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

June 15, 2009

U-###-09

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 19 – Month 24, November, 2008 - April, 2008) of the Pilot Study Class V Aquifer Remediation Injection Wells at Camp Stanley Storage Activity, Boerne, Texas, TCEQ Authorization No. 5X2600431; WWC12002216; CN602728206/RN104431655

Dear Mr. Smith:

The Camp Stanley Storage Activity (CSSA), 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, 2008 through April, 2009 (Months 19-24). 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, 2008 and April 30, 2009 approximately 4,314,000 gallons of groundwater from wells CS-MW16-CC (~2,751,000 gallons), and CS-MW16-LGR (~1,563,000 gallons) were injected into SWMU B-3 bioreactor trench 1. A total of 14,837,962 gallons of recovered groundwater from CS-MW16-LGR and CS-MW16-CC have been injected into the bioreactor trench 1 since startup of the bioreactor. Samples of the injected groundwater, for this reporting period, were collected on November 18, December 18, 2008, January 21, February 19, March 19, and April 21, 2009. Results of analysis are summarized in the attached Table 1. Field forms which contain operating pressures and pH readings for the reporting period are also attached and the laboratory data packages are included in the accompanying CD.

Additionally, a new extraction well (B3-EXW01) is expected to be completed during next reporting period. The new extraction well will supply additional Lower Glen Rose aquifer waters to our bioreactor injection system. The location of B3-EXW01 is shown on an attached figure 1. CSSA will continue to monitor and operate the pilot study injection system within UIC permit requirements. Initial analytical data collected from the new extraction well, B3-EXW01, is included in the attached laboratory data.

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

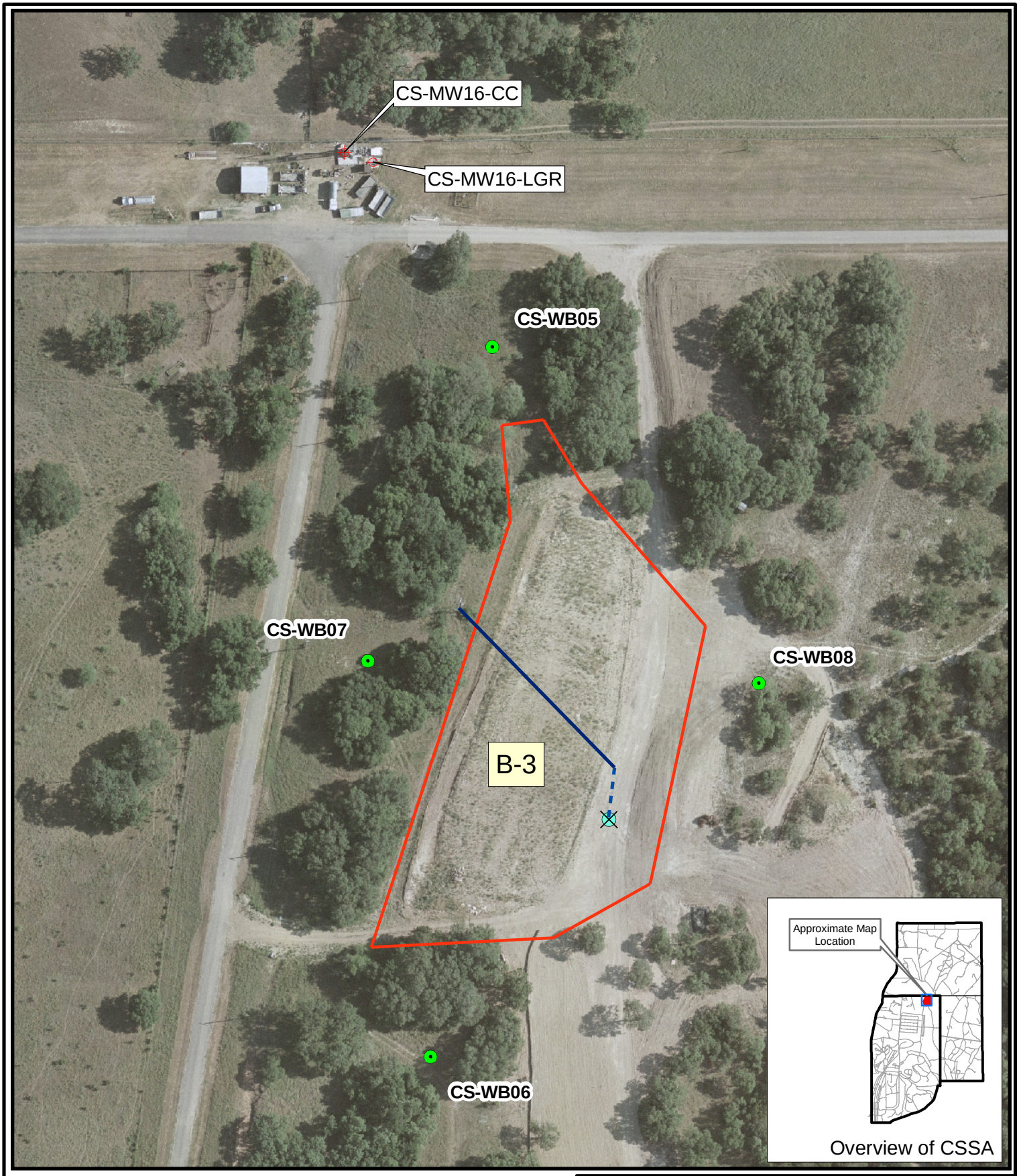
Sincerely,

Jason D. Shirley
Installation Manager

Attachments

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

Figure 1



Aerial Photo Date: 2003

N
W E
S

120 60 0 120 Feet

- Water Well Locations
- SWMU Boundary
- Westbay Wells
- New Well
- New 120/280 Volt Power (~215')
- Underground 120/280 Volt Power (~50')

Figure 1

New B3-EXW01 Extraction Well for B-3 Bioreactor Camp Stanley Storage Activity

Parsons

J:\744\744223 B3 & AOC65\gis\b3_extraction_well.mxd - 8/6/2008 @ 3:52:43 PM

Analytical Summary Data

Table 1
B3 - UIC Analytical Results

			Sample ID	B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC			B3-UIC		
			Sample Date	11/18/08			12/18/08			01/21/09			02/19/09			03/19/09			04/21/09		
			Sample Type	N1			N1			N1			N1			N1			N1		
			Sampling Method	Grab			Grab			Grab			Grab			Grab			Grab		
			Lab ID	AX87598			AX89212			AX89924			AX91473			AX93020			AX95374		
	Lab MDL	Lab PQL	B-3 UIC Criteria (RCRA Haz.)	Results	Flags	Dilution	Results	Flags	Dilution	Results	Flags	Dilution	Results	Flags	Dilution	Results	Flags	Dilution	Results	Flags	Dilution
SW8260B (µg/L)																					
Cis-DCE	0.16	1.2	--	84		1	68		1	77		1	65		1	68		1	44		1
Trans-DCE	0.19	0.6	--	4.8		1	1.4		1	1.4		1	1.6		1	1.8		1	16		1
TCE	0.16	1.0	500.	92		1	79		1	78		1	79		1	76		1	72		1
PCE	0.15	1.4	700.	68		1	45		1	42		1	39		1	45		1	45		1
Toluene	0.17	1.1	--	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
Vinyl Chloride	0.23	1.1	200.	0.23	U	1	0.23	U	1	0.23	U	1	0.23	U	1	0.23	U	1	0.23	U	1
EPA 160.1 (mg/L)																					
TDS	4.4	10.	--	343		1	378		1	345		1	389		1	389		1	360		1
Field measured																					
pH				7.78			7.35			7.58			6.23			7.37			7.50		

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

Data Qualifiers:
J- The analyte was positively identified, the quantitation is an estimation.
U- The analyte was analyzed for, but not detected. The associated numerical value is the MDL.

Abbreviations and Notes:
PQL Practical Quantitation Limit
MDL Method Detection Limit
N1 Environmental Sample
SQL Sample Quantitation Limit
UIC Underground Injection Control

Field Forms

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 11.5.08		Time: 1330							
B3-T1-1	12.9	9.54	6.51	24.28	0.886	-264.9	~~0.60~~ 0.58	✓	
B3-T1-2	12.4	9.07	6.67	23.40	0.827	-267.8	0.54	✓	
B3-T1-3	12.85	8.86	6.71	23.23	0.734	-277.5	0.58	✓	
B3-T2-1	9.67	9.45							
B3-T2-2	10.01	9.78							
B3-T3-1	9.96	9.10	6.79	32.32	1.308	-261.9	0.35		
B3-T3-2	7.4	7.32							
B3-T4-1	6.32	~~DRY~~							
B3-T5-1	9.33	9.15							
B3-T5-2	7.98	7.89							
B3-T6-1	11.45	11.08							
B3-T6-2	12.34	11.98							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11.3.08	0925	11.4.08	0830	11.5.08	0800	11.6.08	0810	11.7.08	0830
Rate (gpm) / Cumulative Total (gal)										
T-1	24.1	8,936,509	10.1/26.2	~~8,966,849~~ 8,966,849	26.2	8,985,732	26.2	9,006,495	26.7	9,028,342
T-2										
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	8.43	859,046	8.32	870,566	0.00	877,768	Ø	885,766	Ø	894,073
CS-MW16-CC	14.25	249,226	14.09	268,671	0.00	280,584	Ø	294,518	Ø	309,050
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)= *Note: If bag filter pressure drop is > or = 20 psi change fliter.										
	PB-1 - PB-2 = 40 - 40 = 0		PB-1 - PB-2 = 0 - 0 = 0 ~~42 - 40 = 2~~		PB-1 - PB-2 = 42 - 40 = 2		PB-1 - PB-2 = 42 - 40 = 2		PB-1 - PB-2 = 44 - 42 = 2	

