR-01	90		0943		14.02 13.89	18.28
CS-WB07-LGR-02	175		0942		14.05 13.94	53.24
CS-WB07-LGR-03A	208		0941		14.09 13.97	65.02
CS-WB07-LGR-03B	257		0940		15.72 15.05	86.22
CS-WB07-LGR-04	318 ✓		0939		42.28 41.62	116.93
CS-WB08-UGR-01	38		0916	13.85	13.99 13.86	19.19
CS-WB08-LGR-01	115		0915		14.02 13.91	20.83
CS-WB08-LGR-02	193		0914		14.04 13.94	47.54
CS-WB08-LGR-03A	228		0912		14.08 13.96	67.32
CS-WB08-LGR-03B	273		0910		19.01 26.16	86.77
CS-WB08-LGR-04	341		0908		48.58 55.74	117.37

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: Bouch, 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: 4-30-10		Time: 1020	6.58	23.08	0.967	-153.9			
B3-T1-1	12.9	6.05	~~6.69~~	~~23.94~~	~~0.718~~	~~-103.9~~	~~0.53~~ 0.35		* MW-27: WL = 7.88
B3-T1-2	12.4	5.75	6.58	22.77	1.135	-120.8	0.32	✓	pH = 6.53
B3-T1-3	12.85	5.48	6.93	24.07	0.658	-89.5	0.39		Temp = 18.80
B3-T2-1	9.67	7.50	6.52	24.08	1.039	-112.5	0.45	✓	Cond. = 0.812
B3-T2-2	10.01	7.85	6.51	22.55	1.245	-124.4	0.42		ORP = -74.1
B3-T3-1	9.96	9.19							DO = 0.58
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	6.28							
B3-T5-1	9.33	9.29							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.19							
B3-T6-2	12.34	12.31							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.26.10		4.27.10		4.28.10	0840	4.29.10		4.30.10	
Rate (gpm) / Cumulative Total (gal)										
T-1					4.19	1,746,098	21.5	1776470	22.1	1808839
T-2					0.04	3,269,636	9.73	3281962	8.01	3295367
T-3	System off		System off							
T-4	for bedrock		for bedrock							
T-5	drilling/sampling		sampling							
T-6										
B-3 (Total)										
CS-MW16-LGR					10.0	772,829	Ø	783454	Ø	794201
CS-MW16-CC					19.65	968875	Ø	990004	Ø	119228
B3-EXW01					12.54	2,330,994	Ø	2,344,368	Ø	2,358712

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

PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 =	PB-1 - PB-2 = 42-40 = 2	PB-1 - PB-2 = 43-40 = 0
Notes: MW16 wells + EXW01 well turned on for sampling	turned on in pm by ET, don't know when?	tank 1/2 full	Tank is 9/16 full	Tank is 1/2 full

Week 157
month 36
Quarter 12

Personnel: S. Elliott + J. Bosch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	4.28.10	0856	14.07	14.07 14.18	21.86
CS-WB05-LGR-02	182		0855		14.11 14.20	53.61
CS-WB05-LGR-03A	216		0854		14.14 14.28	68.45
CS-WB05-LGR-03B	262		0853		16.17 24.13	88.41
CS-WB05-LGR-04A	277		0853		22.70 30.65	94.73
CS-WB05-LGR-04B	329		0852		45.33 53.29	116.98
CS-WB05-BS-01	362		0851		59.67 67.63	129.92
CS-WB05-CC-01	432		0850		90.08 98.03	139.21
CS-WB05-CC-02	460		0849		102.24 110.17	151.82
CS-WB06-UGR-01	20		0928	14.10	14.04 14.09	17.48
CS-WB06-LGR-01	93		0927		14.07 14.15	22.14
CS-WB06-LGR-02	174		0926		14.11 14.21	57.58
CS-WB06-LGR-03A	207		0925		14.14 14.23	68.06
CS-WB06-LGR-03B	260		0924		21.60 25.12	90.95
CS-WB06-LGR-04	320		0923		47.66 51.17	115.99
CS-WB07-UGR-01	14		0941	14.09	14.05 14.12	16.75
CS-WB07-LGR-01	90		0940		14.10 14.14	18.49
CS-WB07-LGR-02	175		0939		14.14 14.19	55.54
CS-WB07-LGR-03A	208		0938		14.17 14.20	68.81
CS-WB07-LGR-03B	257		0937		15.58 15.28	90.00
CS-WB07-LGR-04	318		0936		42.13 41.81	115.30
CS-WB08-UGR-01	38		0910	14.07	14.03 14.14	19.21
CS-WB08-LGR-01	115		0909		14.08 14.19	21.13
CS-WB08-LGR-02	193		0908		14.12 14.23	52.52
CS-WB08-LGR-03A	228		0907		14.14 14.21	67.42
CS-WB08-LGR-03B	273		0906		18.87 26.27	86.87
CS-WB08-LGR-04	341		0905		48.45 55.81	115.47

