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

June 28, 2012

U-065-12

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 55 – Month 60, November 1, 2011 - April 30, 2012) 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. 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, 2011 through April, 2012 (Months 55-60). 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, 2011 and April 30, 2012 approximately 8,139,248 gallons of groundwater from wells CS-MW16-CC (~3,507,615 gallons), CS-MW16-LGR (~1,464,758 gallons), B3-EXW-01 (~2,122,179 gallons), B3-EXW-02 (~2,702,000) were injected into SWMU B-3 bioreactor trenches 1 and 2. A total of 51,195,841 gallons of recovered groundwater from CS-MW16-LGR, CS-MW16-CC, B3-EXW-01, and B3-EXW-02 have been injected into bioreactor trenches 1 and 2 since normal bioreactor operations began. Samples of the injected groundwater, for this reporting period, were collected on November 18 and December 21, 2010, and January 19, February 24, March 22, and April 19, 2011. Results of analysis are summarized in the attached Table 1. An additional 12,000 gallons of water were injected into trench 4. This additional water was generated from additional well drilling efforts located on post. The laboratory data packages for characterization of the managed water for the newly drilled well CS-13 (TW-2) are included in the accompanying CD. 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.

A modification request changing the reporting frequency from a semi-annual to an annual basis was reviewed and approved by TCEQ UIC staff on February 17, 2012 (correspondence attached); therefore, this is the final biannual report. Future reports summarizing the injection activities performed at the on-post SWMU B-3 site will be submitted on an annual basis; the first of which will be submitted in June 2013.

If you have any questions regarding the information contained in this letter, please feel free to contact Gabriel Moreno-Fergusson, CSSA Environmental Program Manager, at (210) 295-7453 or Ken Rice, Parsons, at (512) 719-6050.

Sincerely,

Jason D. Shirley
Installation Manager

Enclosures

cc: Gabriel Moreno-Fergusson, CSSA Environmental Program Manager
Julie Burdey, Parsons (ltr only)
Ken Rice, Parsons
File: 748350.01000

TCEQ Correspondence

February 17, 2012

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 17, 2012

Mr. Jason Shirley
Installation Manager
U.S. Army, Camp Stanley Storage Activity
25800 Ralph Fair Road
Boerne, TX 78015

Re: Amendment to Class V Authorization
TCEQ Authorization No. 5X2600431
CN602728206/RN104431655
Camp Stanley Storage Activity
25800 Ralph Fair Road
Boerne, TX 78015

Dear Mr. Shirley:

The Underground Injection Control (UIC) staff has completed review of the modification request dated August 29, 2011 requesting approval to change the data collection and reporting requirements for the above authorization. The following change has been made to the above Class V authorization.

Injection volumes, pressures, and concentrations of contaminants (including pH and total dissolved solids) in the injected groundwater shall be sampled quarterly at the point of reinjection (prior to fluids being released into the trenches). The concentration of contaminates in the trench bioreactor monitoring sumps and the surrounding monitoring wells shall be sampled semiannually. All monitoring and sampling data shall be submitted to the UIC Permits Team, Radioactive Materials Divisions, at mail code MC 233 on an annual basis. All other requirements of the above mentioned authorization remain in effect.

If you have any questions regarding this matter, please contact me at (512) 239-6075. If you will be corresponding by mail, please use mail code MC 233.

Sincerely,

Bryan S. Smith
Underground Injection Control Permits Team
Radioactive Materials Division

BSS/nlc

cc: Mr. Ken Rice, Parsons, 8000 Centre Park Drive, Suite 200, Austin, TX 78754

Analytical Summary Data

Table 1

B3-UIC Analytical Results
November 2011 - April 2012

	Sample ID			B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC		
	Sample Date			11/21/12			12/19/11			01/19/12			02/22/12			03/22/12			04/12/12		
	Sample Type			N1			N1			N1			N1			N1			N1		
	Sampling Method			Grab			Grab			Grab			Grab			Grab			Grab		
	Lab ID			AY51147			AY52248			AY53176			AY55475			AY57612			AY58893		
	Lab MDL	Lab PQL	B3-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	0.07	1.2	--	131		1	122		1	111		1	99		1	124	J	1	115		1
trans-DCE	0.08	0.6	--	3.1		1	2.5		1	3.5		1	2.8		1	1.6		1	2.1		1
TCE	0.05	1.0	500	116		1	113		1	100		1	93		1	108		1	95		1
PCE	0.06	1.4	700	102		1	102		1	85		1	80		1	91		1	91		1
Toluene	0.06	1.1	--	0.06	U	1	0.06	U	1	0.06	U	1	0.06	U	1	0.06	U	1	0.06	U	1
Vinyl chloride	0.08	1.1	200	0.08	U	1	0.08	U	1	0.08	U	1	0.08	U	1	0.08	U	1	0.08	U	1
EPA 160.1 (mg/L)																					
TDS	4.4	10	--	351		1	329		1	346		1	359		1	340		1	346		1
Field measured																					
pH				7.41			7.44			7.31			7.40			7.20			7.02		

Tables present all laboratory results for analytes.
Data packages for laboratory results are presented in Attachment 1.
All samples were analyzed by APPL Laboratory Services.
pH results reported were field measured.
UIC criteria specified in 40 CFR 261.24 Table 1.

Data Qualifiers:
U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL.
J - The analyte was postively identified, but the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

Abbreviations:

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

Field Forms

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: Elliott, Bauch, E. Rice

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: 11.9.11		Time: 1330							
B3-T1-1	12.9	8.46	6.30	23.85	0.906	150.6	0.23		
B3-T1-2	12.4	8.05	6.91	22.14	0.426	71.3	0.03		
B3-T1-3	12.85	7.88	6.77	23.42	0.465	83.7	0.07	✓	
B3-T2-1	9.67	9.28							
B3-T2-2	10.01	9.60							
B3-T3-1	9.96	9.19							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.16							
B3-T6-2	12.34	11.12	6.56	25.03	0.570	-33.9	0.10	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	10/31/11	0815	11.1.11	0900	11.2.11	1425	11.3.11	0700	11.4.11	1410
Rate (gpm) / Cumulative Total (gal)										
T-1	11.6	1,868,808	10.9	1,885,633	11.4	1,904,526	11.2	1,916,761	10.7	1,935,365
T-2										
T-3										
T-4										
T-5										
T-6	26.1	4,793,714	25.5	4,830,973	25.6	4,873,857	27.7	4,901,611	24.8	4,943,819
B-3 (Total)										
CS-MW16-LGR	7.25	958,290	7.25	969,320	7.31	981,570	7.25	984,296	~~9253~~ 631	7.43
CS-MW16-CC	11.17	600,144	11.11	617,011	11.1	636,479	11.1	648,960	668514	11.11
B3-EXW01	6.73	809,7546	6.711	810,7678	6.660	811,9361	6.79	812,621	6.64	8138472
B3-EXW02	8.51	4,524,422	8.49	4537312	8.37	4552015	8.31	4561213	8.27	4575209

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:	MW16LGR	294.73	294.60	293.85	293.11
	MW16CC	368.87	368.95	369.60	370.03
	B3EXW01	307.40	306.90	308.10	307.40
	B3EXW02	319.70	319.30	321.50	320.70
	SCADA				

Week ~~235~~ 236

Personnel	Shuh, E. Lee.

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	11.2.11	1423	14.08	14.10 14.14	20.17
CS-WB05-LGR-02	182		1422		14.15 14.17	14.17
CS-WB05-LGR-03A	216		1421		14.17 14.20	14.17
CS-WB05-LGR-03B	262		1420		18.56 17.90	15.87
CS-WB05-LGR-04A	277		1419		25.11 24.43	18.89
CS-WB05-LGR-04B	329		1418		47.74 47.05	41.44
CS-WB05-BS-01	362		1417		62.10 61.41	56.57
CS-WB05-CC-01	432		1416		92.50 91.80	59.47
CS-WB05-CC-02	460		1415		104.66 103.96	71.79
CS-WB06-UGR-01	20		1457	14.07	14.07 14.08	17.41
CS-WB06-LGR-01	93		1456		14.12 14.11	16.45
CS-WB06-LGR-02	174		1454		14.16 14.15	17.97
CS-WB06-LGR-03A	207		1453		14.18 14.18	20.44
CS-WB06-LGR-03B	260		1452		26.37 26.10	43.35
CS-WB06-LGR-04	320		1451		52.44 52.19	40.14
CS-WB07-UGR-01	14		1358	14.08	14.08 14.07	14.36
CS-WB07-LGR-01	90		1357		14.12 14.10	25.97
CS-WB07-LGR-02	175		1356		14.16 14.13	23.44
CS-WB07-LGR-03A	208		1355		14.20 14.15	14.34
CS-WB07-LGR-03B	257		1354		14.22 14.19	15.0 26.88
CS-WB07-LGR-04	318		1353		24.62 24.47	39.98
CS-WB08-UGR-01	38		1440	14.06	14.19 14.10	18.28
CS-WB08-LGR-01	115		1439		14.10 14.13	19.62
CS-WB08-LGR-02	193		1438		14.14 14.15	17.26
CS-WB08-LGR-03A	228		1437		14.18 14.10	14.14
CS-WB08-LGR-03B	273	✓	1435		26.47 26.22	14.18
CS-WB08-LGR-04	341		1434		56.08 55.80	41.33

Personnel J. Beach, E. Rice

Quarterly Monitoring

MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure	
CS-WB05-LGR-01	99	10.27.11	1145	14.01	20.25	
CS-WB05-LGR-02	182	10.27.11	DRY	14.05	14.10	
CS-WB05-LGR03A	216	10.27.11	DRY	14.10	14.07	DRY
CS-WB05-LGR03B	262	10/19/11	1020	20.41	20.26	DRY
CS-WB05-LGR04A	277	~~10.27.11~~	~~DRY~~	~~14.05~~	~~14.06~~	14.10 / 14.11
CS-WB05-LGR04B	329	10.27.11	1000	49.13	41.81	
CS-WB05-BS-01	362	10.26.11	1400	63.52	57.59	
CS-WB05-CC-01	432	10.26.11	1110	94.12	60.34	
CS-WB05-CC-02	460	10.26.11	1010	106.40	72.65	
CS-WB06-UGR-01	20	11.1.11	1455	14.04	17.39	
CS-WB06-LGR-01	93	11.1.11	1400	14.09	16.40	
CS-WB06-LGR-02	174	11.1.11	1305	14.15	18.12	
CS-WB06-LGR03A	207	11.1.11	1050	14.14	20.47	
CS-WB06-LGR03B	260	10.20.11	0940	29.28	43.73	
CS-WB06-LGR-04	320	11.1.11	1000	54.26	40.25	
CS-WB07-UGR-01	14	11.2.11	~~1345~~ DUP	14.01	~~14.60~~ 14.35	DRY
CS-WB07-LGR-01	90	11.2.11	1110	14.11	24.26	
CS-WB07-LGR-02	175	11.2.11	1025	14.13	23.87	
CS-WB07-LGR03A	208	11.2.11	1015	14.16	14.33	DRY
CS-WB07-LGR03B	257	10.20.11	1100	14.21	27.87	
CS-WB07-LGR-04	318	11.2.11	0940	26.52	40.01	
CS-WB08-UGR-01	38	11.3.11	0930	14.22	18.47	
CS-WB08-LGR-01	113	11.3.11	1030	14.26	19.62	
CS-WB08-LGR-02	193	11.3.11	~~1140~~ 1240 DUP	14.27	16.78	
CS-WB08-LGR03A	228	11.3.11	DRY	14.25	14.17	DRY
CS-WB08-LGR03B	273	10.19.11	1340	26.53	16.55	
CS-WB08-LGR-04	341	11.3.11	1400	57.85	41.40	

Bioreactor Monitoring

Personnel: J. Bouch, E. Rice

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: 11.11.11		Time: 1000							
B3-T1-1	12.9	8.70	6.79	23.55	1.070	136.2	0.16		
B3-T1-2	12.4	8.26	6.89	22.16	0.937	127.0	0.15		
B3-T1-3	12.85	8.04	6.73	23.12	0573	76.0	0.14	✓	
B3-T2-1	9.67	9.32							
B3-T2-2	10.01	9.72							
B3-T3-1	9.96	9.24							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.26							
B3-T6-2	12.34	11.33	6.51	~~22.16~~ 24.53	0632	-49.0	0.06	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11.07.11	1535			11.09.11	1550	11.10.11	1000	11.11.11	1100
Rate (gpm) / Cumulative Total (gal)										
T-1	11.3	1,983,340			11.6	2,014,743	11.4	2,025,925	10.1	2,040,296
T-2										
T-3										
T-4										
T-5										
T-6	28.4	5,050,605			26.3	5,118,561	27.8	5,144,056	25.2	5,174,647
B-3 (Total)										
CS-MW16-LGR	7.36	28,546			7.48	45400	7.81	516,658	560,406	7.53
CS-MW16-CC	11.11	118,284			11.06	750,524	11.01	774,213	779,540	11.06
B3-EXW01	6.574	8,168,565			6.602	8,189,114	6.402	8,195,461	6.67	8,205,740
B3-EXW02	8.275	4,610,177	6.52		8.244	4,632,089	8.257	4,640,283	8.29	4,650,290

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:	MW16LGR 292.22		291.87 (E1 E2)	281.11	288.69
	MW16CC 370.71		371.24	371.62	371.45
	B3EXW01 307.40		308.10	310.20	307.40
	B3EXW02 321.50		323.10	321.90	322.40
	SCADA				