Notes:

- mw16 - LGR = 285.5
- mw16 - CC = 362.4
- tank = 5/8 full
- turned xfer pump on

Tank is 3/4 full
Transfer Pump not on - shook floats - TP kicked on.
MW16 - LGR = 289.7
MW16 - CC = 372.8
- transfer pump turned off C/ the night

Week 80

Tank is 3/5 full
MW16 - LGR = 266.9
MW16 - CC = 348.8
- turned off TP for the night

Tank is 3/4 full
MW16 - LGR = 280.7
MW16 - CC = 312.0
Turned of TP for the night

Tank is full
MW-16 - LGR = 280.1
MW16 - CC = 327.4
Turned off TP for the weeker
Model C10 ZEZA QIZB
Serial 622354020001

Personnel	S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	11/5/08	1006	14.02	14.20 14.09	22.89
CS-WB05-LGR-02	182		1005		14.25 14.10	14.12
CS-WB05-LGR-03A	216		1004		14.30 14.13	14.25
CS-WB05-LGR-03B	262		1003		20.50 19.84	16.92
CS-WB05-LGR-04A	277		1002		27.00 26.36	22.55
CS-WB05-LGR-04B	329		1000		49.85 49.06	53.28
CS-WB05-BS-01	362		0959		64.00 63.41	71.33
CS-WB05-CC-01	432		0957		94.00 93.74	63.27
CS-WB05-CC-02	460		0956		106.85 105.90	75.76
CS-WB06-UGR-01	20		1042	14.05	14.20 14.07	16.10
CS-WB06-LGR-01	93		1041		14.20 14.12	16.38
CS-WB06-LGR-02	174		1039		14.30 14.16	17.60
CS-WB06-LGR-03A	207		1038		14.35 14.18	20.29
CS-WB06-LGR-03B	260		1036		22.81 22.54	43.18
CS-WB06-LGR-04	320		1035		48.80 48.54	44.39
CS-WB07-UGR-01	14		1058	14.06	14.20 14.07	14.66
CS-WB07-LGR-01	90		1057		14.25 14.12	17.85
CS-WB07-LGR-02	175		1056		14.20 14.15	25.12
CS-WB07-LGR-03A	208		1055		14.30 14.16	16.18
CS-WB07-LGR-03B	257		1054		16.70 16.50	37.36
CS-WB07-LGR-04	318		1053		43.22 43.03	43.36
CS-WB08-UGR-01	38		1023	14.03	14.20 14.08	14.11
CS-WB08-LGR-01	115		1021		14.25 14.11	28.01
CS-WB08-LGR-02	193		1020		14.25 14.14	16.94
CS-WB08-LGR-03A	228		1019		14.30 14.17	14.23
CS-WB08-LGR-03B	273		1018		20.55 20.21	16.11
CS-WB08-LGR-04	341	↓	1016		50.00 49.79	45.89

Personnel: S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	11/12/08	1421		14.20 14.01	22.76
CS-WB05-LGR-02	182		1420		14.25 14.07	14.11
CS-WB05-LGR-03A	216		1419	14.00	14.30 14.11	17.11
CS-WB05-LGR-03B	262		1418		20.50 19.76	16.84
CS-WB05-LGR-04A	277		1417		27.00 26.26	21.99
CS-WB05-LGR-04B	329		1415		49.85 48.89	44.46
CS-WB05-BS-01	362		1414		64.00 63.24	59.37
CS-WB05-CC-01	432		1413		94.00 93.64	62.85
CS-WB05-CC-02	460		1412		106.85 105.80	75.24
CS-WB06-UGR-01	20		1504	13.98	14.20 14.01	15.99
CS-WB06-LGR-01	93		1503		14.20 14.05	16.32
CS-WB06-LGR-02	174		1502		14.30 14.09	17.55
CS-WB06-LGR-03A	207		1501		14.35 14.10	20.10
CS-WB06-LGR-03B	260		1458		22.81 22.44	43.00
CS-WB06-LGR-04	320		1456		48.80 48.50	43.83
CS-WB07-UGR-01	14		1522		14.20 14.01	14.43
CS-WB07-LGR-01	90		1521		14.25 14.06	17.76
CS-WB07-LGR-02	175		1520		14.20 14.09	24.93
CS-WB07-LGR-03A	208		1519	14.00	14.30 14.11	16.09
CS-WB07-LGR-03B	257		1518		16.70 16.42	37.28
CS-WB07-LGR-04	318		1517		43.22 42.96 ~~44.42~~ (108)	(108) ~~42.88~~ 42.87
CS-WB08-UGR-01	38		1440		14.20 14.01	14.08
CS-WB08-LGR-01	115		1439		14.25 14.06	27.85
CS-WB08-LGR-02	193		1438	13.97	14.25 14.07	16.92
CS-WB08-LGR-03A	228		1437		14.30 14.10	14.17
CS-WB08-LGR-03B	273		1436		20.55 20.12	15.65
CS-WB08-LGR-04	341		1435		50.00 49.71	45.35

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch ; S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 11.14.08		Time: 1030							
B3-T1-1	12.9	10.37	6.43	24.44	0.817	-173.8	0.84	✓	
B3-T1-2	12.4	9.89	6.61	23.44	0.719	-277.5	0.63	✓	
B3-T1-3	12.85	9.59	6.57	23.30	0.720	-219.3	0.66	✓	
B3-T2-1	9.67	9.47							
B3-T2-2	10.01	10.03							
B3-T3-1	9.96	9.12	6.80	31.86	1.187	-236.0	0.47		
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	9.21							
B3-T5-2	7.98	7.9							
B3-T6-1	11.45	11.05							
B3-T6-2	12.34	11.93							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	11.10.08	0900	11.11.08	0815	11.12.08	0815	11.13.08	1100	11.14.08	1025
Rate (gpm) / Cumulative Total (gal)										
T-1	10.1	~~9,078,074~~	10.2	9,097,906	10.6	9,119,183	28.2	9,140,386	10.1	9,158,801
T-2		907[illegible]22								
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	Ø	912,876	9.21	920,697	8.60	929,247	Ø	938070	8.76	944,755
CS-MW16-CC	Ø	339,507	13.82	352209	13.98	365942	Ø	380279	13.87	390,851
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)= *Note: If bag filter pressure drop is > or = 20 psi change fliter.										
PB-1 - PB-2 =	Ø - Ø = Ø		PB-1 - PB-2 = Ø - Ø = Ø		PB-1 - PB-2 = Ø - Ø = Ø		PB-1 - PB-2 = 44 - 40 = 4		PB-1 - PB-2 = Ø - Ø = 0	

Notes:

Monday: Tank is half full
Turned on TP
MW-16-CC - 346.7
MW-16-LGR - 275.2
turned off TP for the night

Tuesday: MW-16CC - 307.2
MW-16LGR - 260.4
turned on TP
Tank is 3/5 full

Wednesday: Tank is 3/5 full
turned on TP

Thursday: Tank is full
turned on TP

Friday: Tank is 3/5 full
Turned on TP
MW 16-CC = 323.3
MW16-LGR = 262.2

Week 81

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J Bouch ; A. Lindley

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 11/18/08		Time: 0955							
B3-T1-1	12.9	10.53	6.88	24.13	0.804	-249.3	0.52	✓	sampled@ 1015
B3-T1-2	12.4	10.02	7.05	23.34	0.723	-279.3	0.38	✓	sampled @ 1305
B3-T1-3	12.85	9.76	6.71	23.13	0.740	-249.9	0.34	✓	sampled@ 1400
B3-T2-1	9.67	9.52							
B3-T2-2	10.01	10.01 dry							
B3-T3-1	9.96	9.13							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	9.23							
B3-T5-2	7.98	7.92							
B3-T6-1	11.45	11.05							
B3-T6-2	12.34	11.94							
B3-UIC			7.78	23.35	0.515	-6.0	~~4.78~~ 4.52		sampled@ 1310

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday	Wednesday	Thursday	Friday
Date/Time:	11/17/08 905	11.19.08 0950	11.20.08 0844	11.20.08 0853	11.21.08 1321
	Rate (gpm) / Cumulative Total (gal)				
T-1	8.90 / 27.6 9203768	10.6 / 25.9 9225225	25.2 9256320	10.1 9282788	28.7 9301952
T-2					
T-3					
T-4					
T-5					
T-6					
B-3 (Total)					
CS-MW16-LGR	0.0 / 8.65 961881	0.0 / 8.54 970,223	8.76 980809	8.65 991282	8.58 3342
CS-MW16-CC	0.0 / 13.82 417790	0.0 / 1338 433253	13.33 451154	13.27 469765	13.27 492517

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

PB-1 - PB-2 = 43 - 35 = 4	PB-1 - PB-2 = 42 - 28 = 14	PB-1 - PB-2 = 42 - 36 = 6	PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 44 - 35 = 6