Week 157

Personnel J Bench, A Lindley, S Elliott

Quarterly Monitoring

	MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure	
	CS-WB05-LGR-01	99	4/22/10	1240	13.89	21.73	
	CS-WB05-LGR-02	182	4.22.10	1015	13.94	49.02	
	CS-WB05-LGR03A	216	4/22/10	0930	13.94	64.11	
	CS-WB05-LGR03B	262	4.19.10	1100	26.44	80.11	
	CS-WB05-LGR04A	277	4/22/10	0845	32.44	91.78	
	CS-WB05-LGR04B	329	4.21.10	1500	55.29	114.40	13.90
	CS-WB05-BS-01	362	4.21.10	1400	69.72	125.39	13.91
	CS-WB05-CC-01	432	4.21.10	1030	100.31	118.05	13.94
	CS-WB05-CC-02	460	4.21.10	0900	112.57	133.19	13.96
C	CS-WB06-UGR-01	20	4.29.10	1415	13.89	17.27	13.86
C	CS-WB06-LGR-01	93	4.29.10	1330	13.93	21.93	
C	CS-WB06-LGR-02	174	4.29.10	1100	13.99	57.15	13.90
B	CS-WB06-LGR03A	207	4.29.10	1010	14.02	67.66	13.92
	CS-WB06-LGR03B	260	4.19.10	1520	27.07	85.93	
B	CS-WB06-LGR-04	320	4.29.10	0930	52.95	115.45	13.92
B	CS-WB07-UGR-01	14	4/28/10	1445	14.01	16.73	13.99
A	CS-WB07-LGR-01	90	4/28/10	1400	14.05	18.44	
A	CS-WB07-LGR-02	175	4/28/10	1145	14.13	55.53	
A	CS-WB07-LGR03A	208	4/28/10	1100	14.12	68.78	14.02 Am
A	CS-WB07-LGR03B	257	4/19/10	1415	17.25	80.83	14.03
A	CS-WB07-LGR-04	318	4/28/10	1020	43.74	115.19	
	CS-WB08-UGR-01	38	4/27/10	1400	14.00	19.15	
	CS-WB08-LGR-01	115	4/27/10	1300	14.05	21.10	14.00
	CS-WB08-LGR-02	193	4/27/10	1100	14.03	52.03	13.94
	CS-WB08-LGR03A	228	4/27/10	1020	~~17.25~~ 14.11	68.44	Am 13.97
	CS-WB08-LGR03B	273	4/19/10	1000	28.37	81.99	
	CS-WB08-LGR-04	341	4/27/10	0920	57.86	118.12	13.98

Bob's Sample 4.27.10/0945

Quarter 12

month 36

Personnel: Bouch, Elliott, Lindley

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-MW-27	17.0	4/20/10	1500	7.15		6.59	18.23	0.790	-87.0	0.73	Noblis samples collected
CS-MW-28	TBD										not constructed
CS-MW-29	TBD										yet
CS-MW-30	TBD										
CS-MW-31	TBD										
CS-MW-32	TBD										
CS-MW-33	TBD										
CS-MW-34	TBD										
CS-MW-35	TBD										

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	4.26.10	1100		6.54	21.22	1.017	-117.9	0.57	
CS-D	4.26.10	1015		7.01	21.30	0.523	-96.2	1.89	
CS-MW16-LGR	4.26.10	1415		7.04	23.63	0.542	-102.8	1.69	
CS-MW16-CC	4.26.10	1345		7.79	23.37	0.659	-109.8	1.31	
CS-B3-EXW01	4.26.10	1500		7.34	22.56	0.567	-110.0	2.86	
CS-B3-EXW02									
CS-MW01-LGR	4.26.10	0905			~~7.01~~	~~21.18~~	~~-92.2~~	~~1.89~~ 0.89	
				7.01	21.18	0.511	-92.2	1.89	
CS-MW-1CC	4.26.10	1000		7.19	21.29	0.689	-103.0	1.01	
CS-4	4.26.10	1135		7.19	20.92	0.555	-97.3	3.76	
MW-25	4.26.10	1540		7.66	22.05	0.456	-100.8	4.42	
MW9-LGR	4.26.10	1600		7.08	21.06	0.522	-89.9	4.92	
MW9-CC	4.26.10	1630		7.15	21.03	0.685	-105.3	0.99	
MW2-LGR	4.26.10	1645		8.57	21.39	0.444	-99.2	1.20	
MW24-LGR	4.26.10	1705		7.14	21.89	0.553	-96.6	1.19	