Week ~~236~~ (W) 237

Personnel: J. Brown, E. Rice

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	11-10-11	1029	14.23	14.10 14.39	20.22
CS-WB05-LGR-02	182		1028		14.15 14.44	14.35
CS-WB05-LGR-03A	216		1027		14.17 14.46	14.23
CS-WB05-LGR-03B	262		1026		18.56 18.13	14.88
CS-WB05-LGR-04A	277		1025		25.11 24.67	19.06
CS-WB05-LGR-04B	329		1025		47.74 47.31	41.55
CS-WB05-BS-01	362		1024		62.10 61.64	56.35
CS-WB05-CC-01	432		1023		92.50 92.05	58.89
CS-WB05-CC-02	460		1022		104.66 104.21	71.22
CS-WB06-UGR-01	20		1058	14.30	14.07 14.34	17.66
CS-WB06-LGR-01	93		1057		14.12 14.39	16.69
CS-WB06-LGR-02	174		1056		14.16 14.43	17.96
CS-WB06-LGR-03A	207		1055		14.18 14.46	20.36
CS-WB06-LGR-03B	260		1054		26.37 26.38	43.26
CS-WB06-LGR-04	320		1054		52.44 52.46	40.10
CS-WB07-UGR-01	14		1041	14.33	14.08 14.35	14.68
CS-WB07-LGR-01	90		1040		14.12 14.40	27.38
CS-WB07-LGR-02	175		1039		14.16 14.43	23.73
CS-WB07-LGR-03A	208		1038		14.20 14.45	14.42
CS-WB07-LGR-03B	257		1037		14.22 14.49	26.87
CS-WB07-LGR-04	318		1035		24.62 24.72	40.00
CS-WB08-UGR-01	38		1109	14.30	14.19 14.36	18.48
CS-WB08-LGR-01	115		1108		14.10 14.40	19.59
CS-WB08-LGR-02	193		1107		14.14 14.44	16.90
CS-WB08-LGR-03A	228		1106		14.18 14.45	14.29
CS-WB08-LGR-03B	273		1105		26.47 25.38	14.30
CS-WB08-LGR-04	341		1104		56.08 54.95	41.26

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: E. Rice . J Bauch

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: 11.18.11		Time: 1000							
B3-T1-1	12.9	8.49	6.84	23.23	1.364	145.1	0.33		
B3-T1-2	12.4	8.06	6.91	22.04	0.854	146.6	0.55		
B3-T1-3	12.85	7.89	6.76	22.80	0.802	147.3	0.24	✓	
B3-T2-1	9.67	9.04							
B3-T2-2	10.01	9.47							
B3-T3-1	9.96	9.07							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	7.92							
B3-T6-1	11.45	11.18							
B3-T6-2	12.34	11.24	6.55	24.61	0.862	-49.8	0.11	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11-14-11	1600	11.15.11	1600	11.16.11	1500	11.17.11	1520	11.18.11	0930
	Rate (gpm) / Cumulative Total (gal)									
T-1	9.79	2089984	11.8	2,105,649	12.4	2,120,549	11.4	2,135,712	11.6	2,147,695
T-2	19.7	5283085								
T-3		(ERR)								
T-4										
T-5										
T-6	19.7	5283085	27.1	5,317,089	25.1	5,348,999	26.2	5381866	26.5	5408011
B-3 (Total)							10.95			
CS-MW16-LGR	0	63354	7.31	91,841	7.59	99392	7.53	107201	7.42	113467
CS-MW16-CC	11.28	830786	11.06	846,838	10.9	862101			10.95	890115
B3-EXW01	6.973	8237076	6.603	8246,821	6.515	8256173	6.502	8265797	6.999	8273929
B3-EXW02	9.286	4684897	8.152	4695,711	8.295	4705897	8.111	4716399	9083	4725208

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: MW16LGR(ERR)	272.82	294.00	285.46	290.30	293.50
MW16CC	373.04	371.73	371.63	371.89	371.82
B3EXW01	311.40	307.80	306.20	308.00	308.30
B3EXW02	322.30	322.60	320.20	321.80	322.20
SCADA					

Week 237 (10-) 238

SWMU B-3 Tree Mulch Bioreactor

Personnel	JBouch

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 11	0938	14.18	14.10 14.24	20.22
CS-WB05-LGR-02	182		0937		14.15 14.30	14.29
CS-WB05-LGR-03A	216		0936		14.17 14.31	14.24
CS-WB05-LGR-03B	262		0935		18.56 17.98	14.36
CS-WB05-LGR-04A	277		0934		25.11 24.50	19.05
CS-WB05-LGR-04B	329		0933		47.74 47.12	41.48
CS-WB05-BS-01	362		0932		62.10 61.47	56.17
CS-WB05-CC-01	432		0931		92.50 91.88	58.84
CS-WB05-CC-02	460		0930		104.66 104.04	71.15
CS-WB06-UGR-01	20		0952	14.19	14.07 14.21	17.53
CS-WB06-LGR-01	93		0950		14.12 14.24	16.56
CS-WB06-LGR-02	174		0948		14.16 14.28	17.81
CS-WB06-LGR-03A	207		0947		14.18 14.31	20.23
CS-WB06-LGR-03B	260		0946		26.37 26.23	43.13
CS-WB06-LGR-04	320		0945		52.44 52.30	40.24
CS-WB07-UGR-01	14		1007	14.18	14.08 14.22	14.61
CS-WB07-LGR-01	90		1004		14.12 14.25	27.64
CS-WB07-LGR-02	175		1003		14.16 14.29 ~~14.35~~	23.59 ~~26.66~~
CS-WB07-LGR-03A	208		1002		14.20 14.31	14.41
CS-WB07-LGR-03B	257		1001		14.22 14.35	26.66
CS-WB07-LGR-04	318		1000		24.62 24.57	40.04
CS-WB08-UGR-01	38		1015	14.19	14.19 14.21	18.31
CS-WB08-LGR-01	115		1014		14.10 14.24	19.40
CS-WB08-LGR-02	193		1013		14.14 14.29	16.90
CS-WB08-LGR-03A	228		1012		14.18 14.31	14.29
CS-WB08-LGR-03B	273		1011		26.47 25.23	14.34
CS-WB08-LGR-04	341		1010		56.08 54.81	41.29

Week ~~237~~ 238

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bonch

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: 11.21.11		Time: 1400							
B3-T1-1	12.9								
B3-T1-2	12.4								
B3-T1-3	12.85								
B3-T2-1	9.67		No	Sump	Data				
B3-T2-2	10.01								
B3-T3-1	9.96								
B3-T3-2	7.4								
B3-T4-1	6.32								
B3-T5-1	9.33								
B3-T5-2	7.98								
B3-T6-1	11.45								
B3-T6-2	12.34								
B3-UIC			7.41	23.13	0.617	158.4	5.20		@ 1400

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday	Wednesday		Thursday	Friday
Date/Time:	11.21.11	1400	11.22.11	11.23.11	1500	11.24.11	11.25.11
Rate (gpm) / Cumulative Total (gal)							
T-1	12.9	2197349		12.2	2229970		
T-2						HAPPY	
T-3							
T-4							
T-5						Thanksgiving!	
T-6	27.2	5514199					OFF
B-3 (Total)				25.5	5583290		
CS-MW16-LGR	7.164	138676		7.31	154930		
CS-MW16-CC	10.90	940533		11.01	973123		
B3-EXW01	6.5	8304147		6.5	8324074		
B3-EXW02	8.17	4750625		8.16	4780901		
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:	MW16LGR 288.38 MW16CC 371.56 B3EXW01 307.50 B3EXW02 320.00 SCADA			294.43 372.28 307.50 320.30			

Personnel	

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99				14.10	
CS-WB05-LGR-02	182				14.15	
CS-WB05-LGR-03A	216				14.17	
CS-WB05-LGR-03B	262				18.56	
CS-WB05-LGR-04A	277	No Profile Data			25.11	
CS-WB05-LGR-04B	329	for week of			47.74	
CS-WB05-BS-01	362	11-21-11		to 11-23-11	62.10	
CS-WB05-CC-01	432				92.50	
CS-WB05-CC-02	460				104.66	
CS-WB06-UGR-01	20				14.07	
CS-WB06-LGR-01	93				14.12	
CS-WB06-LGR-02	174				14.16	
CS-WB06-LGR-03A	207				14.18	
CS-WB06-LGR-03B	260				26.37	
CS-WB06-LGR-04	320				52.44	
CS-WB07-UGR-01	14				14.08	
CS-WB07-LGR-01	90				14.12	
CS-WB07-LGR-02	175				14.16	
CS-WB07-LGR-03A	208				14.20	
CS-WB07-LGR-03B	257				14.22	
CS-WB07-LGR-04	318				24.62	
CS-WB08-UGR-01	38				14.19	
CS-WB08-LGR-01	115				14.10	
CS-WB08-LGR-02	193				14.14	
CS-WB08-LGR-03A	228				14.18	
CS-WB08-LGR-03B	273				26.47	
CS-WB08-LGR-04	341				56.08	

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: 12.2.11		Time: 1410							
B3-T1-1	12.9	8.38	6.96	22.51	1.321	145.0	0.29		
B3-T1-2	12.4	7.96	6.85	21.90	0.987	107.1	0.36	✓	
B3-T1-3	12.85	7.72	6.68	22.19	0.954	86.1	0.03		
B3-T2-1	9.67	9.09							
B3-T2-2	10.01	9.35	7.10	24.69	1.315	136.8	1.41		
B3-T3-1	9.96	9.14							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.10							
B3-T6-2	12.34	11.33	6.52	23.76	0.915	70.4	0.30	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11.28.11	1010	11.29.11	1310	11.30.11	1300	12.1.11	1330	12.2.11	1400
Rate (gpm) / Cumulative Total (gal)										
T-1	11.1	2,308,054	10.7	2,326,484	10.6	2,343,788	10.3	2,361,956	9.48	2,377,037
T-2										
T-3										
T-4										
T-5										
T-6	24.8	5,746,137	21.1	5,785,172	22.5	5,821,471	22.3	5,858,975	21.8	5,891,035
B-3 (Total)							0	218,508	0	6,198
CS-MW16-LGR	7.14	192,580	0	201,839	0	209,855	11.26	100,699	11.26	115,673
CS-MW16-CC	10.95	49,636	11.22	47,390	11.26	83,602	7.1	8,401,346	7.14	8,409,809
B3-EXW01	6.57	8,370,186	7.11	8,380,940	7.11	8,390,240	9.1	4,823,521	9.05	4,804,390
B3-EXW02	8.34	4,834,250	9.14	4,841,602	8.92	4,859,880				

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:	MW16LGR 294.96	283.19	270.99	267.64	New meter 16LGR
	MW16CC 372.10	373.29	373.44	373.12	Flow rate = 10.03
	B3EXW01 307.10	308.50	310.30	310.2	12/1/11 - 4PM
	B3EXW02 318.30	321.90	323.50	323.2	
	SCADA				

279.57
373.13
308.20
321.90

Week 23 (TM) 240

Personnel: J. Bouch ; C. Beal

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	12-1-11	1528	14.13	14.10 14.18	20.25
CS-WB05-LGR-02	182		1527		14.15 14.21	14.26
CS-WB05-LGR-03A	216		1526		14.17 14.24	14.29
CS-WB05-LGR-03B	262		1525		18.56 17.88	14.36
CS-WB05-LGR-04A	277		1524		25.11 24.40	19.38
CS-WB05-LGR-04B	329		1523		47.74 47.03	41.93
CS-WB05-BS-01	362		1522		62.10 61.39	56.33
CS-WB05-CC-01	432		1521		92.50 91.78	59.09
CS-WB05-CC-02	460		1520		104.66 103.93	71.44
CS-WB06-UGR-01	20		1602	14.11	14.07 14.13	17.44
CS-WB06-LGR-01	93		1601		14.12 14.18	16.54
CS-WB06-LGR-02	174		1600		14.16 14.22	17.70
CS-WB06-LGR-03A	207		1559		14.18 14.22	20.04
CS-WB06-LGR-03B	260		1558		26.37 26.14	42.93
CS-WB06-LGR-04	320		1557		52.44 52.21	40.72
CS-WB07-UGR-01	14		1602	14.13	14.08 14.14	14.59
CS-WB07-LGR-01	90		1601		14.12 14.16	28.42
CS-WB07-LGR-02	175		1600		14.16 14.20	23.51
CS-WB07-LGR-03A	208		1559		14.20 14.25	14.42
CS-WB07-LGR-03B	257		1558		14.22 14.26	26.70
CS-WB07-LGR-04	318		1557		24.62 24.50	40.44
CS-WB08-UGR-01	38		1633	14.12	14.19 14.15	18.28
CS-WB08-LGR-01	115		1632		14.10 14.19	19.56
CS-WB08-LGR-02	193		1631		14.14 14.22	16.92
CS-WB08-LGR-03A	228		1630		14.18 14.23	14.31
CS-WB08-LGR-03B	273		1628		26.47 25.16	14.35
CS-WB08-LGR-04	341		1627		56.08 54.74	41.84

SWMU E ge Mulch Bioreactor

Bioreactor Monitoring

Personnel: CBEMR 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: 12.9.11		Time: 0930							
B3-T1-1	12.9	8.16	6.70	21.73	1.128	149.1	0.16		
B3-T1-2	12.4	7.75	6.81	20.75	0.582	92.8	0.61		
B3-T1-3	12.85	7.53	6.63	20.07	0.744	128.0	0.11	✓	
B3-T2-1	9.67	9.08							
B3-T2-2	10.01	9.12	7.08	22.80	1.297	134.2	1.14		
B3-T3-1	9.96	9.24							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.17							
B3-T6-2	12.34	11.32	6.53	23.53	0.878	-45.9	0.23	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12/5/11	9:15	12/6/11	13:30	12/7/11	12:15	12/8/11	12:45	12/9/11	7:20
	Rate (gpm)	Cumulative Total (gal)								
T-1	10.2	2,422,020	13.2	2,441,048	12.6	2,456,089	13.4	2,473,744	9.69	2,486,223
T-2										
T-3										
T-4										
T-5										
T-6	22.5	5,366,664	20	6,027,167	21.3	6,059,325	27.4	6,097,435	21.8	6123950
B-3 (Total)										
CS-MW16-LGR	0	24,344	10.36	32,154	11.38	37576	45,299	9.98	10.30	50733
CS-MW16-CC	11.28	160,134	10.73	172,924	11.22	193,872	211,370	10.79	10.79	224023
B3-EXW01	7.76	8,436,731	6.15	8,448,015	5.9	8457034	8467682	7.189	7.08	8475103
B3-EXW02	8.9	4,918,647	7.8	4933024	7.7	4944544	4958148	9.27	8.9	4967571

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: MW16LGR	279.86	285.62	270.39	290.76	285.17
MW16CC	372.91	370.75	372.61	370.28	370.18
B3EXW01	308.50	307.40	310.10	305.60	307.20
B3EXW02	321.50	316.00	322.90	314.50	316.60
SCADA					