Notes: Tank 3/8 full

Tank is 3/5 full

Sam fixed spring in floats

*Tank is 1/4 full

MW16-LGR = 287.3
MW16-CC = 364.3
Tank is 3/5 full

MW16-LGR 240.2
MW16-CC 301.5

Week 82

*Turned off wells in order to test low float. TP turned off JUST below 1/4 tank

Personnel	A. Lindley; J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)	
CS-WB05-LGR-01	99	11.17.08	0941		14.20 14.29	22.82	
CS-WB05-LGR-02	182		0940		14.25 14.35	14.34	
CS-WB05-LGR-03A	216		0938		14.30 14.39	14.25	
CS-WB05-LGR-03B	262		0937		20.50 20.01	16.91	@ 1015
CS-WB05-LGR-04A	277		0936	14.26	27.00 26.53	22.69	
CS-WB05-LGR-04B	329		0935		49.85 49.15	45.28	
CS-WB05-BS-01	362		0934		64.00 63.50	59.75	
CS-WB05-CC-01	432		0933		94.00 93.90	71.33	
CS-WB05-CC-02	460		0932		106.85 106.06	83.75	
CS-WB06-UGR-01	20	11.17.08	1436		14.20 14.21	16.22	
CS-WB06-LGR-01	93		1435		14.20 14.24	16.53	
CS-WB06-LGR-02	174		1434	14.18	14.30 14.29	17.59	
CS-WB06-LGR-03A	207		1433		14.35 14.31	20.04	
CS-WB06-LGR-03B	260		1432		22.81 22.69	42.92	@ 1500
CS-WB06-LGR-04	320		1431		48.80 48.73	43.94	
CS-WB07-UGR-01	14	11.17.08	1323	14.19	14.20 14.21	14.55	
CS-WB07-LGR-01	90		1322		14.25 14.24	17.81	
CS-WB07-LGR-02	175		1321		14.20 14.28	24.93	
CS-WB07-LGR-03A	208		1319		14.30 14.30	16.07	
CS-WB07-LGR-03B	257		1318		16.70 16.104	37.26	@ 1330
CS-WB07-LGR-04	318		1315		43.22 43.18	43.12	
CS-WB08-UGR-01	38	11.17.08	1554	(AL)	14.20 14.23	15.16	
CS-WB08-LGR-01	115		1553	14.19	14.25 14.25	27.61	
CS-WB08-LGR-02	193		1552		14.25 14.28	16.89	
CS-WB08-LGR-03A	228		1551		14.30 14.32	14.30	
CS-WB08-LGR-03B	273		1550		20.55 20.31	15.72	@ 1600
CS-WB08-LGR-04	341		1547		50.00 49.91	45.35	

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch + S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 11/24/08		Time: 1030							
B3-T1-1	12.9	10.75	6.41	24.35	0.990	-221.3	0.65		
B3-T1-2	12.4	10.10	6.60	22.73	0.939	-242.0	0.60	✓	
B3-T1-3	12.85	9.92	6.63	22.47	0.846	-213.7	0.60		
B3-T2-1	9.67	DRY							
B3-T2-2	10.01	DRY							
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	7.98							
B3-T6-1	11.45	11.01							
B3-T6-2	12.34	11.94							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday	Wednesday		Thursday		Friday	
Date/Time:	11/24/08	0900	11/25/08	11/26/08	084	~~11/27/08~~		11/28/08	0945
Rate (gpm) / Cumulative Total (gal)									
T-1	~~23~~ 22 adjusted ↑	9,343,332		22.00	9,373,095	21 or 27 Can't read top of #3	9,437,719		
T-2									
T-3									
T-4									
T-5									
T-6									
B-3 (Total)									
CS-MW16-LGR	8.71	19,107		8.43	30,612.	8.76	53461		
CS-MW16-CC	13.98	518,101		15.02	536,833	14.63	580,180		
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)= *Note: If bag filter pressure drop is > or = 20 psi change filter.									
PB-1 - PB-2 = 44-38 = 6			PB-1 - PB-2 =	PB-1 - PB-2 = 46-36=10		PB-1 - PB-2 = 41-41=0		PB-1 - PB-2 =	

Notes:
- MW16-LGR = 260.6
- MW16-CC = 303.9
- 3/4 Tank
- transfer pump turned off

- MW16-LGR = 260.5
- MW16-CC = 301.7
- tank = 3/5
- transfer pump turned back on
- Week #3
- *changed bag filter

- MW16-LGR = 285.5'
- MW16-CC = 371.9
- tank = 3/4 and transfer pump was off, shook float switch came on, after leveling float still not working, P.O.S. turned off transfer pump for the weekend

Personnel	S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)	
CS-WB05-LGR-01	99	11/24/08	0929	14.14	14.20 14.22	14.90	
CS-WB05-LGR-02	182		0928		14.25 14.25	14.22	
CS-WB05-LGR-03A	216		0927		14.30 14.29	14.34	
CS-WB05-LGR-03B	262		0926		20.50 19.81	16.62	
CS-WB05-LGR-04A	277		0925		27.00 26.33	22.43	
CS-WB05-LGR-04B	329		0924		49.85 48.96	44.95	
CS-WB05-BS-01	362		0922		64.00 63.39	80.14	
CS-WB05-CC-01	432		0921		94.00 93.71	68.28	
CS-WB05-CC-02	460		0920		106.85 105.87	80.73	
CS-WB06-UGR-01	20		1006	14.21	14.20 14.22	16.17	
CS-WB06-LGR-01	93		1005		14.20 14.24	16.45	
CS-WB06-LGR-02	174		1004		14.30 14.30	17.60	
CS-WB06-LGR-03A	207		1003		14.35 14.31	19.88	
CS-WB06-LGR-03B	260		1002		22.81 22.65	42.77	
CS-WB06-LGR-04	320		1001		48.80 48.69	43.94	
CS-WB07-UGR-01	14		1020		14.20 14.18	14.61	
CS-WB07-LGR-01	90		1019		14.25 14.23	17.87	
CS-WB07-LGR-02	175		1018	14.19	14.20 14.20	24.80	
CS-WB07-LGR-03A	208	VOC ~~10 17~~	1017		14.30 14.30	16.06	
CS-WB07-LGR-03B	257	10 16	~~0959~~	16.56	16.70 ~~18.32~~	~~14.74~~	37.25
CS-WB07-LGR-04	318	10 15	~~0950~~	43.02	43.22 ~~45.69~~	~~43.94~~	43.14
CS-WB08-UGR-01	38		0946		14.20 14.21	14.96	
CS-WB08-LGR-01	115		0945		14.25 14.25	25.55	
CS-WB08-LGR-02	193		0944	14.15	14.25 14.28	16.90	
CS-WB08-LGR-03A	228		0943		14.30 14.32	14.26	
CS-WB08-LGR-03B	273		0942		20.55 20.29	15.83	
CS-WB08-LGR-04	341	↓	0941		50.00 49.86 ~~50.~~	45.44	

Personnel	S. Elliott + J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	12/5/08	1005	14.22	14.20 14.30	22.72
CS-WB05-LGR-02	182		1004		14.25 14.34	15.13
CS-WB05-LGR-03A	216		1003		14.30 14.38	14.24
CS-WB05-LGR-03B	262		1002		20.50 19.88	16.50
CS-WB05-LGR-04A	277		1001		27.00 26.41	21.75
CS-WB05-LGR-04B	329		1000		49.85 49.03	44.27
CS-WB05-BS-01	362		0958		64.00 63.38	59.04
CS-WB05-CC-01	432		0957		94.00 93.78	77.06
CS-WB05-CC-02	460		0956		106.85 105.95	89.11
CS-WB06-UGR-01	20		1043	14.27	14.20 14.30	15.23
CS-WB06-LGR-01	93		1042		14.20 14.34	16.52
CS-WB06-LGR-02	174		1041		14.30 14.38	17.63
CS-WB06-LGR-03A	207		1040		14.35 14.40	19.71
CS-WB06-LGR-03B	260		1039		22.81 22.73	42.60
CS-WB06-LGR-04	320		1038		48.80 48.77	43.62
CS-WB07-UGR-01	14		~~1027~~	1059	14.20 14.27	14.68
CS-WB07-LGR-01	90		1058		14.25 14.32	17.75
CS-WB07-LGR-02	175		1057	14.20	14.20 14.36	24.59
CS-WB07-LGR-03A	208		1056		14.30 14.39	15.97
CS-WB07-LGR-03B	257		1055		16.70 16.63	37.18
CS-WB07-LGR-04	318		1054		43.22 43.17	42.68
CS-WB08-UGR-01	38		1025	14.23	14.20 14.29	14.30
CS-WB08-LGR-01	115		1024		14.25 14.34	24.08
CS-WB08-LGR-02	193		1023		14.25 14.36	16.85
CS-WB08-LGR-03A	228		1022		14.30 14.41	14.34
CS-WB08-LGR-03B	273		1021		20.55 20.36	15.40
CS-WB08-LGR-04	341		1020		50.00 50.26	45.09

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: S. Elliott ; 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: 12·5·08		Time: 0750							
B3-T1-1	12.9	10.91	6.43	23.44	0.715	-233.3	0.83		
B3-T1-2	12.4	10.48	6.60	22.26	0.703	-214.3	0.73		
B3-T1-3	12.85	10.51	6.59	21.95	0.652	-163.3	0.77	✓	
B3-T2-1	9.67	9.63							
B3-T2-2	10.01	DRY							
B3-T3-1	9.96	9.12							
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	11.06							
B3-T6-2	12.34	11.91							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12/1/08	1030	12/2/08	0755	12.3.08	0820	12.4.08	0800	12.5.08	0845
Rate (gpm) / Cumulative Total (gal)										
T-1	10 ? ↑ this meter needs fixed, can't read top of #'s	9,474,151	24.5	9,495,377	25.7	9,515,692	1.25	9,534,944	6.72	9,546,816
T-2										
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR		70961	8.86	75,748	0	83656	8.71	94473	0.71	104731
CS-MW16-CC		607,020	13.93	616,368	0	629,145	0	634,856	NOT ON	
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)= *Note: If bag filter pressure drop is > or = 20 psi change filter.										
	PB-1 - PB-2 = 43-42=1		PB-1 - PB-2 = 43-46=3		PB-1 - PB-2 = 43-42=1		PB-1 - PB-2 = 0-0=0		PB-1 - PB-2 = 0-0=0	