Week 240 241

Personnel	JBowen, C.Beal

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	12/9/11	0940		14.10 14.26	20.30
CS-WB05-LGR-02	182		0938		14.15 14.28	14.26
CS-WB05-LGR-03A	216		0937		14.17 ~~14.32~~ 14.29 (WF)	14.32
CS-WB05-LGR-03B	262		0936		18.56 17.97	14.39
CS-WB05-LGR-04A	277		0934	14.20	25.11 24.49	19.80
CS-WB05-LGR-04B	329		0933		47.74 47.11	42.31
CS-WB05-BS-01	362		0932		62.10 61.49	56.71
CS-WB05-CC-01	432		0931		92.50 91.86	59.66
CS-WB05-CC-02	460		0930		104.66 104.02	71.98
CS-WB06-UGR-01	20		1025		14.07 14.24	17.53
CS-WB06-LGR-01	93		1024		14.12 14.28	16.59
CS-WB06-LGR-02	174		1023		14.16 14.32	17.82
CS-WB06-LGR-03A	207		1021	14.17	14.18 14.33	20.02
CS-WB06-LGR-03B	260		1020		26.37 26.26	42.92
CS-WB06-LGR-04	320		1018		52.44 52.34	41.26
CS-WB07-UGR-01	14		1010		14.08 14.24	15.12
CS-WB07-LGR-01	90		1009		14.12 14.27	29.87
CS-WB07-LGR-02	175		1007		14.16 14.31	23.56
CS-WB07-LGR-03A	208		1006	14.19	14.20 14.34	14.51
CS-WB07-LGR-03B	257		1005		14.22 14.36	27.22
CS-WB07-LGR-04	318		1003		24.62 24.61	40.87
CS-WB08-UGR-01	38		1036		14.19 14.26	19.60
CS-WB08-LGR-01	115		1035		14.10 14.29	19.61
CS-WB08-LGR-02	193		1034		14.14 14.31	16.94
CS-WB08-LGR-03A	228		1033	14.19	14.18 14.33	14.43
CS-WB08-LGR-03B	273		1032		26.47 25.27	14.44
CS-WB08-LGR-04	341		1031		56.08 (WF) ~~44.82~~ 54.84	(102) ~~57.34~~ 42.32

Week ~~240~~ (13) 241

Bioreactor Monitoring

Personnel: CS + ELi

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: 12.12.11		Time: 9:39							
B3-T1-1	12.9	8.00	6.88	21.43	1.205	149.7	0.37	✓	
B3-T1-2	12.4	7.59	6.93	21.21	0.653	145.4 CS	1.11	✓	
B3-T1-3	12.85	7.38	6.67	20.42	0.828	141.2	0.16	✓	
B3-T2-1	9.67	8.95							
B3-T2-2	10.01	9.07	7.13	22.52	1.608	141.6	0.20	✓	
B3-T3-1	9.96	9.25							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.15	6.54	21.82	0.754	146.6	1.11*	✓	*MAY BE "CAP" WATER
B3-T6-2	12.34	11.37	6.68	23.15	0.992	−17.9	0.14	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12/12/11	10:30	12-13-11	0915	12/14/11	1500	12/15/11	13:15	12.16.11	
	Rate (gpm) / Cumulative Total (gal)									
T-1	2535209	13.7	2550061	11.9	2,569,560	9.45	2,583,821	12	2,597,164	12.0
T-2										
T-3										
T-4										
T-5										
T-6	622833	27.4	626300	29.1	6,303,344	22	6,334,755	28.3	6,363,454	26.6
B-3 (Total)										
CS-MW16-LGR	70781	0	78321	9.92	86,614.9	0	93,279	9.98	99264	11.22
CS-MW16-CC	271,963	11.22	288302	10.79	306701	11.22	321098	10.73	334395	10.68
B3-EXW01	8504467	6.10	8514120	7.15	8525566	7.15	8534359	6.34	8542435	6.17
B3-EXW02	5004892	7.82	5017423	8.10	5031693	9.05	5042854	9.38	5053103	7.85
	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:	MW16LGR	285.72	291.95		281.01		291.48		270.12	
	MW16CC	369.66	369.33		320.94		368.77		370.85	
	B3EXW01	306.80	305.30		306.90		305.20		309.20	
	B3EXW02	316.40	315.10		320.40		314.90		323.50	
	SCADA									

Week 242

Personnel	C. Beal, E Rice

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	12/13/11	0934	14.18	14.10 14.26	20.31
CS-WB05-LGR-02	182		0933		14.15 14.30	14.28
CS-WB05-LGR-03A	216		0932		14.17 14.31	14.34
CS-WB05-LGR-03B	262		0931		18.56 17.93	14.36
CS-WB05-LGR-04A	277		0930		25.11 24.47	19.95
CS-WB05-LGR-04B	329		0929		47.74 47.09	42.47
CS-WB05-BS-01	362		0928		62.10 61.41	56.85
CS-WB05-CC-01	432		0926		92.50 91.83	60.01
CS-WB05-CC-02	460	↓	0924		104.66 103.99	72.34
CS-WB06-UGR-01	20	12/13/11	1014	14.19	14.07 14.22	17.55
CS-WB06-LGR-01	93		1013		14.12 14.26	16.57
CS-WB06-LGR-02	174		1012		14.16 14.29	17.83
CS-WB06-LGR-03A	207		1011		14.18 14.31	20.01
CS-WB06-LGR-03B	260		1009		26.37 26.27	42.90
CS-WB06-LGR-04	320	↓	1008		52.44 52.30	41.46
CS-WB07-UGR-01	14	12/13/11	0957	14.19	14.08 14.21	14.66
CS-WB07-LGR-01	90		0956		14.12 14.25	30.54
CS-WB07-LGR-02	175		0955		14.16 14.31	23.58
CS-WB07-LGR-03A	208		0953		14.20 14.33	14.62
CS-WB07-LGR-03B	257		0952		14.22 14.34	27.83
CS-WB07-LGR-04	318	↓	0951		24.62 24.60	41.04
CS-WB08-UGR-01	38	12/13/11		14.18	14.19 14.21	18.46
CS-WB08-LGR-01	115				14.10 14.26	19.62
CS-WB08-LGR-02	193				14.14 14.29	16.97
CS-WB08-LGR-03A	228				14.18 14.32	14.35
CS-WB08-LGR-03B	273				26.47 25.25	14.36
CS-WB08-LGR-04	341	↓			56.08 56.81	42.44

SWMU L .ee Mulch Bioreactor

Bioreactor Monitoring

Personnel: J Bouch, C. Beal

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: 12/20/2011		Time: 10:15							
B3-T1-1	12.9	7.61	6.85	21.40	0.678	140.90	0.24	✓	
B3-T1-2	12.4	7.20	6.92	21.42	0.404	142.9	0.60	✓	
B3-T1-3	12.85	7.06	6.79	20.07	0.477	137.3	0.26		
B3-T2-1	9.67	8.97	6.90	21.78	1.385	145.3	2.98		
B3-T2-2	10.01	8.94	7.05	21.74	1.078	145.1	0.29		
B3-T3-1	9.96	9.29							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.17						✓	
B3-T6-2	12.34	11.39	6.60	23.36	0.630	-4.1	0.29	✓	
B3-UIC			7.44	21.94	0.480	146	6.79		12/19/11 @ 1130

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12/19/11	13.45	12.20	10.20	~~12/20~~/11	11:40	12.22.11	1211	12.23.11	1015
Rate (gpm) / Cumulative Total (gal)										
T-1	7,648,416	12.2	2,662,063	9.8	2,679,304	13.3	2,695,577	9.15	2,710,281	9.40
T-2										
T-3										
T-4										
T-5										
T-6	6,474,146	28.0	6,503,468	20.7	6,540,401	28.1	6,576,753	21.6	6,608,357	22.6
B-3 (Total)										
CS-MW16-LGR	125510	0.0	129490	0	137869	10.8	145304	0	152607	0
CS-MW16-CC	385167	11.28	398603	11.28	415,354	10.79	431570	11.22	446 136	11.28
B3-EXW01	8,573,471	6.17	8,582,112	7.295	8,591,931	6.26	8,601,812	7.21	8,610,722	7.27
B3-EXW02	5,092,559	7.9	5,103,554	9.2	5,116,036	8.12	5,128,597	9.16	5,140,076	7.24

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: MW16LGR	270.21	270.88	280.31	274.76	292.32
MW16CC	369.91	369.92	367.84	369.42	369.45
B3EXW01	301.80	307.90	306.30	306.20	305.40
B3EXW02	322.10	322.40	316.90	319.80	318.60

Week ~~247~~ @ 243

Personnel: J Bouch, C Beal

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	12/20/11	1427	14.05	14.10 14.12	20.26
CS-WB05-LGR-02	182		1426		14.15 14.10	14.17
CS-WB05-LGR-03A	216		1425		14.17 14.19	14.24
CS-WB05-LGR-03B	262		1424		18.56 17.76	14.27
CS-WB05-LGR-04A	277		1423		25.11 24.30	20.40
CS-WB05-LGR-04B	329		1422		47.74 46.92	42.90
CS-WB05-BS-01	362		1421		62.10 61.27	57.24
CS-WB05-CC-01	432		1420		92.50 91.67	60.62
CS-WB05-CC-02	460		1419		104.66 103.83	72.44
CS-WB06-UGR-01	20		1457	14.09	14.07 14.09	17.50
CS-WB06-LGR-01	93		1456		14.12 14.14	16.48
CS-WB06-LGR-02	174		1455 ~~1455~~		14.16 14.18	17.83
CS-WB06-LGR-03A	207		1454		14.18 14.21	19.96
CS-WB06-LGR-03B	260		1453		26.37 26.11	42.86
CS-WB06-LGR-04	320		1452		52.44 52.15	42.20
CS-WB07-UGR-01	14		1441	14.06	14.08 14.10	14.61
CS-WB07-LGR-01	90		1440		14.12 14.13	31.37
CS-WB07-LGR-02	175		1439		14.16 14.18	23.93
CS-WB07-LGR-03A	208		1438		14.20 14.21	14.65
CS-WB07-LGR-03B	257		1437		14.22 14.23	28.06
CS-WB07-LGR-04	318		1436		24.62 24.45	41.55
CS-WB08-UGR-01	38		1510	14.07	14.19 14.11	18.62
CS-WB08-LGR-01	115		1509		14.10 14.13	19.58
CS-WB08-LGR-02	193		1508		14.14 14.17	16.95
CS-WB08-LGR-03A	228		1507		14.18 14.21	14.24
CS-WB08-LGR-03B	273		1506		26.47 25.11	14.27
CS-WB08-LGR-04	341		1505		56.08 54.68	43.15

Bioreactor Monitoring

Personnel: Bouch; C. Beal

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: 12.27.11		Time: 1110							
B3-T1-1	12.9	7.21	6.95	20.91	1.015	57.2	0.30		
B3-T1-2	12.4	6.64	6.96	20.60	0.615	79.2	0.48	✓	
B3-T1-3	12.85	6.75	6.91	18.99	0.675	112.4	0.07		
B3-T2-1	9.67	8.68	7.31	20.46	2.080	112.5	4.20		
B3-T2-2	10.01	8.70	7.15	20.71	1.709	123.4	1.24		
B3-T3-1	9.96	9.19							
B3-T3-2	7.4	DRY		18.39 (#2)					
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.20							
B3-T6-2	12.34	11.29	6.63	22.75	1.038	4.1	0.52	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12.26.11		12.28.11	1105	12.28.11	1137	12.29.11	1451	12.30.11	1334
			Rate (gpm) / Cumulative Total (gal)							
T-1			9.89	2,773,149	10.1	2,787,627	10.0	2,804,053	10.1	2,817,362
T-2										
T-3	Holiday									
T-4										
T-5										
T-6			21.5	6,745,770	23.0	6,776,668	21.2	6,811,762	22.9	6,840,064
B-3 (Total)										
CS-MW16-LGR			0	174809	0	174809*	OFF			
CS-MW16-CC			11.22	510277	11.28	526782	11.22	545453	11.28	560512
B3-EXW01			7.40	865,740	7.40	866,638	7.41	867,836	7.39	868,893
B3-EXW02	7.64 (#2) 3,149,342		7.64	5,193,142	7.56	5,207,281	7.6	5,223,047	9.62	5,236,085

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:	MW16LGR	257.90	257.70		258.13
	MW16CC	368.38	367.92		367.53
	B3EXW01	300.70	300.60		301.40
	B3EXW02	310.90	311.16		312.30
	SCADA		*Magnetic Starter Coil is defective.*		

Week 24 (2nd)

MW16LGR is OFF

Personnel	J. Bouch, C Beal

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	12-27-11	1418	14.19	14.10 14.26	20.31
CS-WB05-LGR-02	182		1417		14.15 14.29	14.30
CS-WB05-LGR-03A	216		1416		14.17 14.32 (29 VOID)	14.40
CS-WB05-LGR-03B	262		1415		18.56 17.87	15.09
CS-WB05-LGR-04A	277		1414		25.11 24.41	23.85
CS-WB05-LGR-04B	329		1413		47.74 47.03	46.35
CS-WB05-BS-01	362		1412		62.10 61.37	59.88
CS-WB05-CC-01	432		1411		92.50 91.78	61.27
CS-WB05-CC-02	460		1410		104.66 103.93	73.60
CS-WB06-UGR-01	20		1447	14.17	14.07 14.22	17.74
CS-WB06-LGR-01	93		1446		14.12 14.25	16.58
CS-WB06-LGR-02	174		1445		14.16 14.28	17.92
CS-WB06-LGR-03A	207		1444		14.18 14.31	20.08
CS-WB06-LGR-03B	260		1444		26.37 26.22	42.98
CS-WB06-LGR-04	320		1443		52.44 52.26	45.80
CS-WB07-UGR-01	14		1434	14.18	14.08 14.21	14.66
CS-WB07-LGR-01	90		1433		14.12 14.24	33.65
CS-WB07-LGR-02	175		1432		14.16 14.29	24.26
CS-WB07-LGR-03A	208		1431		14.20 14.31	15.34
CS-WB07-LGR-03B	257		1430		14.22 14.34	30.90
CS-WB07-LGR-04	318		1429		24.62 24.58	44.69
CS-WB08-UGR-01	38		1500	14.18	14.19 14.23	19.12
CS-WB08-LGR-01	115		1459		14.10 14.26	19.59
CS-WB08-LGR-02	193		1458		14.14 14.30	16.90
CS-WB08-LGR-03A	228		1457		14.18 14.32 (29 VOID)	14.31
CS-WB08-LGR-03B	273		1456		26.47 25.22	16.94
CS-WB08-LGR-04	341		1455		56.08 54.80	46.76

Week ~~243~~ 244

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: E. Rice ; J. Boal, 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: 1.5.12		Time: 0845							
B3-T1-1	12.9	7.88	6.99	20.72	1.047	129.7	0.33		
B3-T1-2	12.4	7.50	6.90	21.38	0.651	134.9	0.89	✓	
B3-T1-3	12.85	7.39	6.86	18.21	0.675	139.2	0.17		
B3-T2-1	9.67	9.08							
B3-T2-2	10.01	9.22	7.08	20.32	1.846	146.0	1.08		
B3-T3-1	9.96	9.26							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	dry							
B3-T6-1	11.45	11.20						✓	
B3-T6-2	12.34	11.56	6.61	22.66	1.080	125.5	0.76		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	~~Monday~~ Tues		~~Tuesday~~ Wed		~~Wednesday~~ Thurs		~~Thursday~~ Fri.		Friday
Date/Time:	1-3-12	0900	1.4.12	1025	1.5.12	0830	1.6.12	1320	
Rate (gpm) / Cumulative Total (gal)									
T-1	2872070	10.0	2887135	10.0	10.1	2900504	10.6	~~2,950,24~~ 2914504	
T-2									
T-3									
T-4									
T-5								7,038,319	
T-6	6955124	22.5	6986570	22.7	20.3	~~7014319~~	21.8	~~7,039,443~~ 7,003,863	
B-3 (Total)									
CS-MW16-LGR	174809	0	174809	0	Off - ~~SCADA~~ electric panel		OFF	670,542	
CS-MW16-CC	622408	11.22	631462	11.78	11.28	654542	11.3	721,055	
B3-EXW01	8775348	7.26	8836287	7.20	7.32	8745896	7.25	8758463	
B3-EXW02	5287864	7.21	5301591	7.13	9.15	5313674	8.95	5329197	

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: MW16LGR 260.13 MW16CC 366.75 B3EXW01 305.50 B3EXW02 320.50 SCADA		Quick trends looks good	366.5 309.10 324.60	

Siemens Cat No: 14DST32A
48ASE3M10 (Bottom)

Week ~~24~~ 25

Personnel	J. Bowen, E. Rice

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	1-3-12	1318	14.31	14.10 14.37	20.34
CS-WB05-LGR-02	182		1317		14.15 14.40	14.42
CS-WB05-LGR-03A	216		1316		14.17 14.43	14.45
CS-WB05-LGR-03B	262		1315		18.56 17.94	16.36
CS-WB05-LGR-04A	277		1314		25.11 24.49	22.67
CS-WB05-LGR-04B	329		1313		47.74 47.10	45.09
CS-WB05-BS-01	362		1312		62.10 61.46	59.54
CS-WB05-CC-01	432		1311		92.50 91.85	62.13
CS-WB05-CC-02	460	↓	1310		104.66 104.02	74.46
CS-WB06-UGR-01	20		1357	14.30	14.07 14.32	17.70
CS-WB06-LGR-01	93		1356		14.12 14.36	16.71
CS-WB06-LGR-02	174		1355		14.16 14.41	17.95
CS-WB06-LGR-03A	207		1354		14.18 14.42	20.09
CS-WB06-LGR-03B	260		1353		26.37 26.30	42.99
CS-WB06-LGR-04	320	↓	1352		52.44 52.35	43.88
CS-WB07-UGR-01	14		1333	14.29	14.08 14.34	14.68
CS-WB07-LGR-01	90		1332		14.12 14.39	33.56
CS-WB07-LGR-02	175		1331		14.16 1441	24.35
CS-WB07-LGR-03A	208		1330		14.20 14.43	14.60
CS-WB07-LGR-03B	257		1329		14.22 14.45	30.25
CS-WB07-LGR-04	318	↓	1328		24.62 24.67	43.39
CS-WB08-UGR-01	38		1333 1410	14.29	14.19 14.32	18.79
CS-WB08-LGR-01	115		1332 1409		14.10 14.36	19.58
CS-WB08-LGR-02	193		1331 1408		14.14 14.39	16.86
CS-WB08-LGR-03A	228		1330 1407	~~14.30~~ 14.29	14.18 14.40	14.20
CS-WB08-LGR-03B	273		1329 1406		~~26.47~~ 25.32 ~~26.30~~	15.53 ~~42.99~~ 42.69
CS-WB08-LGR-04	341	↓	~~1328~~ 1405		56.08 ~~52.35~~	~~43.88~~
			Week ~~244~~ 245		54.88	44.94

Bioreactor Monitoring

Personnel: J. Bouch, E. Rice

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: 1.13.12		Time: 1233							
B3-T1-1	12.9	8.35	7.0	21.19	0.914	114.8	0.39		
B3-T1-2	12.4	7.95	6.91	20.39	0.607	100.8	0.80		
B3-T1-3	12.85	7.82	6.92	1861	0.631	113.4	0.28	✓	
B3-T2-1	9.67	9.17							
B3-T2-2	10.01	9.45	7.15	19.87	1.681	125.6	3.34	✓	
B3-T3-1	9.96	9.32							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.18						✓	
B3-T6-2	12.34	11.60	6.60	22.83	0.974	120.6	1.28	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	1.9.12	1030	1.10.12	1400	1.11.12	1505	1.12.12	—	1.13.12	1246
Rate (gpm) / Cumulative Total (gal)										
T-1	8.14	2959304	10.6	2975683	10.5	2990681	10.9	3004329	11.2	3017978
T-2										
T-3										
T-4										
T-5										
T-6	14.4	7135418	21.3	7167768	21.3	7197299	21.4	7223933	23.8	7250567
B-3 (Total)										
CS-MW16-LGR	OFF		OFF		OFF		OFF		OFF	
CS-MW16-CC	11.99	721049	839552	11.28	11.28	756500	11.20	772034	11.3	787568
B3-EXW01	7.24	8788655	7.2	8800720	7.2	8811684	7.0	8821623	7.1	8831642
B3-EXW02	8.1	5376756	9.2	5376273	8.9	5387394	9.0	5397030	9.1	5406666

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: MW16LGR 261.47 MW16CC 367.07 B3EXW01 309.50 B3EXW02 290.20 SCADA OK	261.46 366.10 308.60 314.40 OK	261.36 365.88 307.70 323.70 ok		261.89 366.06 308.80 321.08 ok

Week 246

Personnel: J. Bouch; E. Rice

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	1.13.12 #13	1133	14.25	14.10 14.30	20.21
CS-WB05-LGR-02	182		1132		14.15 14.33	14.30
CS-WB05-LGR-03A	216		1131		14.17 14.37	14.25
CS-WB05-LGR-03B	262		1130		18.56 17.84	16.12
CS-WB05-LGR-04A	277		1129		25.11 24.41	21.60
CS-WB05-LGR-04B	329		1128		47.74 47.01	43.97
CS-WB05-BS-01	362		1127		62.10 61.37	58.59
CS-WB05-CC-01	432		1126		92.50 91.78	62.38
CS-WB05-CC-02	460		1125		104.66 103.93	74.72
CS-WB06-UGR-01	20		1205	14.22	14.07 14.24	17.41
CS-WB06-LGR-01	93		1204		14.12 14.30	16.63
CS-WB06-LGR-02	174		1203		14.16 14.35	17.99
CS-WB06-LGR-03A	207		1202		14.18 14.37	20.03
CS-WB06-LGR-03B	260		1201		26.37 26.24	42.92
CS-WB06-LGR-04	320		1200		52.44 52.29	42.63
CS-WB07-UGR-01	14		1149	14.24	14.08 14.26	14.53
CS-WB07-LGR-01	90		1148		14.12 14.30	32.44
CS-WB07-LGR-02	175		1147		14.16 14.34	24.22
CS-WB07-LGR-03A	208		1146		14.20 14.35	14.45
CS-WB07-LGR-03B	257		1145		14.22 14.40	29.60
CS-WB07-LGR-04	318		1144		24.62 24.61	42.30
CS-WB08-UGR-01	38		1221	14.21	14.19 14.26	18.50
CS-WB08-LGR-01	115		1221		14.10 14.31	19.49
CS-WB08-LGR-02	193		1220		14.14 14.35	16.81
CS-WB08-LGR-03A	228		1219		14.18 14.38	14.30
CS-WB08-LGR-03B	273		1218		26.47 25.24	14.31
CS-WB08-LGR-04	341		1217		56.08 54.81	43.60

Week ~~245~~ 246

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: E. Rice, J. Bauch

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (Y)	Notes
Date: 1-19-12		Time: 1310							
B3-T1-1	12.9	8.44	6.94	21.12	0.956	121.8	0.34	✓	@ 1340
B3-T1-2	12.4	8.05	6.94	20.95	0.667	119.2	0.87	✓	@ 1355
B3-T1-3	12.85	7.90	6.84	18.62	0.718	51.8	0.08	✓	@ 1410
B3-T2-1	9.67	9.20							
B3-T2-2	10.01	9.55							
B3-T3-1	9.96	9.35	7.14	23.06	1.219	111.5	4.76		
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.18							
B3-T6-2	12.34	11.64	6.49	22.97	1.042	109.7	0.27	✓	@ 1430
B3-UIC			7.31	22.72	0.631	106.9	5.29	✓	@ 1420
									@ 1440

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	1-16-12		1-17-12 0945		1-18-12 1300		1-19-12	0923	1-20-12	1100
			(EWR)							
	Rate (gpm) / Cumulative Total (gal)									
T-1			4.55	5445614	4.34	3094676	9.66	3108817	13.0	3126328
T-2			12.37	3076641						
T-3										
T-4										
T-5										
T-6			21.2	7359698	13.1	7391398	14.1	7415800	20.9	7445486
B-3 (Total)										
CS-MW16-LGR		OFF		OFF		OFF		OFF		OFF
CS-MW16-CC			11.28	850847	11.33	864228	11.28	883120 (new)	11.23	900725
B3-EXW01			7.07	8872434	7.03	8884238	6.90	8894340	7.12	8904541
B3-EXW02			9.55	5446614	8.99	5456782	10.07	5466311	0	5476079

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: MW16LGR		261.97	262.10	262.02	262.00
MW16CC		366.33	366.07	366.24	365.91
B3EXW01		309.30	309.40	310.80	309.60
B3EXW02		319.10	324.60	304.30	323.00
SCADA		OK	OK		

Week ~~240~~ (new) 247

Personnel: J. Bouch; E. Rice

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	1-19-12	0945	14.11	14.10 14.17	20.25
CS-WB05-LGR-02	182		0944		14.15 14.19	14.21
CS-WB05-LGR-03A	216		0943		14.17 14.24	14.29
CS-WB05-LGR-03B	262		0942		18.56 17.71	15.97
CS-WB05-LGR-04A	277		0941		25.11 24.24	21.35
CS-WB05-LGR-04B	329		0940		47.74 46.85	43.75
CS-WB05-BS-01	362		0939		62.10 61.21	58.33
CS-WB05-CC-01	432		0938		92.50 91.61	62.43
CS-WB05-CC-02	460		0937		104.66 103.77	74.77
CS-WB06-UGR-01	20		1107	14.10	14.07 14.10	17.15
CS-WB06-LGR-01	93		1106		14.12 14.15	16.51
CS-WB06-LGR-02	174		1105		14.16 14.22	18.08
CS-WB06-LGR-03A	207		1104		14.18 14.23	20.06
CS-WB06-LGR-03B	260		1103		26.37 26.15	42.95
CS-WB06-LGR-04	320		1102		52.44 52.20	42.32
CS-WB07-UGR-01	14		1034	14.10	14.08 14.12	14.38
CS-WB07-LGR-01	90		1033		14.12 14.17	31.89
CS-WB07-LGR-02	175		1032		14.16 14.22	24.20
CS-WB07-LGR-03A	208		1031		14.20 14.23	14.39
CS-WB07-LGR-03B	257		1030		14.22 14.27	29.46
CS-WB07-LGR-04	318		1029		24.62 24.51	42.06
CS-WB08-UGR-01	38		1139	14.08	14.19 14.12	18.30
CS-WB08-LGR-01	115		1138		14.10 14.15	19.51
CS-WB08-LGR-02	193		1137		14.14 14.19	16.77
CS-WB08-LGR-03A	228		1136		14.18 14.21	14.25
CS-WB08-LGR-03B	273		1135		26.47 25.13	14.26
CS-WB08-LGR-04	341		1134		56.08 54.71	43.32

ATM 14.10
19.65/15.96
1005 Sample time

ATM: 14.11
27.53/42.95
1118 sample time

ATM 14.10
14.23/29.45
1040 sample time

ATM 14.08
26.54/14.34

Week 240 (1112) 247

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 (°C)	Cond (mS/cm)	ORP (mV)	DO (mg/L)	Pump	Notes
Date: 1.24.12		Time: 1000							
B3-T1-1	12.9	8.62	6.84	21.59	0.613	43.2	0.22	✓	
B3-T1-2	12.4	8.22	6.88	21.65	0.448	23.0	0.77		
B3-T1-3	12.85	8.10	6.73	19.36	0.497	-40.9	0.016		
B3-T2-1	9.67	9.31							
B3-T2-2	10.01	9.74							
B3-T3-1	9.96	9.31							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.33							
B3-T6-2	12.34	11.65	6.46	22.86	0.689	~~-3756.3~~	~~0.50~~ 0.27	✓	
B3-UIC									

B-3 Transfer System Monitoring

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	1.23.12	1333	1.24.12	0954	1.25.12	1444	1.26.12	1400	1.27.12	1100
T-1	12.5	3177838	10.2	3,192,004	12.2	3212405	12.2	3230197	12.3	3247037
T-2										
T-3										
T-4										
T-5										
T-6	22.7	7532445	14.2	7556280	23.8	7591149	23.1	7623182	24.9	7655663
B-3 (Total)										
CS-MW16-LGR	OFF		OFF		OFF		OFF			
CS-MW16-CC	11.20	951272	11.49	965108	11.28	984683	11.22	906	11.20	17044
B3-EXW01	7.05	8931694	7.89	8945827	7.18	8958378	7.23	8968784	7.24	8979195
B3-EXW02	9.5	5506278	0	5519515	9.12	5526852	9.32	5540176	9.40	5553601
	PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =	
Notes:	MW16LGR 262.31		262.23		261.32		260.31		259.52	
	MW16CC 365.76		366.78		345.90		365.86		365.89	
	B3EXW01 310.70		311.70		308.90		306.30		305.120	
	B3EXW02 318.21		293.10		323.40		318.00		316.50	
	SCADA OK		OK							