Notes:
- MW16-LGR = 285.4
- MW16-CC = 353.7
- turned on Xfer pump
- tank = full

- MW16-LGR = 275.9
- MW16-CC = 342.5
- tank = 5/5

- Tank is 3/5 full
- MW16-LGR = 287.4
- MW16-CC = 356.9

- Tank is 1/5 full
- opened manifold all the way
- MW16-LGR = 286.7
- MW16-CC = 295.4
- CC - NOT ON

- Tank is 1/5 full

Week 84

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch ; S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 12.12.08		Time: 1015							
B3-T1-1	12.9	10.36	6.34	21.60	0.950	-245.3	0.98		
B3-T1-2	12.4	10.25	6.47	22.0	0.963	-245.1	0.89		
B3-T1-3	12.85	10.10	6.45	21.81	0.973	-228.3	0.69	✓	
B3-T2-1	9.67	9.65							
B3-T2-2	10.01	DRY							
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	11.05							
B3-T6-2	12.34	11.90							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12.8.08	0810	12.9.08	1020	12/10/08	0900	12.11.08	0900	12.12.08	0750
	Rate (gpm) / Cumulative Total (gal)									
T-1	7.07	9577619	8.21	9588231	7.03	9597055	6.58	9605823	35.6	9622558
T-2										
T-3										
T-4										
T-5										
T-6							0	639675 @ 1530		
B-3 (Total)										
CS-MW16-LGR	0	134,223	8.71	145,680	8.71	155,009	8.99	164,305	8.65	174631
CS-MW16-CC	0	634,856	0	—	—	634,856	—	634,856	0	647,085

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

PB-1 - PB-2 =	0 - 0 = 0	PB-1 - PB-2 =	0 - 0 = 0	PB-1 - PB-2 =	0 - 0 = 0	PB-1 - PB-2 =	0 - 0 = 0	PB-1 - PB-2 =	40 - 40 = 0

Notes:

Monday: MW16-LGR = 271.8; MW16-CC = 284.3; Tank is 1/5 full

Tuesday: Tank is 1/5 full

Wednesday: MW16-LGR = 288.1; MW16-CC = 282.1; Tank is 1/5 full

Thursday: * CC started working @ ≈ 1030; Tank is 1/5 full; Turned TP off for the night

Friday: MW16-LGR = 288.3; MW16-CC = 300.7; Tank 1/5 full; Turned on TP

Week 85

- leaving the transfer pump off, MW16-LGR can't keep up

* MW16-CC cut out 2/3 wires in panel burned up, to be fixed tomorrow 12/9

Personnel: J.Bouch; A Lindley

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	12.11.08	1414		14.20 14.15	22.64
CS-WB05-LGR-02	182		1416		14.25 14.18	14.19
CS-WB05-LGR-03A	216		1415		14.30 14.20	14.16
CS-WB05-LGR-03B	262		1414		20.50 19.69	~~19.26~~ 16.26 (DDP)
CS-WB05-LGR-04A	277		1413		27.00 26.21	21.68
CS-WB05-LGR-04B	329		1412	14.07	49.85 48.82	44.02
CS-WB05-BS-01	362		1411		64.00 63.17	58.75
CS-WB05-CC-01	432		1409		94.00 93.58	72.91
CS-WB05-CC-02	460		1407		106.85 105.74	85.40
CS-WB06-UGR-01	20		1454		14.20 14.13	15.93
CS-WB06-LGR-01	93		1453		14.20 14.15	16.38
CS-WB06-LGR-02	174		1452		14.30 14.22	17.59
CS-WB06-LGR-03A	207		1450	14.09	14.35 14.21	19.63
CS-WB06-LGR-03B	260		1448		22.81 22.54	42.53
CS-WB06-LGR-04	320		~~1447~~		48.80 ~~48.59~~	43.13
CS-WB07-UGR-01	14		1441		14.20 14.12	14.36
CS-WB07-LGR-01	90		1440	14.08	14.25 14.14	17.77
CS-WB07-LGR-02	175		1439		14.20 14.20	24.49
CS-WB07-LGR-03A	208		1438		14.30 14.21	15.94
CS-WB07-LGR-03B	257		1437		16.70 16.44	37.14
CS-WB07-LGR-04	318		1435		43.22 43.06	42.38
CS-WB08-UGR-01	38			*	14.20	
CS-WB08-LGR-01	115				14.25	
CS-WB08-LGR-02	193				14.25	
CS-WB08-LGR-03A	228				14.30	
CS-WB08-LGR-03B	273				20.55	
CS-WB08-LGR-04	341				50.00	

Week 85

* Mosdax quit working — no communications

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch ; A. Lindley

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 12/16/08		Time: 0900							
B3-T1-1	12.9	9.4	6.55	21.52	0.767	-272.1	0.51		0900 sample
B3-T1-2	12.4	9.34	6.49	21.89	0.680	-275.6	0.660	√	0935 sample
B3-T1-3	12.85	9.05	6.53	21.04	0.718	-242.9	0.47		1005 sample
B3-T2-1	9.67	8.74	6.83	24.06	0.680	-48.1	1.28	√	Sampled @ 0925
B3-T2-2	10.01	DRY							
B3-T3-1	9.96	9.16							
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	11.06							
B3-T6-2	12.34	11.90							
B3-UIC			7.35	22.41	0.628	-5.8	5.91		Sampled 0950 (12.18.08)

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	12/15/2008	0830	12/16/2008	0845	12/17/2008	0820	12/18/2008	0830	12/19/2008	
Rate (gpm) / Cumulative Total (gal)										
T-1	6.65	9672,567	36.6	9692305	35.3	9711917	30.1	9731469	35gpm	9,752,922
T-2			19.3	33305	19.4	43195	17.7	51950	19	52709
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	8.99	201839	8.54	212,371	8.82	222,484	8 /	232400	8.8	242806
CS-MW16-CC	15.40	6936870	15.12	715358	15.07	736019	0 /	757279	15	77862

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

PB-1 - PB-2 = 0 - 0 = 0	PB-1 - PB-2 = 44 - 40 = 4	PB-1 - PB-2 = 45 - 40 = 5	PB-1 - PB-2 = 46 - 40 = 6	PB-1 - PB-2 = 45 - 38

Notes:
Tank is 3/5 full
T1 12.0 gpm - 9679458
T2 6.1 gpm - 25,000.7
MW16-CC 356.4
MW16-LGR 285.2

Tank is 3/4 full
44 - 40 = 0
MW16-CC = 362.0
MW16-LGR = 285.6
Week 8&9
Turned on #2 pump (Auto: shook, floats & pump came on)

MW16-CC = 364.3
MW16-LGR = 286.5
Tank is at 4/5 Tank

Tank is 7/8 full

Tank is 1/8 full

gravity feed 1500

Personnel: J. Bonch; A. Lindley

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)	
CS-WB05-LGR-01	99	12.18.08	0852	14.12	14.20 14.16	22.67	
CS-WB05-LGR-02	182		0851		14.25 14.22	14.21	
CS-WB05-LGR-03A	216		0850		14.30 14.26	14.23	sampled @ 0955
CS-WB05-LGR-03B	262		0848		20.50 19.66	16.21	
CS-WB05-LGR-04A	277		0847		27.00 24.20	21.63	
CS-WB05-LGR-04B	329		0845		49.85 48.83	44.27	
CS-WB05-BS-01	362		0843		64.00 63.17	58.83	
CS-WB05-CC-01	432		0839		94.00 93.57	45.18	
CS-WB05-CC-02	460		0838		106.85 105.73	76.92	
CS-WB06-UGR-01	20	12.18.08			14.20		
CS-WB06-LGR-01	93				14.20		
CS-WB06-LGR-02	174				14.30		
CS-WB06-LGR-03A	207				14.35		sampled @ 1315
CS-WB06-LGR-03B	260				22.81		
CS-WB06-LGR-04	320				48.80		
CS-WB07-UGR-01	14	12.18.08			14.20		
CS-WB07-LGR-01	90				14.25		
CS-WB07-LGR-02	175				14.20		
CS-WB07-LGR-03A	208				14.30		
CS-WB07-LGR-03B	257				16.70		sample @ 1045
CS-WB07-LGR-04	318				43.22		
CS-WB08-UGR-01	38	12.18.08			14.20		
CS-WB08-LGR-01	115				14.25		
CS-WB08-LGR-02	193				14.25		
CS-WB08-LGR-03A	228				14.30		
CS-WB08-LGR-03B	273				20.55		sample @ 1400
CS-WB08-LGR-04	341				50.00		

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: S. Elliott & E. Tennyson

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 12/23/08		Time: 1500							
B3-T1-1	12.9	8.67	6.80	21.85	0.847	-295.9	1.02		
B3-T1-2	12.4	8.39	6.83	21.83	0.898	-223.5	0.95	✓	
B3-T1-3	12.85	8.28	6.84	21.43	0.747	-180.0	0.85		
B3-T2-1	9.67	8.80	7.04	23.13	0.799	-126.1	1.42		
B3-T2-2	10.01	dry						✓	
B3-T3-1	9.96	9.21							
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	11.03							
B3-T6-2	12.34	11.88							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday	Friday
Date/Time:	12/22/08	0753	12/23/08	0825	12/24/08	0805	12/25/08	12/26/08
Rate (gpm) / Cumulative Total (gal)								
T-1	33.7	9,802,156	32.5	9,822,214	17.0? / 32.3	9,840,777		
T-2	18.8	89,518+	17.6	99,009+	5.48 / 17.4	109,350		
T-3								
T-4							Holiday	Holiday
T-5								
T-6								
B-3 (Total)								
CS-MW16-LGR	8.37	265957	7.87	277,073	7.76	287,338		
CS-MW16-CC	14.69	837,895	*		*			