Week 249

SWMU B-3 Tree Mulch Bioreactor

Personnel	

Weekly Water Level Monitoring

CS-WB05-LGR-01	99				14.10	
CS-WB05-LGR-02	182				14.15	
CS-WB05-LGR-03A	216				14.17	
CS-WB05-LGR-03B	262				18.56	
CS-WB05-LGR-04A	277				25.11	
CS-WB05-LGR-04B	329				47.74	
CS-WB05-BS-01	362	Did not Profile			62.10	
CS-WB05-CC-01	432	Weekending 1/27/12			92.50	
CS-WB05-CC-02	460				104.66	
CS-WB06-UGR-01	20				14.07	
CS-WB06-LGR-01	93				14.12	
CS-WB06-LGR-02	174				14.16	
CS-WB06-LGR-03A	207				14.18	
CS-WB06-LGR-03B	260				26.37	
CS-WB06-LGR-04	320				52.44	
CS-WB07-UGR-01	14				14.08	
CS-WB07-LGR-01	90				14.12	
CS-WB07-LGR-02	175				14.16	
CS-WB07-LGR-03A	208				14.20	
CS-WB07-LGR-03B	257				14.22	
CS-WB07-LGR-04	318				24.62	
CS-WB08-UGR-01	38				14.19	
CS-WB08-LGR-01	115				14.10	
CS-WB08-LGR-02	193				14.14	
CS-WB08-LGR-03A	228				14.18	
CS-WB08-LGR-03B	273				26.47	
CS-WB08-LGR-04	341				56.08	

Week ___

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: Elliott

Trench Sumps Water Levels ('BTOC)

Date: 2/2/12 Time: 0830

B3-T1-1	12.9	7.97	6.88	21.60	0.927	206.3	0.20	✓	
B3-T1-2	12.4	7.60	6.97	22.15	0.616	195.1	0.40		
B3-T1-3	12.85	7.54	6.74	19.29	0.756	-30.7	0.17		
B3-T2-1	9.67	~~8.98~~ 9.10							
B3-T2-2	10.01	9.25	7.04	20.43	1.411	204.9	2.31		
B3-T3-1	9.96	9.20							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	dry							
B3-T6-1	11.45	11.29						✓	
B3-T6-2	12.34	11.58	6.49	22.69	1.141	-67.0	0.45		
B3-UIC									

B-3 Transfer System Monitoring

Meter	Monday	Tuesday		Wednesday		Thursday		Friday	
Date/Time:		1.31.12	1500	2/1/12	0940	2/2/12	0800	2-3-12	1410
T-1		12.5	3301193	12.5	3333587	12.7	3350377	13.0	3373355
T-2									
T-3									
T-4									
T-5									
T-6		25.1	7755197	24.9	7814609	25.1	7846343	25.6	7889423
B-3 (Total)									
CS-MW16-LGR				off	174809	off		OFF	
CS-MW16-CC		11.22	65787	11.28	94596	11.28	109690	11.20	130129
B3-EXW01		7.27	9010642	7.24	9029224	7.26	9038956	7.23	9052060
B3-EXW02		9.40	5594406	9.40	5618456	9.37	5631033	9.24	5647879
	PB-1 - PB-2 =	PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =	

Notes:
MW16LGR
MW16CC
B3EXW01
B3EXW02
SCADA

Quick trends look good, all wells running constantly except 16-LGR

259.49
365.42
307.70
317.80

Personnel	E. Rice, K. Rice

Weekly Water Level Monitoring

CS-WB05-LGR-01	99	2-2-12	1448		14.10	~~14~~ ER 20.23	
CS-WB05-LGR-02	182		1447		14.16	14.20	
CS-WB05-LGR-03A	216		1446		14.17	14.29	
CS-WB05-LGR-03B	262		1445	14.07	18.56	16.32	
CS-WB05-LGR-04A	277		1444		25.11	22.81	
CS-WB05-LGR-04B	329		1443		47.74	45.26	
CS-WB05-BS-01	362		1442		62.10	59.55	
CS-WB05-CC-01	432		1440		92.50	62.61	
CS-WB05-CC-02	460		1437		~~104.66~~ ~~101.07~~ ER	~~150.61~~ ER	103.69 | 74.94
CS-WB06-UGR-01	20	2-2-12	1525		14.07	14.08	17.22
CS-WB06-LGR-01	93		1524		14.12	14.12	16.51
CS-WB06-LGR-02	174		1523	14.08	14.16	14.17	21.95
CS-WB06-LGR-03A	207		1522		14.18	14.20	21.82
CS-WB06-LGR-03B	260		1520		26.37	26.06	44.72
CS-WB06-LGR-04	320		1519		52.44	52.10	44.40
CS-WB07-UGR-01	14	2-2-12	1508		14.08	14.07	14.46
CS-WB07-LGR-01	90		1507		14.12	14.11	32.47
CS-WB07-LGR-02	175		1506	14.09	14.16	14.16	24.78
CS-WB07-LGR-03A	208		1504		14.20	14.20	14.84
CS-WB07-LGR-03B	257		1503		14.22	14.22	31.27
CS-WB07-LGR-04	318		1500		24.62	24.42	43.68
CS-WB08-UGR-01	38	2-2-12	1540		14.19	14.08	18.50
CS-WB08-LGR-01	115		1539		14.10	14.14	19.45
CS-WB08-LGR-02	193		1538	14.07	14.14	14.17	20.41
CS-WB08-LGR-03A	228		1537		14.18	14.19	14.26
CS-WB08-LGR-03B	273		1536		26.47 ER	25.03	15.71
CS-WB08-LGR-04	341		1534		56.08	54.61	45.33

Bioreactor Monitoring

Personnel: E. Rice, Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp (deg C)	Sp Cond (mS/cm)	ORP	DO (mg/L)	Chloride (mM)	Notes
Date: 2.8.12		Time: 0830							
B3-T1-1	12.9	7.91	6.90	21.85	0.918	102.9	0.23		
B3-T1-2	12.4	7.54	6.97	21.33	0.638	119.4	~~0.60~~ 0.57	✓	
B3-T1-3	12.85	7.48	6.75	19.43	0.795	51.1	0.35		
B3-T2-1	9.67	9.08							← tried to take readings but could tell probe was not fully submerged
B3-T2-2	10.01	9.17	7.01	20.14	1.474	141.7	1.79		
B3-T3-1	9.96	9.19							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	7.86							
B3-T6-1	11.45	11.28							
B3-T6-2	12.34	11.11	6.50	21.95	1.277	-69.3	0.48	✓	
B3-UIC									

B-3 Transfer System Monitoring

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	2-6-12		2-7-12	1445	2.8.12	0820	2.9.12	0930	2.10.12	1420
T-1	13.1	3427503	12.9	~~1445~~ 3447667	13.0	3461308	13.2	3481617	13.3	3503237
T-2										
T-3										
T-4										
T-5										
T-6	26.5	7992158	25.2	8029994	26.6	8055692	25.5	8094301	27.0	8135809
B-3 (Total)										
CS-MW16-LGR	off	174809	off	174,809	off		OFF			
CS-MW16-CC	11.28	178121	11.28	195585	11.26	207,480	11.27	225210	11.29	244044
B3-EXW01	7.30	9082905	7.29	9094177	7.24	9101762	7.22	9112781	7.2	9125390
B3-EXW02	9.25	5687207	9.34	5701594	9.28	5711301	9.33	5725446	9.34	5741663
	PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =	
Notes: MW16LGR	259.71		259.32						258.84	
MW16CC	365.64		365.58						366.32	
B3EXW01	306.30		305.40						304.50	
B3EXW02	318.80		317.20						316.50	
SCADA	✓		✓							

SWMU B-3 Tree Mulch Bioreactor

Personnel	J Bouch, E Rice

Weekly Water Level Monitoring

CS-WB05-LGR-01	99	2-9-12	1026		14.10 14.28	20.28
CS-WB05-LGR-02	182		1025		14.15 14.33	14.34
CS-WB05-LGR-03A	216		1024		14.17 14.36	14.35
CS-WB05-LGR-03B	262		1023	17.77	18.56 ~~14.36~~	~~14.35~~ 16.71
CS-WB05-LGR-04A	277		1022		25.11 24.30	23.13
CS-WB05-LGR-04B	329		1021	14.21	47.74 46.92	45.60
CS-WB05-BS-01	362		1020		62.10 61.27	54.82
CS-WB05-CC-01	432		1019		92.50 91.67	62.90
CS-WB05-CC-02	460		1018		104.66 103.82	75.23
CS-WB06-UGR-01	20		0949		14.07 14.27	17.47
CS-WB06-LGR-01	93		0948		14.12 14.31	16.64
CS-WB06-LGR-02	174		0947		14.16 14.35	22.07 19
CS-WB06-LGR-03A	207		0946	14.23	14.18 14.37	22.05
CS-WB06-LGR-03B	260		0945		26.37 26.20	44.93
CS-WB06-LGR-04	320		0944		52.44 52.25	45.05
CS-WB07-UGR-01	14		1007		14.08 14.27	14.62
CS-WB07-LGR-01	90		1006		14.12 14.30	33.54
CS-WB07-LGR-02	175		1005	14.25	14.16 14.35	24.92
CS-WB07-LGR-03A	208		1004		14.20 14.37	14.95
CS-WB07-LGR-03B	257		1003		14.22 14.38	31.60
CS-WB07-LGR-04	318		1000		24.62 24.59	44.09
CS-WB08-UGR-01	38		1051		14.19 14.26	18.85
CS-WB08-LGR-01	115		1050		14.10 14.30	19.50
CS-WB08-LGR-02	193		1048	14.22	14.14 14.33	21.22
CS-WB08-LGR-03A	228		1047		14.18 14.38	14.36
CS-WB08-LGR-03B	273		1046		26.47 25.21	16.02
CS-WB08-LGR-04	341		1044		56.08 54.78	45.89

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: E. Rice, Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Liquid Level (ft BTOC)							
Date: 2-16-12		Time: 0830							
B3-T1-1	12.9	7.99	6.89	21.16	0.465	135.6	0.49		
B3-T1-2	12.4	7.62	6.98	21.74	0.639	135.8	0.67	✓	
B3-T1-3	12.85	7.57	6.68	19.63	0.862	139.4	0.35		
B3-T2-1	9.67	9.13							
B3-T2-2	10.01	9.36	7.10	20.04	1.509	145.2	2.64		
B3-T3-1	9.96	9.24							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	7.94							
B3-T6-1	11.45	11.28							
B3-T6-2	12.34	11.18	6.57	22.11	1.254	-59.8	0.54	✓	
B3-UIC									

B-3 Transfer System Monitoring

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	2-13-12	1055	2-14-12	1105	2-15-12	1330	2-16-12	0820	2-17-12	1111
T-1	13.5	3557089	13.8	3576622	14.5	3598369	13.9	3,614,312	14.4	3,637,014
T-2										
T-3										
T-4										
T-5										
T-6	26.1	8238651	25.5	8274678	26.8	8313957	26.2	8342246	25.9	8382682
B-3 (Total)										
CS-MW16-LGR	off	174,809	off		off		off		OFF	
CS-MW16-CC	11.28	290522	11.28	306800	11.33	324,629	11.39	337547	11.39	355,892
B3-EXW01	7.35	9155311	7.34	9165849	7.28	9177321	7.25	9185489	7.24	9197190
B3-EXW02	9.28	5,779,931	9.24	5793305	9.27	5807850	9.17	5818,173	9.09	5832891
	PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =		PB-1 - PB-2 =	
Notes:	MW16LGR 258.71 MW16CC 364.84 B3EXW01 304.60 B3EXW02 SCADA 317.80 ✓		258.79 365.02 304.70 318.20 ✓		SCADA Down !!!		259.23 365.23 305.70 320.70 OK		259.25 364.92 305.90 321.60	

SWMU B-3 Tree Mulch Bioreactor

Personnel	

Weekly Water Level Monitoring

CS-WB05-LGR-01	99				14.10	
CS-WB05-LGR-02	182				14.15	
CS-WB05-LGR-03A	216				14.17	
CS-WB05-LGR-03B	262				18.56	
CS-WB05-LGR-04A	277				25.11	
CS-WB05-LGR-04B	329				47.74	
CS-WB05-BS-01	362	No	Water	Levels	62.10 Taken	
CS-WB05-CC-01	432				92.50	
CS-WB05-CC-02	460				104.66	
CS-WB06-UGR-01	20				14.07	
CS-WB06-LGR-01	93				14.12	
CS-WB06-LGR-02	174				14.16	
CS-WB06-LGR-03A	207				14.18	
CS-WB06-LGR-03B	260				26.37	
CS-WB06-LGR-04	320				52.44	
CS-WB07-UGR-01	14				14.08	
CS-WB07-LGR-01	90				14.12	
CS-WB07-LGR-02	175				14.16	
CS-WB07-LGR-03A	208				14.20	
CS-WB07-LGR-03B	257				14.22	
CS-WB07-LGR-04	318				24.62	
CS-WB08-UGR-01	38				14.19	
CS-WB08-LGR-01	115				14.10	
CS-WB08-LGR-02	193				14.14	
CS-WB08-LGR-03A	228				14.18	
CS-WB08-LGR-03B	273				26.47	
CS-WB08-LGR-04	341				56.08	

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: 12 05		Time: 2·22·12							
B3-T1-1	12.9	6.98	6.79	21.39	0.534	103.9	0.38		
B3-T1-2	12.4	6.62	7.03	21.76	0.402	134.1	0.52		
B3-T1-3	12.85	6.66	6.64	19.67	0.543	95.3	0.44	√	
B3-T2-1	9.67	8.46	6.90	19.39	1.250	145.7	4.24		
B3-T2-2	10.01	8.79	6.85	20.13	1.026	144.7	0.42		
B3-T3-1	9.96	9.28							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.38							
B3-T6-2	12.34	11.09	6.53	22.05	0.779	-41.2	0.58	√	
B3-UIC			7.40	23.62	0.4043	129.8	4.91		@ 1210

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	2.20.12 1530	2.21.12 1536	2.22.12 1158	2.23.12 1145	2 24 12 1016
	Rate (gpm) / Cumulative Total (gal)				
T-1	12.4 3702454	12.1 3720023	12.7 3735,195	13.1 3753,167	13.0 3770,776
T-2					
T-3					
T-4					
T-5					
T-6	28.6 8502,184	29.5 8542,545	29.9 8570,775	27.8 8616,545	30.2 8654,992
B-3 (Total)					
CS-MW16-LGR					
CS-MW16-CC	11.28 407,667	11.28 424062	11.33 437915	11.39 453955	11.39 469439
B3-EXW01	8.38 9,232,316	8.46 9244423	8.51 9254691	8.47 9266763	8.42 9278,198
B3-EXW02	10.50 5876099	10.6 5892112	10.75 5905,049	10.73 5920448	10.78 5935,001