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

PB-1 - PB-2 = 46-40=6	PB-1 - PB-2 = 46-40=6	PB-1 - PB-2 = 47-40=7	PB-1 - PB-2 =	PB-1 - PB-2 =

Notes:
- MW16-LGR = 264.2 - off
- MW16-CC = 366.9 - on
- tank = 7/8 full
- ~~MW16-LGR = 285.0 - on~~
- ~~MW16-CC = 369.1 - on~~
- tank = 3/4 full
- SCADA down
- tank = 3/4 full
- changed bag filter 75 micron
- * flow meter went out screen is blank + can't read the total gallons

Week 87

Personnel	Elliott & Tennyson

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	12/23/08	1350	13.98	14.20 14.04	22.68
CS-WB05-LGR-02	182		1349		14.25 14.07	14.14
CS-WB05-LGR-03A	216		1348		14.30 14.11	14.24
CS-WB05-LGR-03B	262		1347		20.50 19.37	16.14
CS-WB05-LGR-04A	277		1346		27.00 25.90	21.86
CS-WB05-LGR-04B	329		1344		49.85 48.54	44.36
CS-WB05-BS-01	362		1343		64.00 62.89	54.04
CS-WB05-CC-01	432		1342		94.00 93.32	61.53
CS-WB05-CC-02	460		1334		106.85 105.44	73.90
CS-WB06-UGR-01	20		1419	14.00	14.20 14.01	16.06
CS-WB06-LGR-01	93		1418		14.20 14.05	16.34
CS-WB06-LGR-02	174		1417		14.30 14.08	17.65
CS-WB06-LGR-03A	207		1416		14.35 14.12	19.56
CS-WB06-LGR-03B	260		1415		22.81 22.44	42.47
CS-WB06-LGR-04	320		1414		48.80 48.49	43.87
CS-WB07-UGR-01	14		1438	13.99	14.20 14.01	14.61
CS-WB07-LGR-01	90		1437		14.25 14.05	17.85
CS-WB07-LGR-02	175		1436		14.20 14.09	24.41
CS-WB07-LGR-03A	208		1435		14.30 14.12	15.95
CS-WB07-LGR-03B	257		1433		16.70 16.37	37.15
CS-WB07-LGR-04	318		1432		43.22 42.90	42.83
CS-WB08-UGR-01	38		1405	13.98	14.20 14.02	14.02
CS-WB08-LGR-01	115		1404		14.25 14.05	23.09
CS-WB08-LGR-02	193		1402		14.25 14.08	16.77
CS-WB08-LGR-03A	228		1401		14.30 14.12	14.19
CS-WB08-LGR-03B	273		1400		20.55 20.06	15.49
CS-WB08-LGR-04	341	V	1359		50.00 49.64	45.34

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J Bouch; S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 12.30.08		Time: 0900							
B3-T1-1	12.9	9.15	4.88	22.16	0.591	-300.3	0.45		
B3-T1-2	12.4	8.95	4.89	21.88	0.661	-297.6	0.55		
B3-T1-3	12.85	8.68	6.91	21.61	0.469	-250.0	~~0.48~~ 0.45	✓	
B3-T2-1	9.67	8.84	7.21	22.62	0.510	-121.4	~~2.07~~		
B3-T2-2	10.01	DRY					1.91	✓	
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	11.02							
B3-T6-2	12.34	11.84							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday	Friday	
Date/Time:	12.29.08	0910	12.30.08	0900	12.31.08	0842	1.1.09	1.2.09	0815
Rate (gpm) / Cumulative Total (gal)									
T-1	33.7	9,923,751	12.2	9,942,543	12.6	9,961,735		11.1	9,993,551
T-2	18.1	151,203	5.57	~~160,250~~ 160,250	5.41	170,101	~~5.43~~	5.43	195,232
T-3							Holiday		
T-4									
T-5									
T-6									
B-3 (Total)						353,223			
CS-MW16-LGR	7.59	333,209	7.59	343,117	~~NA~~ 7.92	~~343,117~~		7.54	370,900
CS-MW16-CC	* well on		* well on		* well on			* well on	

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

PB-1 - PB-2 = 44-43=1	PB-1 - PB-2 = 44-42=2	PB-1 - PB-2 =	PB-1 - PB-2 = 0-0=0	PB-1 - PB-2 = 46-44=0

Notes:
Tank 3/4 full
- Changed DO sensor on YSI
Turned TP on
* flow meter out

Tank is 3/4 full
TP did not kick on
Want some help.

Week 88

Tank is 2/5 full
TP never went on because tank never filled up.

Tank is 3/4 full
Came back out to B-3 -
TP did not turn on
Want a bit of help

Personnel	S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	12/29/08	1411	14.18	14.20 14.25	22.63
CS-WB05-LGR-02	182		1410		14.25 14.29	14.29
CS-WB05-LGR-03A	216		1409		14.30 14.34	14.25
CS-WB05-LGR-03B	262		1408		20.50 19.43	16.24
CS-WB05-LGR-04A	277		1406		27.00 25.94	22.11
CS-WB05-LGR-04B	329		1405		49.85 48.60	44.54
CS-WB05-BS-01	362		1403		64.00 62.95	(SV) ~~60~~. 59.51
CS-WB05-CC-01	432		1350		94.00 93.40	62.11
CS-WB05-CC-02	460		1349		106.85 105.59	74.49
CS-WB06-UGR-01	20		1541	14.21	14.20 14.23	16.26
CS-WB06-LGR-01	93		1540		14.20 14.27	16.45
CS-WB06-LGR-02	174		1539		14.30 14.31	17.65
CS-WB06-LGR-03A	207		1538		14.35 14.32	19.51
CS-WB06-LGR-03B	260		1537		22.81 22.62	42.40
CS-WB06-LGR-04	320		1536		48.80 48.65	44.01
CS-WB07-UGR-01	14		1520	14.21	14.20 14.22	14.77
CS-WB07-LGR-01	90		1519		14.25 14.25	17.82
CS-WB07-LGR-02	175		1518		14.20 14.31	24.37
CS-WB07-LGR-03A	208		1517		14.30 14.32	15.95
CS-WB07-LGR-03B	257		1516		16.70 16.57	37.14
CS-WB07-LGR-04	318		1515		43.22 43.10	42.94
CS-WB08-UGR-01	38		1431	14.19	14.20 14.22	14.22
CS-WB08-LGR-01	115		1430		14.25 14.26	23.10
CS-WB08-LGR-02	193		1429		14.25 14.27	16.74
CS-WB08-LGR-03A	228		1428		14.30 14.32	14.27
CS-WB08-LGR-03B	273		1427		20.55 20.19	15.65
CS-WB08-LGR-04	341	↓	1425		50.00 49.79	45.44

↓ dropping? → suspect there could be something wrong with this port, maybe not?

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:		*Time:*							
B3-T1-1	12.9	8.85	6.60	21.92	0.862	-261.5	0.88		DO seems high - calibrated YSI prior to use
B3-T1-2	12.4	8.51	6.67	21.62	0.910	-296.9	0.73	✓	
B3-T1-3	12.85	9.42	6.67	21.30	0.710	-246.1	0.65		
B3-T2-1	9.67	8.58	6.81	22.41	0.759	-109.6	1.42 (1.03)		
B3-T2-2	10.01	DRY						✓	
B3-T3-1	9.96	9.23							
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	11.04							
B3-T6-2	12.34	11.58							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday	646.17	Wednesday		Thursday		Friday	
Date/Time:	1.5.09	0830	1.6.09	1005	1.7.09		1.8.09	1500	1-9-09	0845
			(DB 34.2)	(DB)						
	Rate (gpm) / Cumulative Total (gal)									
T-1	17.8	311,471	33.3	444,441	33.4	825,63	32.1	1069,55	33.1	1188,30
T-2	33.3	44,441	17.0	331,043	19.8	339,999	18.6	343,375	19.2	347,820
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.48	398,925	7.59	409,662	7.59	419,001	7.42	431,316	7.64	438,342
CS-MW16-CC	* well on		* well on		* well on		* well on		* well on	
Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)= *Note: If bag filter pressure drop is > or = 20 psi change fliter.										
	PB-1 - PB-2 = 46 - 42 = 4		PB-1 - PB-2 = 46 - 42 = 4		PB-1 - PB-2 = 46 - 40 = 0		PB-1 - PB-2 = 46 - 40 = 0		PB-1 - PB-2 = 46 - 40 = 6	

Notes: * well on - flow meter broken
Tank is 4/5 full
TP kicked on w/some help
MW-16-LGR = 284.3
MW-16-CC = 367.0

Tank is 4/5 full
TP kicked on w/help
MW-16-LGR = 284.1
MW-16-CC = 368.6

Tank in 3/4 full
TP kicked on

Week 89

Tank is 1/4 full
TP kicked on

Tank is 3/4 full
TP kicked on

MW-16-

Personnel	S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	1/8/09	1414	14.05	14.20 14.10	22.50
CS-WB05-LGR-02	182		1408		14.25 14.13	14.15
CS-WB05-LGR-03A	216		1407		14.30 14.17	14.17
CS-WB05-LGR-03B	262		1406		20.50 19.22	16.22
CS-WB05-LGR-04A	277		1405		27.00 25.74	22.01
CS-WB05-LGR-04B	329		1404		49.85 48.37	44.62
CS-WB05-BS-01	362		1403		64.00 62.71	59.12
CS-WB05-CC-01	432		1402		94.00 93.12	63.03
CS-WB05-CC-02	460		1400		106.85 105.27	75.47
CS-WB06-UGR-01	20		1449	14.04	14.20 14.05	16.13
CS-WB06-LGR-01	93		1448		14.20 14.09	16.29
CS-WB06-LGR-02	174		1447		14.30 14.12	17.64
CS-WB06-LGR-03A	207		1446		14.35 14.14	19.39
CS-WB06-LGR-03B	260		1445		22.81 22.41	42.28
CS-WB06-LGR-04	320		1443		48.80 48.46	43.97
CS-WB07-UGR-01	14		1508	14.04	14.20 14.06	14.67
CS-WB07-LGR-01	90		1507		14.25 14.08	17.77
CS-WB07-LGR-02	175		1506		14.20 14.13	24.23
CS-WB07-LGR-03A	208		1505		14.30 14.15	15.94
CS-WB07-LGR-03B	257		1504		16.70 16.40	37.12
CS-WB07-LGR-04	318		1503		43.22 42.92	42.99
CS-WB08-UGR-01	38		1431	14.04	14.20 14.07	14.05
CS-WB08-LGR-01	115		1430		14.25 14.10	22.56
CS-WB08-LGR-02	193		1429		14.25 14.13	16.73
CS-WB08-LGR-03A	228		1427		14.30 14.15	14.18
CS-WB08-LGR-03B	273		1426		20.55 20.03	15.62
CS-WB08-LGR-04	341		1425		50.00 49.61	45.46