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:	MW16LGR 217.23 MW16CC 362.01 B3EXW01 274.80 B3EXW02 292.90 SCADA	*Screen not working * in GAC	220.63 359.92 271.60 286.20 *Screen fixed itself* (magically!)	227.77 358.55 271.70 285.30	

Week 152

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	2/24/12	1036	14.14	14.10 14.24	20.11
CS-WB05-LGR-02	182		1035		14.15 14.27	14.16
CS-WB05-LGR-03A	216		1035		14.17 14.30	14.40
CS-WB05-LGR-03B	262		1034		18.56 17.71	23.84
CS-WB05-LGR-04A	277		1033		25.11 24.25	37.80
CS-WB05-LGR-04B	329		1032		47.74 46.87	60.40
CS-WB05-BS-01	362		1031		62.10 61.22	72.25
CS-WB05-CC-01	432		1030		92.50 91.65	66.06
CS-WB05-CC-02	460		1029		104.66 103.78	78.37
CS-WB06-UGR-01	20		1104	14.17	14.07 14.20	17.64
CS-WB06-LGR-01	93		1103		14.12 14.23	16.50
CS-WB06-LGR-02	174		1102		14.16 14.29	29.71
CS-WB06-LGR-03A	207		1101		14.18 14.32	25.87
CS-WB06-LGR-03B	260		1100		26.37 26.17	48.76
CS-WB06-LGR-04	320		1059		52.44 52.22	60.83
CS-WB07-UGR-01	14		1053	14.19	14.08 14.22	14.70
CS-WB07-LGR-01	90		1052		14.12 14.27	34.87
CS-WB07-LGR-02	175		1051		14.16 14.31	26.38
CS-WB07-LGR-03A	208		1050		14.20 14.34	17.34
CS-WB07-LGR-03B	257		1049		14.22 14.35	37.76
CS-WB07-LGR-04	318		1048		24.62 24.53	59.32
CS-WB08-UGR-01	38		1124	14.18	14.19 14.21	19.32
CS-WB08-LGR-01	115		1123		14.10 14.25	19.45
CS-WB08-LGR-02	193		1122		14.14 14.31	21.71
CS-WB08-LGR-03A	228		1121		14.18 14.33	14.18
CS-WB08-LGR-03B	273		1120		26.47 25.23	30.87
CS-WB08-LGR-04	341		1119		56.08 54.76	60.49

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: 3.1.12		Time: 0915							
B3-T1-1	12.9	6.33	6.98	21.79	0.771	25.9	0.32		
B3-T1-2	12.4	5.90	7.14	22.26	0.588	77.3	0.30	✓	
B3-T1-3	12.85	5.97	6.82	20.20	0.759	114.9	0.26		
B3-T2-1	9.67	7.79	6.95	19.69	1.728	110.0	0.46		
B3-T2-2	10.01	8.12	6.90	20.46	1.240	114.0	0.40		
B3-T3-1	9.96	9.22							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	dry							
B3-T5-2	7.98	7.74							
B3-T6-1	11.45	11.10						✓	
B3-T6-2	12.34	10.85	6.65	22.64	1.133	-26.0	0.56		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	2.27 (w) 2.26.12	1355	2.28.12	1115	2.29.12	0905	3-1-12	0905	3.2.12	0951
Rate (gpm) / Cumulative Total (gal)										
T-1	15.5	3930481	14.1	3848154	15.6	3868724	14.9	3890881	15.1	3913375
T-2										
T-3										
T-4										
T-5										
T-6	38.2	8783344	36.6	8828448	35.8	8873041	35.6	8921232	36.4	8970498
B-3 (Total)										
CS-MW16-LGR	174934	10.52	9.05	185944	12.13	199057	12.30	212,708	? *	230633
CS-MW16-CC	521193	10.90	11.01	535014	10.95	549370	10.95	565,126	10.95	581392
B3-EXW01	7.36	9315992	7.01	9325321	7.12	9334605	7.06	9344783	7.04	9355259
B3-EXW02	9.5	5983614	9.19	5995709	9.29	6007809	9.22	6021030	9.17	6034671

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:
- MW16LGR 255.60
- MW16CC 352.90
- B3EXW01 376.90
- B3EXW02 286.40
- SCADA OK

271.45
350.76
279.50
286.70
OK

281.24
350.26
279.90
244.40
OK

Quick trends = all wells running constantly, looks good

287.22
349.41
283.90
293.00

* LGR meter is not reading flow *

Fixed well MW16 LGR, turned on well @ 1440

Week 153

SWMU B-3 Tree Mulch Bioreactor

Personnel: A. Lindley, S. Bench

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	3.2.12	1019		14.10 14.03	20.15
CS-WB05-LGR-02	182		1018		14.15 14.08	14.06
CS-WB05-LGR-03A	216		1017		14.17 14.11	14.10
CS-WB05-LGR-03B	262		1016		18.56 17.47	25.52
CS-WB05-LGR-04A	277		1015	13.99	25.11 24.01	27.93
CS-WB05-LGR-04B	329		1014		47.74 46.63	50.59
CS-WB05-BS-01	362		1013		62.10 60.98	66.22
CS-WB05-CC-01	432		1012		92.50 91.36	68.83
CS-WB05-CC-02	460		1011		104.66 103.53	81.14
CS-WB06-UGR-01	20		1053		14.07 13.99	17.49
CS-WB06-LGR-01	93		1052		14.12 14.02	16.35
CS-WB06-LGR-02	174		1050		14.16 14.05	27.35
CS-WB06-LGR-03A	207		1049	13.98	14.18 14.07	25.01
CS-WB06-LGR-03B	260		1048		26.37 25.92	47.90
CS-WB06-LGR-04	320		1045		52.44 51.95	68.92
CS-WB07-UGR-01	14		1038		14.08 13.99	14.66
CS-WB07-LGR-01	90		1037	13 99	14.12 14.03	35.68
CS-WB07-LGR-02	175		1036		14.16 14.07	26.45
CS-WB07-LGR-03A	208		1035		14.20 14.10	16.52
CS-WB07-LGR-03B	257		1034		14.22 14.11	36.27
CS-WB07-LGR-04	318		1033		24.62 24.30	50.01
CS-WB08-UGR-01	38		1427		14.19 13.97	19.04
CS-WB08-LGR-01	115		1426	13,96	14.10 14.00	19.45
CS-WB08-LGR-02	193		1425		14.14 14.02	21.90
CS-WB08-LGR-03A	228		1424		14.18 14.04	14.10
CS-WB08-LGR-03B	273		1423		26.47 24.87	22.50
CS-WB08-LGR-04	341		1422		56.08 54.45	53.27

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch, E. Rice

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: 3-7-12		Time: 1630							
B3-T1-1	12.9	6.39	6.95	22.13	0.811	15.0	0.43	✓	
B3-T1-2	12.4	5.98	6.98	22.27	0.627	76.9	0.42	✓	
B3-T1-3	12.85	6.02	7.00	20.08	0.734	88.9	0.06	✓	
B3-T2-1	9.67	7.84							
B3-T2-2	10.01	8.14							
B3-T3-1	9.96	9.24							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	7.84							
B3-T6-1	11.45	10.99							
B3-T6-2	12.34	10.75	6.48	22.65	1.145	-51.9	0.39		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3.5.12	1430	3.6.12	1105	3.7.12	1600	3.8.12	1007	3.9.12	1000
Rate (gpm) / Cumulative Total (gal)										
T-1	15.5	3978747	14.1	3994711	15.2	4,019,243	14.3	4033647	14.0	4,052,097
T-2										
T-3										
T-4				939918						
T-5										
T-6	35.6	9,114,986	34.8	9150840	33.5	9205439	32.9	9237,889	33.1	9278749
B-3 (Total)										
CS-MW16-LGR	13.31	2666936	13.48	2777	off	293534	13.15*	302945	11.27	311,914
CS-MW16-CC	10.90	6320916	10.90	6457	11.55	665304	10.90	677204	11.01	692,604
B3-EXW01	6.74	9387705	6.61	9398918	6.43	9408592	6.76	9416,059	6.68	9425564
B3-EXW02	8.70	6077885	8.60	6087544	8.35	6103935	8.70	6113573	8.65	6125,790

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:	MW16LGR 290.52	285.55	273.14	291.41	
	MW16CC 349.66	349.70	352.32	350.00	
	B3EXW01 289.70	291.90	295.46	293.40	
	B3EXW02 298.40	300.30	308.20	309.90	
	SCADA OK		ok		

Week 154

* adjusted flow to 11.60

Personnel: J. Bouch; E. Rice

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	3.8.12	1503	14.03	14.10 14.09	20.16
CS-WB05-LGR-02	182		1502		14.15 14.14 (est)	14.15
CS-WB05-LGR-03A	216		1501		14.17 14.17	14.07
CS-WB05-LGR-03B	262		1500		18.56 17.51	22.90
CS-WB05-LGR-04A	277		1459		25.11 24.03	24.28
CS-WB05-LGR-04B	329		1458		47.74 46.63	46.84
CS-WB05-BS-01	362		1457		62.10 61.00	42.47
CS-WB05-CC-01	432		1456		92.50 91.40	68.69
CS-WB05-CC-02	460		1455		104.66 103.55	81.00
CS-WB06-UGR-01	20		1536	14.08	14.07 14.06	17.45
CS-WB06-LGR-01	93		1535		14.12 14.11	16.45
CS-WB06-LGR-02	174		1534		14.16 14.14	23.74
CS-WB06-LGR-03A	207		1533		14.18 14.16	23.69
CS-WB06-LGR-03B	260		1532		26.37 25.98	46.58
CS-WB06-LGR-04	320		1530		52.44 52.04	48.43
CS-WB07-UGR-01	14		1522	14.07	14.08 14.08	14.66
CS-WB07-LGR-01	90		1521		14.12 14.09	35.73
CS-WB07-LGR-02	175		1520		14.16 14.15	25.96
CS-WB07-LGR-03A	208		1519		14.20 14.17	15.55
CS-WB07-LGR-03B	257		1518		14.22 14.20	33.52
CS-WB07-LGR-04	318		1517		24.62 24.37	45.82
CS-WB08-UGR-01	38		1553	14.05	14.19 14.07	18.89
CS-WB08-LGR-01	115		1552		14.19 14.10	19.49
CS-WB08-LGR-02	193		1551		14.14 14.13	21.92
CS-WB08-LGR-03A	228		1551		14.18 14.16	14.16
CS-WB08-LGR-03B	273		1550		26.47 24.97	18.56
CS-WB08-LGR-04	341		1548		56.08 54.55	48.99

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: E. Rice / Elliott / MacQueen

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: 3·16·12		Time: 1420							
B3-T1-1	12.9	5.79	6.91	21.51	0.740	23.1	0.22		T1-3
B3-T1-2	12.4	5.40	6.96	21.33	0.596	90.2	0.37		mS/cm: 0.682
B3-T1-3	12.85	5.33	6.98	~~20.97~~	~~1.073~~	70.5	0.15	✓	T: 20.34
B3-T2-1	9.67	7.14	6.69	19.95	1.344	119.5	0.38		
B3-T2-2	10.01	7.55	6.70	20.34	1.033	113.9	0.22		
B3-T3-1	9.96	9.15							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.17							
B3-T6-2	12.34	11.18	6.41	22.81	1.073	-28.8	0.67	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3·12·12	1915			3.14.12	1345	3.15.12	1315	3.16.12	1418
	Rate (gpm) / Cumulative Total (gal)									
T-1	16.3	4123742			16.6	4,165,944	11.8	4182732	12.1	4200274
T-2										
T-3										
T-4										
T-5										
T-6	34.7	9431275			33.6	9,515,083	20.3	9542659	20.1	9571069
B-3 (Total)										
CS-MW16-LGR	12.6	354375			12.72	385,655	14.5	406073	14.44	427865
CS-MW16-CC	10.9	746362			10.90	774110	11.44	790341	11.49	807541
B3-EXW01	7.31	9459958			7.64	9479200	0	9479500	0	9479200
B3-EXW02	9.42	6175454			9.84	6,195,118	0	6195513	0	6195573

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:	MW16LGR 269.3 MW16CC 349.3 B3EXW01 275.4 B3EXW02 287.5 SCADA ✓		EXW01 + EXW02 shut down to be plumbed into new manifold, quick trends looks good	quick trends looks good	EXW01 + EXW02 still OFF for line work * screen not working

Week 255

Personnel	S. Elliott J. MacQueen

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	3/15/12	1437	14.18	14.10 14.17	20.18
CS-WB05-LGR-02	182		1436		14.15 14.23	14.24
CS-WB05-LGR-03A	216		1436		14.17 14.26	14.44
CS-WB05-LGR-03B	262		1435		18.56 17.60	23.89
CS-WB05-LGR-04A	277		1434		25.11 24.11	37.89
CS-WB05-LGR-04B	329		1433		47.74 46.74	60.90
CS-WB05-BS-01	362		1432		62.10 61.08	72.23
CS-WB05-CC-01	432		1431		92.50 91.48	69.44
CS-WB05-CC-02	460		1430		104.66 103.65	81.74
CS-WB06-UGR-01	20		1402	14.16	14.07 14.18	14.98
CS-WB06-LGR-01	93		1401		14.12 14.20	16.55
CS-WB06-LGR-02	174		1400		14.16 14.24	33.79
CS-WB06-LGR-03A	207		1359		14.18 14.27	28.14
CS-WB06-LGR-03B	260		1358		26.37 26.08	51.03
CS-WB06-LGR-04	320		1356		52.44 52.13	65.32
CS-WB07-UGR-01	14		1420	14.16	14.08 14.16	14.91
CS-WB07-LGR-01	90		1418		14.12 14.19	40.27
CS-WB07-LGR-02	175		1417		14.16 14.24	27.96
CS-WB07-LGR-03A	208		1417		14.20 14.26	17.68
CS-WB07-LGR-03B	257		1416		14.22 14.29	38.26
CS-WB07-LGR-04	318		1415		24.62 24.47	61.40
CS-WB08-UGR-01	38		1342	14.15	14.19 14.19	19.50
CS-WB08-LGR-01	115		1341		14.10 14.22	19.51
CS-WB08-LGR-02	193		1340		14.14 14.26	22.19
CS-WB08-LGR-03A	228		1339		14.18 14.26	14.30
CS-WB08-LGR-03B	273		1338		26.47 25.13	32.64
CS-WB08-LGR-04	341	↓	1337		56.08 54.69	65.03