J B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: S. Elliott, J. Bouch

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 1/15/09		Time: 1500							
B3-T1-1	12.9	8.75	6.59	21.67	0.838	-264.6	0.98		DO meter is acting up - bouncing around.
B3-T1-2	12.4	8.49	6.67	21.34	0.901	-251.4	0.68	✓	
B3-T1-3	12.85	8.45	6.69	21.06	0.735	-253.7	0.70		
B3-T2-1	9.67	8.73	6.94	21.83	0.743	-82.9	2.10		
B3-T2-2	10.01	DRY						✓	
B3-T3-1	9.96	9.27							
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	11.02							
B3-T6-2	12.34	11.84							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	1.12.09	0845	1.13.09	0845	1.14.09	0900	1.15.09	0900	1.16.09	0930
Rate (gpm) / Cumulative Total (gal)										
T-1	11.7/31.2	168,131	30.0	194639	30.5	13604.0	30.6	32239.0	33.0	52609.4
T-2	5.33/17.8	371,447	17.8	390,934	17.3	1981.0	16.2	16905.0	16.1	26878.4
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	*	*	7.49	10001.0	* well on		* well on		* well on	
CS-MW16-CC	*	*	* well * on		* well on		* well on		* well on	

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

PB-1 - PB-2 = 46-40 = 6	PB-1 - PB-2 = 46-40 = 6	PB-1 - PB-2 = 42-38 = 4	PB-1 - PB-2 = 44-38 = 6	PB-1 - PB-2 = 44-36 = 8

Notes:

MW16 - LGR = 283.2
MW16 - CC = 367.4
tank = 3/4 full

MW16 - LGR = 284.8
MW16 - CC = 372.1
tank = 4/5 full
- replaced meters on trenches 1 & 2, total gallons zeroed at 1425

MW16 - LGR = 284.5
MW16 - CC = 371.3
Tank is 3/4 full

MW16 - LGR = —
MW16 - CC = —
Tank is 3/4 full

MW-16 - LGR = 285.5
MW-16 - CC = 374.2
Full Tank!!
TP Kicked on !!

* both MW16 flow meters are blank/broke

Week 90
Flow meter totals before replacement 1330 T1 = 192,281 T2 = 394,053

Personnel	S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	1/15/09	1326	14.15	14.20 14.21	22.60
CS-WB05-LGR-02	182		1324		14.25 14.24	14.24
CS-WB05-LGR-03A	216		1322		14.30 14.26	14.19
CS-WB05-LGR-03B	262		1321		20.50 19.35	16.31
CS-WB05-LGR-04A	277		1320		27.00 25.90	21.85
CS-WB05-LGR-04B	329		1319		49.85 48.59	44.48
CS-WB05-BS-01	362		1318		64.00 62.94	59.13
CS-WB05-CC-01	432		1317		94.00 93.35	60.29
CS-WB05-CC-02	460		1316		106.85 105.51	72.66
CS-WB06-UGR-01	20		1402	14.13	14.20 14.24	16.29
CS-WB06-LGR-01	93		1401		14.20 14.26	16.44
CS-WB06-LGR-02	174		1400		14.30 14.32	17.63
CS-WB06-LGR-03A	207		1358		14.35 14.32	19.32
CS-WB06-LGR-03B	260		1357		22.81 22.64	42.25
CS-WB06-LGR-04	320		1356		48.80 48.71	43.95
CS-WB07-UGR-01	14		1421	14.18	14.20 14.28	14.85
CS-WB07-LGR-01	90		1420		14.25 14.23	17.84
CS-WB07-LGR-02	175		1419		14.20 14.28	24.24
CS-WB07-LGR-03A	208		1418		14.30 14.31	15.88
CS-WB07-LGR-03B	257		1417		16.70 16.58	37.15
CS-WB07-LGR-04	318		1415		43.22 43.17	42.93
CS-WB08-UGR-01	38		1345	14.13	14.20 14.18	14.20
CS-WB08-LGR-01	115		1344		14.25 14.21	22.72
CS-WB08-LGR-02	193		1343		14.25 14.26	16.64
CS-WB08-LGR-03A	228		1342		14.30 14.28	14.23
CS-WB08-LGR-03B	273		1340		20.55 20.19	15.47
CS-WB08-LGR-04	341		1339		50.00 49.85	45.42

Personnel: J Bonchy, E. Galbavy

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	1/23/09	0911	14.01	14.20 14.09	22.55
CS-WB05-LGR-02	182		0909		14.25 14.14	14.14
CS-WB05-LGR-03A	216		0908		14.30 14.15	14.19
CS-WB05-LGR-03B	262		0906		20.50 14.32	16.29 @ 0945 1-20-09
CS-WB05-LGR-04A	277		0905		27.00 25.61	21.68
CS-WB05-LGR-04B	329		0904		49.85 48.26	44.32
CS-WB05-BS-01	362		0903		64.00 62.61	58.92
CS-WB05-CC-01	432		0901		94.00 93.10	58.50
CS-WB05-CC-02	460		0900		106.85 105.17	70.89
CS-WB06-UGR-01	20		0858	14.04	14.20 14.08	14.96
CS-WB06-LGR-01	93		0957		14.20 14.13	16.28
CS-WB06-LGR-02	174		0955		14.30 14.16	17.65
CS-WB06-LGR-03A	207		0954		14.35 14.17	19.25
CS-WB06-LGR-03B	260		0952		22.81 22.44	42.19
CS-WB06-LGR-04	320		0950		48.80 48.54	43.90
CS-WB07-UGR-01	14		1017	14.04	14.20 14.09	14.72
CS-WB07-LGR-01	90		1016		14.25 14.13	17.86
CS-WB07-LGR-02	175		1015		14.20 14.14	24.20
CS-WB07-LGR-03A	208		1013		14.30 14.16	15.91
CS-WB07-LGR-03B	257		1012		16.70 16.39	37.18
CS-WB07-LGR-04	318		1010		43.22 42.98	42.82
CS-WB08-UGR-01	38		0935	13.96	14.20 14.07	14.08
CS-WB08-LGR-01	115		0932		14.25 14.13	15.08
CS-WB08-LGR-02	193		0931		14.25 14.15	16.69
CS-WB08-LGR-03A	228		0929		14.30 14.17	14.14
CS-WB08-LGR-03B	273		0927		20.55 22.10	15.55 @ 1345 1-20-09
CS-WB08-LGR-04	341		0924		50.00 49.48	45.36

1/23/09 0906 Weekly: 19.06 | 15.98 Zone pres

1/23/09 @0927 Weekly: 19.85 | 15.59 Zone pres

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch, A. Lindley, E. Galbavy, 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: 1/21/09		Time: 0930							
B3-T1-1	12.9	8.89	6.72	21.83	0.635	-218.9	0.42		Sample @ 0930
B3-T1-2	12.4	8.62	6.77	21.67	0.671	-248.4	0.54	✓	Sample @ 1015
B3-T1-3	12.85	8.59	6.79	20.99	0.554	-222.5	0.45		Sample @ 1240
B3-T2-1	9.67	8.54	7.08	21.52	0.571	-78.5	2.19		Sample @ 1320
B3-T2-2	10.01	—						✓	
B3-T3-1	9.96	9.28	6.73	27.20	0.684	-99.3	1.14		~~Sample @ 1320~~ (AL) not sampled
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	10.98							
B3-T6-2	12.34	11.80							
B3-UIC			7.58	23.20	0.457	-22.8	5.74		Sample @ 1340

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday	Tuesday		Wednesday		Thursday		Friday	
Date/Time:	1/19/09	1/20/09		1/21/09 0715		1/22/09	0700	1/23/09	
Rate (gpm) / Cumulative Total (gal)									
T-1		31.7	126931.0	31.7	143,488.0	32.8	163,785	33.8	184,908
T-2		15.1	60901.0	17.0	69,323	15.6	78,844	16.9	88,666
T-3	Holiday								
T-4									
T-5									
T-6									
B-3 (Total)									
CS-MW16-LGR		8.09	34376	7.42	44361	7.48	54,962	7.53	65,777
CS-MW16-CC		15.72	69019	14.74	88,714	14.93	109,723	14.95	130,994

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

PB-1 - PB-2 =	PB-1 - PB-2 = 42 - 32 = 10	PB-1 - PB-2 = 44 - 36 = 8	PB-1 - PB-2 = 44 - 34 = 10	PB-1 - PB-2 = 40 - 40 = 0

Notes:

Tank was 3/4 full

Tank 7/8 full

Tank full

MW16-LGR = 285.5

MW16-CC = 374.4

Charged bag filter

Week 9/1

Personnel: I.Bauch; A.Lindley

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	1.30.09	0855		14.20 14.30	22.41
CS-WB05-LGR-02	182		0854		14.25 14.35	14.28
CS-WB05-LGR-03A	216		0853		14.30 14.37	14.22
CS-WB05-LGR-03B	262		0852		20.50 19.15	16.11
CS-WB05-LGR-04A	277		0851	14.25	27.00 25.64	21.90
CS-WB05-LGR-04B	329		0850		49.85 48.29	44.51
CS-WB05-BS-01	362		0849		64.00 62.64	59.08
CS-WB05-CC-01	432		0848		94.00 93.02	59.42
CS-WB05-CC-02	460		0847		106.85 105.22	71.83
CS-WB06-UGR-01	20	1.30.09	0934	14.26	14.20 14.29	16.42
CS-WB06-LGR-01	93		0933		14.20 14.34	16.47
CS-WB06-LGR-02	174		0932	~~14.3~~	14.30 14.37	17.61
CS-WB06-LGR-03A	207		0931		14.35 14.39	19.24
CS-WB06-LGR-03B	260		0929		22.81 22.55	42.14
CS-WB06-LGR-04	320		0928		48.80 48.59	44.02
CS-WB07-UGR-01	14	1.30.09	0951	14.27	14.20 14.29	14.92
CS-WB07-LGR-01	90		0949		14.25 14.33	17.78
CS-WB07-LGR-02	175		0948		14.20 14.37	24.15
CS-WB07-LGR-03A	208		0947		14.30 14.39	15.94
CS-WB07-LGR-03B	257		0946		16.70 16.52	37.14
CS-WB07-LGR-04	318		0944		43.22 43.06	42.96
CS-WB08-UGR-01	38	1.30.09	0915		14.20 14.26	14.28
CS-WB08-LGR-01	115		0914		14.25 14.33	22.73
CS-WB08-LGR-02	193		0913		14.25 14.36	16.35
CS-WB08-LGR-03A	228		0912	14.23	14.30 14.40	14.26
CS-WB08-LGR-03B	273		0910		20.55 19.96	15.55
CS-WB08-LGR-04	341		0909		50.00 ~~50.03~~ 49.54 (VIB)	~~46.74~~ 45.48 (VIB)

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Rouch, A. Lindley

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	2nd Round of Readings Notes
Date: 1.30.09		Time: 1000							pH · Temp · spCond · ORP · DO
B3-T1-1	12.9	8.80	6.51	21.54	0.922	-215.9	0.54		6.51 | 21.59 | 2.907 | -217.5 | 0.40
B3-T1-2	12.4	8.52	6.55	21.20	0.960	-240.5	0.59		
B3-T1-3	12.85	8.40	~~6.59~~ 6.89	~~21.25~~ 21.08	~~0.794~~ 0.957	-223.2	0.47	✓	
B3-T2-1	9.67	8.66	6.89	21.22	0.796	-57.0	2.01		
B3-T2-2	10.01	DRY						✓	
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	10.98							
B3-T6-2	12.34	11.84							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	1.26.09	0700	1/27/09	0715	1/28/09	0715	1/29/09	0700	1/30/09	0700
Rate (gpm) / Cumulative Total (gal)										
T-1	33.2	241284	33.8	260400	11.9 | 32.0	279,345	34.6	298,952	12.2 | 32.4	318617
T-2	17.1	116490	17.7	125,579	5.56 | 15.2	134,698	17.9	144,175	5.93 | 16.9	153749
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.59	95,838.0	0.0 | 7.64	105,086	7.81	115,062	7.53	125,799	7.98	135944
CS-MW16-CC	14.80	190295	0.0 | 15.7	208,652	14.96	228,240	14.69	249,286	15.02	269095

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

Monday	Tuesday	Wednesday	Thursday	Friday
PB-1 - PB-2 = 42-40 = 2	PB-1 - PB-2 = 40-38 = 2	PB-1 - PB-2 = 40-38 = 2	PB-1 - PB-2 = 41-38 = 3	PB-1 - PB-2 = 40-36 = 4

Notes: Tank is full; Tank 3/4 full; Tank 5/8 full; Tank 3/4 full; Tank 5/8 full

Personnel S.Elliott / A. Lindley / J. Bauch / E. Galbary

Quarterly Monitoring

MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure	
CS-WB05-LGR-01	99	1/26/09	1430	13.98	22.50	
CS-WB05-LGR-02	182	1/26/09	1906	14.04	19.07	- dry
CS-WB05-LGR03A	216	1/26/09	1345	14.05	14.10	- dry
CS-WB05-LGR03B	262	1/20/09	~~1911~~ 0945 AC	~~14.05~~ AC	~~14.10~~ AC	~~dry~~ AC
CS-WB05-LGR04A	277	1/26/09	1050	27.52	21.89	
CS-WB05-LGR04B	329	1/26/09	0930	50.30	44.47	
CS-WB05-BS-01	362	1/22/09	1320	64.00	58.99	
CS-WB05-CC-01	432	1/22/09	1010	95.17	58.83	
CS-WB05-CC-02	460	1/22/09	0930	107.46	71.26	
CS-WB06-UGR-01	20	1/29/09	1445	14.10	16.25	
CS-WB06-LGR-01	93	1/29/09	1350	14.13	16.34	
CS-WB06-LGR-02	174	1/29/09	1300	14.20	17.70	
CS-WB06-LGR03A	207	1/29/09	1020	14.24	19.29	
CS-WB06-LGR03B	260	1/21/09	1030			
CS-WB06-LGR-04	320	1/29/09	0945	50.45	43.93	
CS-WB07-UGR-01	14	1/27/09	1520	13.93	14.56	Dry
CS-WB07-LGR-01	90	1/27/09	1410	14.00	17.86	
CS-WB07-LGR-02	175	1/27/09	1315	14.05	24.00	
CS-WB07-LGR03A	208	1/27/09	1130	14.07	15.80	
CS-WB07-LGR03B	257	1/21/09	1400			
CS-WB07-LGR-04	318	1/27/09	0930	44.983	~~52.34~~ 42.93	
CS-WB08-UGR-01	38	1/28/09	1425	14.08	14.07	dry
CS-WB08-LGR-01	115	1/28/09	1400	14.12	~~14.12~~ 12.44	
CS-WB08-LGR-02	193	1/28/09	1245	14.20	14.71	
CS-WB08-LGR03A	228	1/28/09	1130	14.16	14.12	dry
CS-WB08-LGR03B	273	1/20/09	1345			
CS-WB08-LGR-04	341	1/28/09	0930	51.62	45.51	

Monitroing Wells	Sample Date	Sample Time	pH	Temp	SpCond	ORP	DO
B3-MW01	1/20/09	0945	7.29	19.83	2.076		0.91
CS-D	↓	no sample		water level too low			
CS-MW16-LGR		1110	7.17	22.59	0.537		1.66
CS-MW16-CC		1030	7.52	22.59	0.623		3.17
CS-MW1-LGR	↓	1410	7.22	21.23	0.509	32.8	4.15

Personnel	S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	2/2/09	1526	14.16	14.20 14.21	22.47
CS-WB05-LGR-02	182		1525		14.25 14.27	14.22
CS-WB05-LGR-03A	216		1524		14.30 14.29	14.26
CS-WB05-LGR-03B	262		1523		20.50 18.99	16.12
CS-WB05-LGR-04A	277		1522		27.00 25.52	21.93
CS-WB05-LGR-04B	329		1521		49.85 48.14	44.47
CS-WB05-BS-01	362		1520		64.00 62.49	59.05
CS-WB05-CC-01	432		1519		94.00 92.89	58.81
CS-WB05-CC-02	460		1518		106.85 105.06	71.20
CS-WB06-UGR-01	20		1609	14.16	14.20 14.17	16.27
CS-WB06-LGR-01	93		1608		14.20 14.22	16.41
CS-WB06-LGR-02	174		1607		14.30 14.27	17.70
CS-WB06-LGR-03A	207		1606		14.35 14.29	19.21
CS-WB06-LGR-03B	260		1605		22.81 22.42	42.11
CS-WB06-LGR-04	320		1604		48.80 48.46	44.06
CS-WB07-UGR-01	14		1631	14.15	14.20 14.17	14.80
CS-WB07-LGR-01	90		1630		14.25 14.22	17.84
CS-WB07-LGR-02	175		1629		14.20 14.26	24.12
CS-WB07-LGR-03A	208		1628		14.30 14.28	15.93
CS-WB07-LGR-03B	257		1626		16.70 16.40	37.14
CS-WB07-LGR-04	318		1624		43.22 42.93	42.97
CS-WB08-UGR-01	38		1552	14.17	14.20 14.19	14.17
CS-WB08-LGR-01	115		1549		14.25 14.23	22.41
CS-WB08-LGR-02	193		1548		14.25 14.24	16.51
CS-WB08-LGR-03A	228		1546		14.30 14.29	14.22
CS-WB08-LGR-03B	273		1544		20.55 19.83	15.59
CS-WB08-LGR-04	341	✓	1543		50.00 49.41	45.53

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bauch ; S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 2.2.09		Time:	1415						
B3-T1-1	12.9	9.05	6.90	21.78	0.696	-233.8	0.45		
B3-T1-2	12.4	8.78	6.92	21.59	0.727	-265.6	0.44	✓	
B3-T1-3	12.85	8.71	7.00	20.94	0.593	-255.4	0.38		
B3-T2-1	9.67	8.73	7.16	21.73	0.618	-85.9	1.27	✓	
B3-T2-2	10.01	DRY							
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	10.99							
B3-T6-2	12.34	11.85							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday (TOS)		Friday (TOS)	
Date/Time:	2.2.09	0942	2.3.09	0900	2.4.09	0822	2.5.09	0830	2.6.09	0940
Rate (gpm) / Cumulative Total (gal)										
T-1	12.5/32.2	373071	32.3	391488	34.3	409915	34.1	428910	33.4	449,011
T-2	5.87/16.8	180871	16.8	199187	16.2	199378	16.8	208946	15	218,944
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.64	165,464	7.81	175,310	7.76	185,351	7.81	195,715	7.81	206,699
CS-MW16-CC	14.96	326256	14.69	345,255	14.58	364,261	14.69	383736	14.63	404,297

Bag Filter Pressure Reading (Pressure Drop (PB-1) - (PB-2)= *Note: If bag filter pressure drop is > or = ~~20~~ 10 psi change fliter.