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bowen, E. Rice, K. Rice

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: 3.22.12		Time: 1103							
B3-T1-1	12.9	4.95	7.12	21.62	0.785	127.9	0.60		Standing water in the southern end of T-1. up to T1-3
B3-T1-2	12.4	4.59	7.22	21.72	0.597	80.2	0.98		
B3-T1-3	12.85	4.30	7.21	19.68	0.605	109.9	0.48	√	
B3-T2-1	9.67	6.42	6.87	20.22	1.385	132.8	0.74		
B3-T2-2	10.01	6.71	6.98	21.12	1.173	-39.0	0.35		
B3-T3-1	9.96	8.12							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	~~DRY~~ 9.19							
B3-T5-2	7.98	~~DRY~~ 7.84							
B3-T6-1	11.45	10.65	6.52	22.16	0.711	81.4	0.43		
B3-T6-2	12.34	10.35	6.62	23.19	1.141	88.7	0.37	√	
B3-UIC			7.20	23.97	0.559	110.7	2.86		⑧ 1410

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:		3.20.12 1051	3.21.12 1630	3.22.12 1030	3.23.12 0800
		Rate (gpm) / Cumulative Total (gal)			
T-1		12.7 4265,922	18.7 4289,158	18.4 4308,819	12.4 4332,575
T-2					
T-3					
T-4					
T-5					
T-6		20.7 9675,748	35.9 9718,119	38.9 9757,259	16.7 9802,365
B-3 (Total)					
CS-MW16-LGR		14.50 506,649	14.02 531,485	0 545,208	13.96 561,167
CS-MW16-CC		11.49 871,482	10.84 891,929	10.9 903,637	10.95 917,497
B3-EXW01		OFF	7.95 9483,193	8.04 9491,779	9.14 9502,303
B3-EXW02		OFF	11.65 6200,677	11.70 6213,408	13.68 6228,768

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:	MW16LGR	255.65	208.80 *turned off on EXW01 & 02 @ 0930	207.33	* turned off 16 wells so Sanchez could plumb in a valve @ 0815
	MW16CC	349.02	339.54	337.52	
	B3EXW01	211.03	223.00	219.80	
	B3EXW02	212.50	246.00	242.40	
	SCADA				

Personnel: Elliott & 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	3/22/12	1425	14.05	14.10 14.07	20.10
CS-WB05-LGR-02	182		1424		14.15 14.14	14.17
CS-WB05-LGR-03A	216		1423		14.17 14.16	19.85
CS-WB05-LGR-03B	262		1422		18.56 17.49	39.76
CS-WB05-LGR-04A	277		1421		25.11 24.04	57.55
CS-WB05-LGR-04B	329		1420		47.74 46.66	80.84
CS-WB05-BS-01	362		1419		62.10 61.01	87.68
CS-WB05-CC-01	432		1418		92.50 91.40	73.81
CS-WB05-CC-02	460		1417		104.66 103.54	86.07
CS-WB06-UGR-01	20		1506	14.07	14.07 14.06	18.20
CS-WB06-LGR-01	93		1505		14.12 14.09	16.50
CS-WB06-LGR-02	174		1504		14.16 14.12	41.25
CS-WB06-LGR-03A	207		1504		14.18 14.15	31.65
CS-WB06-LGR-03B	260		1503		26.37 25.98	54.54
CS-WB06-LGR-04	320		1502		52.44 52.03	83.73
CS-WB07-UGR-01	14		1451	14.05	14.08 14.05	15.07
CS-WB07-LGR-01	90		1450		14.12 14.09	42.17
CS-WB07-LGR-02	175		1448		14.16 14.12	30.99
CS-WB07-LGR-03A	208		1448		14.20 14.15	31.09
CS-WB07-LGR-03B	257		1446		14.22 14.17	52.27
CS-WB07-LGR-04	318		1445		24.62 24.36	82.66
CS-WB08-UGR-01	38		1521	14.02	14.19 14.05	20.05
CS-WB08-LGR-01	115		1520		14.10 14.10	19.46
CS-WB08-LGR-02	193		1519		14.14 14.13	22.51
CS-WB08-LGR-03A	228		1518		14.18 14.15	29.57
CS-WB08-LGR-03B	273		1517		26.47 25.03	49.01
CS-WB08-LGR-04	341	✓	1516		56.08 54.57	80.85

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bowden + 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: 3/29/12		Time: 0800							
B3-T1-1	12.9	5.20	7.13	22.23	0.759	102.3	0.32		
B3-T1-2	12.4	4.79	7.14	22.42	0.623	96.6	1.33	✓	
B3-T1-3	12.85	4.73	7.10	14.90	0.711	-64.9	0.08		
B3-T2-1	9.67	6.67	6.97	20.24	1.318	121.9	0.26		
B3-T2-2	10.01	6.98	6.84	21.46	1.270	-60.2	0.25		
B3-T3-1	9.96	9.26							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	9.24							
B3-T5-2	7.98	dry							
B3-T6-1	11.45	10.42	6.48	22.42	0.728	73.3	0.40	✓	
B3-T6-2	12.34	10.67	6.61	23.37	1.15	-1.2	0.28		
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	3-26-12 1118	3.27.12 0936	3.28.12 1007	3.29.12 0800	3.30.12 0745
	Rate (gpm) / Cumulative Total (gal)				
T-1	11.4 4382181	12.4 4400,016	11.9 4417,304	18.7 4440,991	18.8 4466,390
T-2					
T-3					
T-4					
T-5					
T-6	15.0 9860798	18.7 12.60 9896,345	17.5 9921,654	33.2 9964,681	33.4 10879
B-3 (Total)					
CS-MW16-LGR	9.54 561,175	*14.00? 580,437	13.36 596,076	8.84 605,916	9.44 610,505
CS-MW16-CC	11.73 917,573	12.20 933,480	12.42 951,503	11.66 966,720	11.71 983,354
B3-EXW01	7.59 954,358	OFF 954,487	0 954,487	8.02 955,402	7.90 956,859
B3-EXW02	11.23 629,112	OFF 629,306	0 629,307	11.81 630,527	11.81 632,474

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:	MW16LGR 213.92 MW16CC 288.05 B3EXW01 227.80 B3EXW02 248.80 SCADA OK		* Screen out * *Turned on EXW01 and EXW02 @ 1015		Quick trends looks good, all wells running

*Turned on 16 wells * weren't turned on on friday @ 1120

adjusted flow - valve may be eaten away - may need to replace

Week 257

T... ...EXW01 @ 1415 for Sanchez to connect new lines

Personnel	Bosch & 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	3.27.12	0954	14.10	14.10 14.18	20.13
CS-WB05-LGR-02	182		0953		14.15 14.21	14.20
CS-WB05-LGR-03A	216		0953		14.17 14.25	28.79
CS-WB05-LGR-03B	262		0952		18.56 17.56	48.69
CS-WB05-LGR-04A	277		0951		25.11 24.12	55.65
CS-WB05-LGR-04B	329		0950		47.74 46.74	78.50
CS-WB05-BS-01	362		0949		62.10 61.08	89.79
CS-WB05-CC-01	432		0948		92.50 91.49	83.23
CS-WB05-CC-02	460		0947		104.66 103.64	95.54
CS-WB06-UGR-01	20		1026	14.12	14.07 14.15	17.96
CS-WB06-LGR-01	93		1025		14.12 14.18	16.53
CS-WB06-LGR-02	174		1024		14.16 14.23	40.31
CS-WB06-LGR-03A	207		1023		14.18 14.26	32.77
CS-WB06-LGR-03B	260		1022		26.37 26.08	55.66
CS-WB06-LGR-04	320		1021		52.44 52.12	81.81
CS-WB07-UGR-01	14		1011	14.12	14.08 14.15	15.07
CS-WB07-LGR-01	90		1010		14.12 14.19	42.01
CS-WB07-LGR-02	175		1009		14.16 14.21	32.43
CS-WB07-LGR-03A	208		1008		14.20 14.24	14.0938
CS-WB07-LGR-03B	257		1007		14.22 14.26	52.06
CS-WB07-LGR-04	318		1006		24.62 24.45	79.11
CS-WB08-UGR-01	38		1039	14.11	14.19 14.15	14.15
CS-WB08-LGR-01	115		1038		14.10 14.19	14.19
CS-WB08-LGR-02	193		1037		14.14 14.23	14.23 * broken sliver
CS-WB08-LGR-03A	228		1036		14.18 14.26	29.74
CS-WB08-LGR-03B	273		1036		26.47 25.14	49.18
CS-WB08-LGR-04	341		1035		56.08 54.68	81.22

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: K. Rice; J. Bench; 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: 4.5.12		Time: 0845							
B3-T1-1	12.9	5.07	7.07	22.81	0.752	117.3	0.67		
B3-T1-2	12.4	4.66	7.13	22.35	0.614	100.9	1.55		
B3-T1-3	12.85	4.54	7.02	21.90	0.722	-56.4	0.06	✓	
B3-T2-1	9.67	6.53	6.90	21.08	1.483	51.2	0.13		
B3-T2-2	10.01	6.84	6.85	22.15	1.302	-65.2	0.16		
B3-T3-1	9.96	9.20							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	9.24							
B3-T5-2	7.98	dry							
B3-T6-1	11.45	8.93	6.67	22.88	0.851	105.4	0.06		
B3-T6-2	12.34	8.67	6.59	23.30	1.201	106.6	0.38	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.2.12	1015	4.3.12	1800	4.4.12	1125	4.5.12	0830	4.6.12	1500
Rate (gpm) / Cumulative Total (gal)										
T-1	19.5	4547275	18.1	4581223	19.0	4597875	26.6	4629848	25.6	4677273
T-2										
T-3										
T-4										
T-5										
T-6	32.1	156274	34.0	216909	30.1 **	246052	19.4	270815	20.2	306741
B-3 (Total)										
CS-MW16-LGR	0	625618	0	625650	*	632425	11.26	12525	11.14	33475
CS-MW16-CC	11.71	35853	11.71	58063	11.82	68932	11.22	83066	11.12	104092
B3-EXW01	7.85	9602540	7.83	9617507	7.42	9624775	6.79	9633262	10.20	6443711
B3-EXW02	11.83	637810	11.65	644062	11.15	641823	10.24	642408	6.7	9645901

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:	MW16LGR 224.60	228.11	227.96		
	MW16CC 315.49	315.10	311.00		
	B3EXW01 234.30	236.60	236.50		
	B3EXW02 253.20	254.40	254.80		
	SCADA				

* reading zeros but meter is not recording week 25

* closed valve @ the end of TL -
* flow rate gpm went from 30.1 - 20.0 gpm - 19.0 to 25 gpm.

* replaced meter - meter was @ 53 when we started it * @ 1400

SWMU B-3 Tree Mulch Bioreactor

Personnel Elliott & Bouch

~~Quarterly Monitoring~~ Weekly Profile

MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure	
CS-WB05-LGR-01	99	4/4/12	1122	14.09	20.00	
CS-WB05-LGR-02	182		1121	14.16	14.13	
CS-WB05-LGR03A	216		1120	14.17	23.03	
CS-WB05-LGR03B	262		1119	17.50	42.94	14.06
CS-WB05-LGR04A	277		1118	24.02	48.51	
CS-WB05-LGR04B	329		1117	46.65	71.11	
CS-WB05-BS-01	362		1116	~~60.~~ 61.00	85.48	
CS-WB05-CC-01	432		1115	91.39	86.24	
CS-WB05-CC-02	460		1115	103.56	98.55	
CS-WB06-UGR-01	20		1051	14.09	17.85	
CS-WB06-LGR-01	93		1050	14.12	16.45	
CS-WB06-LGR-02	174		1049	14.17	39.24	14.06
CS-WB06-LGR03A	207		1049	14.17	33.13	
CS-WB06-LGR03B	260		1048	25.99	56.63	
CS-WB06-LGR-04	320		1047	52.03	73.64	
CS-WB07-UGR-01	14		1105	14.09	14.97	
CS-WB07-LGR-01	90		1104	14.11	41.50	14.08
CS-WB07-LGR-02	175		1103	14.16	32.64	
CS-WB07-LGR03A	208		1102	14.18	26.10	
CS-WB07-LGR03B	257		1101	14.21	47.27	
CS-WB07-LGR-04	318		1100	24.37	70.52	
CS-WB08-UGR-01	38		1037	14.09	19.47	
CS-WB08-LGR-01	115		1036	14.11	19.40	
CS-WB08-LGR-02	193		1035	14.15	23.39	14.06
CS-WB08-LGR03A	228		1034	14.19	23.20	
CS-WB08-LGR03B	273		1034	25.04	42.66	
CS-WB08-LGR-04	341		1033	54.58	73.26	

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: JBonch

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: 4.11.12		Time: 0916							
B3-T1-1	12.9	5.03	6.94	22.84	0.758	89.9	0.30		① 0920
B3-T1-2	12.4	4.57	6.96	22.26	0.605	110.4	1.99		② 0945 (DNA + H+)
B3-T1-3	12.85	4.38	7.20	22.35	0.641	77.4	0.06	√	③ 1025
B3-T2-1	9.67	6.48	6.88	21.60	1.597	-43.1	0.24		
B3-T2-2	10.01	6.74	6.74	22.86	1.252	5.4	0.05		
B3-T3-1	9.96	9.25							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	9.20							
B3-T5-2	7.98	dry							
B3-T6-1	11.45	8.83	6.60	23.00	0.694	29.8	0.18		④ 1045
B3-T6-2	12.34	8.57	6.49	23.07	1.152	3.5	0.17	√	⑤ 1110 (DNA + H+)
B3-UIC			7.02	22.32	0.609	121.0	4.25		⑥ 0910

B-3 Transfer System Monitoring

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.9.12	1550	4.10.12	1015	4.11.12	900	4.12.12	1630	4.13.12	0830
Flow Meters Readings										
Rate (gpm) / Cumulative Total (gal)										
T-1	26.5	4,786,298	25.2	4815969	26.2	4850,689	24.4	4889,377	26.6	4,922,369
T-2										
T-3										
T-4										
T-5										
T-6	20.2	390625	18.5	411682	20.4	437965	20.2	467,252	21.2	492,373
B-3 (Total)										
CS-MW16-LGR	10.86	81433	10.76	93227	10.64	107913	10.53	124,153	10.48	137,979
CS-MW16-CC	11.17	152614	11.22	164831	11.17	180,173	11.22	193,319	11.22	212,072
B3-EXW01	6.63	9675025	6.65	9682267	6.68	9691282	6.5	9701372	6.57	9710014
B3-EXW02	10.15	6487769	10.01	6498766	10.04	6512413	10.04	6527743	9.98	6540875
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:	MW16LGR 241.80		243.75		245.50				Quick travels looks good	
	MW16CC 312.97		313.14		313.85				All wells pumping	
	B3EXW01 238.60		240.00		241.70					
	B3EXW02 252.60		254.00		255.70					
	SCADA									

Personnel	Elliott + 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	4/12/12	1051	14.12	14.10 14.18	20.13
CS-WB05-LGR-02	182		1050		14.15 14.22	14.21
CS-WB05-LGR-03A	216		1049		14.17 14.23	18.49
CS-WB05-LGR-03B	262		1049		18.56 17.50	38.41
CS-WB05-LGR-04A	277		1048		25.11 24.02	42.55
CS-WB05-LGR-04B	329		1047		47.74 46.66	65.22
CS-WB05-BS-01	362		1046		62.10 60.99	80.86
CS-WB05-CC-01	432		1045		92.50 91.80	84.04
CS-WB05-CC-02	460		1045		104.66 103.56	96.34
CS-WB06-UGR-01	20		1117	14.12	14.07 14.16	17.56
CS-WB06-LGR-01	93		1116		14.12 14.18	16.52
CS-WB06-LGR-02	174		1115		14.16 14.22	38.90
CS-WB06-LGR-03A	207		1114		14.18 14.25	33.33
CS-WB06-LGR-03B	260		1113		26.37 26.03	56.22
CS-WB06-LGR-04	320		1112		52.44 52.08	67.93
CS-WB07-UGR-01	14		1104	14.12	14.08 14.15	14.89
CS-WB07-LGR-01	90		1103		14.12 14.18	41.04
CS-WB07-LGR-02	175		1102		14.16 14.23	33.51
CS-WB07-LGR-03A	208		1101		14.20 14.24	23.67
CS-WB07-LGR-03B	257		1100		14.22 14.26	44.84
CS-WB07-LGR-04	318		1059		24.62 24.42	64.57
CS-WB08-UGR-01	38		1130	14.11	14.19 14.13	19.31
CS-WB08-LGR-01	115		1129		14.10 14.18	19.47
CS-WB08-LGR-02	193		1128		14.14 14.21	23.73
CS-WB08-LGR-03A	228		1127		14.18 14.24	17.79
CS-WB08-LGR-03B	273		1126		26.47 25.07	37.26
CS-WB08-LGR-04	341	↓	1125		56.08 54.62	68.02

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch; J. MacQueen; 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: 4.19.12		Time: 0800							
B3-T1-1	12.9	5.39	7.09	22.96	1.236	96.5	0.21		
B3-T1-2	12.4	4.96	7.12	22.54	1.044	90.6	1.05	✓	
B3-T1-3	12.85	5.13	7.19	22.30	1.086	12.6	0.17		
B3-T2-1	9.67	6.87	7.02	22.16	2.790	-69.3	0.18		
B3-T2-2	10.01	7.15	6.94	23.24	2.086	-62.8	0.18		
B3-T3-1	9.96	9.24							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	dry							
B3-T5-1	9.33	9.20							
B3-T5-2	7.98	dry							
B3-T6-1	11.45	8.42	6.85	23.28	1.113	3.8	0.48		
B3-T6-2	12.34	8.46	6.73	22.79	1.851	-116.5	0.28	✓	
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.16.12	1000	4.17.12	0915	4.18.12		4.19.12	0755	4.20.12	0835
	Rate (gpm) / Cumulative Total (gal)									
T-1	26.0	5037387	25.8	5,067,656	23.8	5,102,279	25.2	5,134,880	24.9	5,171,222
T-2										
T-3										
T-4										
T-5										
T-6	20.1	576336	19.9	603,055	19.4	628,902	20.2	653,657	19.2	681,309
B-3 (Total)										
CS-MW16-LGR	10.25	183503	7.92	194900	7.80	206781	7.70	216,726	7.58	228205
CS-MW16-CC	261049	11.09	278,080	12.20	295733	12.15	12.25	312,181	12.15	330460
B3-EXW01	6.47	9738772	6.50	9748009	6.55	9757503	6.45	9766255	6.42	9775592
B3-EXW02	9.81	6584527	9.93	6598464	9.8	6612819	9.81	6626131	9.78	6640794

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:	MW16LGR 251.62	245.75	248.04	Quick trends looks good, all wells running constantly	252.05
	* MW16CC 314.40	325.80	327.38		329.89
	B3EXW01 248.50	250.40	252.10		255.80
	B3EXW02 262.80	265.10	266.90		271.50
	SCADA				

* 16CC is leaking
Sam fixed nipple - shut down from 1030 - 1130

Week 260

EXW2 9.31
66824 84

6.19
EXW1 9803451

---

16 CC 12.1
78356 2

7.3
16 LGR 260842

LGR 259.66
CC 334.17
EX 1 263.60
EX 2 280.30

Personnel: J. Bauch; S. Elliott; J. MacQueen

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

Piezometer ID	TD (ft BTOC)	Date Sampled	Weekly/Monthly Wtrlvls		Monthly Field Parameters					
			Sample Time	Water Level (ft BTOC)	pH	Temp (deg. C)	SpCond (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW26-UGR	20.32	4.16.12	1300	12.06	6.56	19.53	0.623	-5.9	0.82	
B3-MW27-UGR	17.00	4.16.12	1115	7.70	6.77	19.69	0.522	118.7	2.36	
B3-MW28-UGR	18.33	4.16.12	—	18.31	No	Sample				
B3-MW29-UGR	20.40	4.16.12	1050	19.16	6.687	~~20.17~~ 19.80	0.584	105.5	4.31	
B3-MW30-UGR	23.90	4.16.12	1010	21.56	6.68	20.72	0.619	143.3	4.16	
B3-MW31-UGR	39.06	4.16.12	1025	33.15	6.61	21.47	0.681	51.8	0.63	
B3-MW32-UGR	58.45	4.16.12	1340	29.17	6.78	21.01	0.485	81.4	5.77	
B3-MW33-UGR	29.55	4.16.12	1355	~~20.40~~ 21.46	6.58	~~20.~~ 20.47	0.603	95.5	2.50	
B3-MW34-UGR	25.40	4.16.12	1315	17.31	6.64	21.35	0.569	5.7	0.50	

Quarterly Monitoring Well Field Parameters

Monitoring Well ID	Date Sampled	Sample Time	Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond (mS/cm)	ORP (mV)	DO (mg/L)	Notes
B3-MW01	4.12.12	0910	208.0	6.51	21.20	0.896	37.2	0.27	
CS-D	4.10.12	1510	209.42	7.03	22.97	~~0.~~ 0.548	106.3	4.00	
CS-MW16-LGR	4.10.12	1110		7.00	22.98	0.562	116.0	2.90	Collected DNA and H^+
CS-MW16-CC	4.10.12	1100		7.14	23.50	0.686	90.3	1.42	
CS-B3-EXW01	4.10.12	1040	240.0	6.90	23.20	0.593	125.3	2.71	
CS-B3-EXW02	4.10.12	1025	254.00	7.04	22.62	0.585	140.00	5.08	
CS-MW1-LGR	4.10.12	1420	174.07	6.97	22.81	0.539	102.6	2.59	collected DNA and H^+

Personnel J. Bouch ; J. MacQueen

Quarterly Monitoring

	MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure	
A	CS-WB05-LGR-01	99	4.19.12	1000	14.10	20.11	
A	CS-WB05-LGR-02	182	4.19.12	0940	14.14	14.17	DRY – No Sample
A	CS-WB05-LGR03A	216	4.18.12	1535	14.23	15.11	
A	CS-WB05-LGR03B	262	4.18.12	1430	17.64	35.91	
A	CS-WB05-LGR04A	277	4.18.12	1100	24.23	39.19	
B	CS-WB05-LGR04B	329	4.18.12	1000	46.96	61.94	ATM: 14.20
B	CS-WB05-BS-01	362	4.17.12	1500	61.34	78.37	
B	CS-WB05-CC-01	432	4.17.12	1100	92.40	81.35	ATM: 14.20
B	CS-WB05-CC-02	460	4.17.12	1000	105.79	93.73	ATM: 14.16
A	CS-WB06-UGR-01	20	4.25.12	0910	14.03	17.12	
A	CS-WB06-LGR-01	93	4.24.12	1400	1409	1645	
A	CS-WB06-LGR-02	174	4.24.12	1215	14.16	35.12	
A	CS-WB06-LGR03A	207	4.24.12	1100	14.25	31.12	ATM: 14.19
B	CS-WB06-LGR03B	260	4.24.12	940	27.86	54.87	
A	CS-WB06-LGR-04	320	~~4.23.12~~ 4.20.12	1550	54.00	59.37	
A	CS-WB07-UGR-01	14	4.23.12	1115	1413	1440	DRY = No Sample
A	CS-WB07-LGR-01	90	4.23.12	1045	14.21	40.28	
A	CS-WB07-LGR-02	175	4.23.12	1000	14.35	33.25	ATM: 14.13
B	CS-WB07-LGR03A	208	4.20.12	1040	14.10	21.26	
B	CS-WB07-LGR03B	257	4.20.12	1000	14.10	43.83	
B	CS-WB07-LGR-04	318	4.20.12	920	26.26	59.40	ATM 13.98
1305	CS-WB08-UGR-01	38	4.26.12	1103	14.03	18.73	resample: 5/1/12 14.02/[illegible]
0955	CS-WB08-LGR-01	115	4.26.12	1005	14.05	19.46	" 14.10/19.41
0910	CS-WB08-LGR-02	193	4.26.12	0907	14.10	24.04	" 14.12/23.88
	CS-WB08-LGR03A	228	4.26.12	0901/Dry	14.11	13.04	– DRY
B	CS-WB08-LGR03B	273	4.25.12	1145	26.85	26.61	
B	CS-WB08-LGR-04	341	4.25.12	1100	56.47	57.63	ATM: 14.05

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: 5.2.17		Time: 0915							
B3-T1-1	12.9	6.34	6.87	23.80	0.470	-74.0	0.65		
B3-T1-2	12.4	5.90	6.95	23.45	0.503	-59.6	0.11	✓	
B3-T1-3	12.85	6.20	6.74	23.60	0.493	-142.9	0.06		
B3-T2-1	9.67	7.82	6.90	23.23	1.064	-158.3	0.23		
B3-T2-2	10.01	8.03	6.74	23.87	0.750	-98.8	0.28		
B3-T3-1	9.96	9.28							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							* Could not get data working in T5+T-6
B3-T5-2	7.98								
B3-T6-1	11.45							✓	*Could not get data due to B-3 construction in T-6 will try later.
B3-T6-2	12.34								
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.30.17	0940	5.1.17	0850	5.2.17	0911	5.3.17	0909	5.4.17	0840
	Rate (gpm) / Cumulative Total (gal)									
T-1	23.1	5514,771	24.7	5547362	21.3	5581323	21.4	5611080	21.1	5639883
T-2										
T-3										
T-4										
T-5										
T-6	16.5	943,863	17.0	967931	14.7	993757	15.5	1015725	16.6	1037,226
B-3 (Total)										
CS-MW16-LGR	6.96	329366	6.92	338349	6.92	347813	7.03	357870	6.86	367,590
CS-MW16-CC	12.80	513474	12.74	531295	13.07	550118	13.07	568910	13.01	587,135
B3-EXW01	5.101	9816311	5.57	9870813	5.45	9878977	OFF		7.41	9878988
B3-EXW02	8.21	1677045	8.05	1678209	7.951	1679337	8.75	6806740	7.88	1819,134
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:
MW16LGR 279.29
MW16CC 350.45
B3EXW01 280.10
B3EXW02 298.20
SCADA OK

Turned off EXW01 so Maryland can work on power @ B-3

EXW01 restarted @ 0847
Suck trends = good

Personnel	Elliott + Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	5/3/12	0938	14.08	14.10 14.14	20.01
CS-WB05-LGR-02	182		0937		14.15 14.17	14.15
CS-WB05-LGR-03A	216		0936		14.17 14.20	12.80
CS-WB05-LGR-03B	262		0936		18.56 15.46	30.01
CS-WB05-LGR-04A	277		0935		25.11 22.01	25.69
CS-WB05-LGR-04B	329		0934		47.74 44.62	48.25
CS-WB05-BS-01	362		0933		62.10 58.96	65.20
CS-WB05-CC-01	432		0932		92.50 89.37	70.59
CS-WB05-CC-02	460		0931		104.66 101.54	83.01
CS-WB06-UGR-01	20		1008	14.09	14.07 14.08	16.87
CS-WB06-LGR-01	93		1007		14.12 14.11	16.46
CS-WB06-LGR-02	174		1006		14.16 14.17	24.71
CS-WB06-LGR-03A	207		1005		14.18 14.20	26.92
CS-WB06-LGR-03B	260		1004		26.37 25.83	49.81
CS-WB06-LGR-04	320		1003		52.44 51.90	50.25
CS-WB07-UGR-01	14		0954	14.10	14.08 14.09	14.32
CS-WB07-LGR-01	90		0953		14.12 14.13	39.29
CS-WB07-LGR-02	175		0952		14.16 14.17	31.88
CS-WB07-LGR-03A	208		0951		14.20 14.18	15.01
CS-WB07-LGR-03B	257		0950		14.22 14.22	36.12
CS-WB07-LGR-04	318		0949		24.62 24.30	47.53
CS-WB08-UGR-01	38		1023	14.09	14.19 14.09	18.55
CS-WB08-LGR-01	115		1022		14.19 14.13	19.32
CS-WB08-LGR-02	193		1020		14.14 14.18	23.78
CS-WB08-LGR-03A	228		1020		14.18 14.21	13.20
CS-WB08-LGR-03B	273		1019		26.47 24.27	20.12
CS-WB08-LGR-04	341	↓	1018		56.08 53.84	51.41

Week 2 (167) 262