PB-1 - PB-2 = 42-38=4	PB-1 - PB-2 = 42-38=4	PB-1 - PB-2 = 42-38=4	PB-1 - PB-2 = 42-36=6	PB-1 - PB-2 = 42-36=6

Notes:
- Tank is 3/5 full TP kicked on w/help
- Tank is 3/5 full TP kick on w/help
- Tank is 3/5 full TP kicked on w/help
- Tank is 3/5 full TP kicked on!
- Tank is 3/4 full TP kicked on only w/my help

Week___

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 (√)	2nd readings Notes
Date:		Time:							#1 Temp SpC ORP DO
B3-T1-1	12.9	9.10	4.50	22.15	0.873	-247.9	0.49		6.47 | 21.93 | 0.882 | 244.6 | 0.48
B3-T1-2	12.4	8.75	6.54	22.05	0.886	-264.6	0.48		
B3-T1-3	12.85	8.65	6.53	21.53	0.749	-242.8	0.41	√	
B3-T2-1	9.67	8.58	6.69	22.11	0.766	-117.1	1.06		
B3-T2-2	10.01	~~8.75~~ DRY						√	
B3-T3-1	9.96	9.25							
B3-T3-2	7.4	7.40/DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	DRY							
B3-T6-1	11.45	11.00							
B3-T6-2	12.34	11.35							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	2.9.09	0945	2.10.09	09:17	2.11.09	0842	2.12.09	0912	2.13.09	0916
	Rate (gpm) / Cumulative Total (gal)									
T-1	31.5	503,017	33.1	523,272	32.2	542,427	33.4	562,529	34.0	581,439
T-2	17.2	245,955	16.4	255,360	16.7	264,463	14.6	274,090	17.7	283,029
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	14.63	459,856	14.69	479,189	14.58	498,154	14.58	518,014	14.63	537,291
CS-MW16-CC	7.64	236,151	7.64	246,244	7.78	256,194	7.81	266,638	7.81	276,834

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

PB-1 - PB-2 = 44-36=8	PB-1 - PB-2 = 44-36=8	PB-1 - PB-2 = 44-36=8	PB-1 - PB-2 = 44-36=8	PB-1 - PB-2 = 40-40=0

Notes: Tank is 4/5 full
TP did not kick on

Tank is 3/4 full
TP did not kick on w/out help

Tank is 3/4 full
TP needed help

Tank is 3/5 full
TP needed help

MW-16-CC: 377.0
MW-16-LGR: 286.8

Tank is 3/4 full
MW-16-CC: 374.9
MW-16-LGR: 286.0

Week 94

Personnel	S. Elliott & J. Bovch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	2/13/09	0933	14.03	14.20 14.09	22.44
CS-WB05-LGR-02	182		0932		14.25 14.15	14.14
CS-WB05-LGR-03A	216		0931		14.30 14.16	14.17
CS-WB05-LGR-03B	262		0930		20.50 18.87	14.05
CS-WB05-LGR-04A	277		0929		27.00 25.38	21.76
CS-WB05-LGR-04B	329		0928		49.85 48.01	44.31
CS-WB05-BS-01	362		0927		64.00 62.36	58.93
CS-WB05-CC-01	432		0926		94.00 92.76	59.15
CS-WB05-CC-02	460		0925		106.85 104.92	71.54
CS-WB06-UGR-01	20		1009	14.05	14.20 14.08	16.15
CS-WB06-LGR-01	93		1008		14.20 14.12	15.39
CS-WB06-LGR-02	174		1007		14.30 14.15	17.73
CS-WB06-LGR-03A	207		1006		14.35 14.18	15.73
CS-WB06-LGR-03B	260		1005		22.81 22.31	42.02
CS-WB06-LGR-04	320		1004		48.80 48.36	43.85
CS-WB07-UGR-01	14		1026	14.05	14.20 14.07	14.76
CS-WB07-LGR-01	90		1025		14.25 14.11	17.81
CS-WB07-LGR-02	175		1024		14.20 14.15	24.04
CS-WB07-LGR-03A	208		1023		14.30 14.17	15.91
CS-WB07-LGR-03B	257		1022		16.70 14.27	37.12
CS-WB07-LGR-04	318		1021		43.22 42.83	42.81
CS-WB08-UGR-01	38		0951	14.03	14.20 14.07	14.09
CS-WB08-LGR-01	115		0950		14.25 14.11	22.28
CS-WB08-LGR-02	193		0948		14.25 14.14	16.66
CS-WB08-LGR-03A	228		0947		14.30 14.17	14.21
CS-WB08-LGR-03B	273		0947		20.55 19.72	15.40
CS-WB08-LGR-04	341	↓	0946		50.00 49.29	45.31

Personnel: J. Bouch; E. Tennyson

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	2·20·09	0943		14.20 14.24	22.42
CS-WB05-LGR-02	182		0941		14.25 14.28	14.28
CS-WB05-LGR-03A	216		0938		14.30 14.31	14.19
CS-WB05-LGR-03B	262		0937		20.50 20.84	16.15
CS-WB05-LGR-04A	277		0936	14.19	27.00 25.42	21.76
CS-WB05-LGR-04B	329		0935		49.85 48.05	44.33
CS-WB05-BS-01	362		0933		64.00 62.40	58.91
CS-WB05-CC-01	432		0931		94.00 92.81	59.78
CS-WB05-CC-02	460		0930	104.96	106.85 ~~104.35~~	72.19
CS-WB06-UGR-01	20	2·20·09	1024		14.20 14.20	16.31
CS-WB06-LGR-01	93		1023		14.20 14.24	16.42
CS-WB06-LGR-02	174		1022	14.17	14.30 14.28	17.74
CS-WB06-LGR-03A	207		1021		14.35 14.30	19.08
CS-WB06-LGR-03B	260		1020		22.81 24.20	41.98
CS-WB06-LGR-04	320		1017		48.80 48.46	43.76
CS-WB07-UGR-01	14	2·20·09	1047		14.20 14.21	14.87
CS-WB07-LGR-01	90		1045		14.25 14.24	17.81
CS-WB07-LGR-02	175		1043		14.20 14.27	24.05
CS-WB07-LGR-03A	208		1042	14.10	14.30 14.31	15.94
CS-WB07-LGR-03B	257		1041		16.70 18.15	37.09
CS-WB07-LGR-04	318		1037		43.22 42.89	42.77
CS-WB08-UGR-01	38	2·20·09	1006		14.20 14.20	14.19
CS-WB08-LGR-01	115		1005		14.25 14.25	22.41
CS-WB08-LGR-02	193		1003	14.19	14.25 14.29	14.67
CS-WB08-LGR-03A	228		1002		14.30 14.32	14.25
CS-WB08-LGR-03B	273		1000		20.55 21.63	15.32
CS-WB08-LGR-04	341		0958		50.00 49.39	45.23

2·20·09 | 18.90 | 15.77

2·20·09 | 22.41 | 41.97

2·20·09 | 16.35 | 37.13

2·20·09 | 19.82 | 15.34

2/17/09 @ 945

2/18 @ 1039

2·18·09 @ 1300

2·18·09 @ 0950

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: S. Elliott ; J. Bouch ; E. Galbavy

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 2-19-09		Time: 1005							
B3-T1-1	12.9	9.38	6.30	22.45	0.640	-279.7	0.49		1140
B3-T1-2	12.4	8.81	6.36	22.17	0.618	-242.8	0.40		1230
B3-T1-3	12.85	8.64	6.40	22.18	~~0.618~~ 0.541	-269.2	0.32	✓	1310
B3-T2-1	9.67	8.80	6.63	22.35	0.550	-109.7	1.50	✓	1015
B3-T2-2	10.01	—							
B3-T3-1	9.96	9.24	6.29	27.22	0.641	-172.9	0.80		
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	11.02							
B3-T6-2	12.34	11.84							
B3-UIC			6.23	23.52	0.438	-23.7	6.09		(2) 1400

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	02/16/09	0755	2-17-09	0855	2-18-09	0855	2-19-09	1000	2-20-09	
	Rate (gpm) / Cumulative Total (gal)			654325						
T-1	11.5 / 32.2	633,588	32.8	~~347,895~~	33.8	674317	34.1	694677	33.1	714158
T-2	5.59 / 16.1	309,501	14.4	319,507	14.3	323,040	14.6	336,980	16.1	345,370
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.81	304889	0/	316,125	7.59	326,196	7.57	336,995	7.78	346,659
CS-MW16-CC	14.74	590326	0/	611,604	14.52	630743	14.69	651157	14.63	669,823

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

PB-1 - PB-2 = 41-40=1	PB-1 - PB-2 = 42-40=2	PB-1 - PB-2 = 42-40=2	PB-1 - PB-2 = 42-40=2	PB-1 - PB-2 = 42-38=4

Notes:

- MW16-LGR = 281.4
- MW16-CC = 367.2
- tank = 5/8 full

- MW16-LGR = 272.1
- MW16-CC = 329.3
- tank 4/5 full
- TP kicked on

- Tank = 3/4 full
- TP did not turn on

- MW16-LGR = 286.8
- MW16-CC = 376.0
- Tank = 4/5 full

- MW-16 LGR = 285.0
- MW-16 CC = 377.7
- Tank = 3/4 full

Week 95

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: 2.23.09		Time: 0935							
B3-T1-1	12.9	9.47	6.40	23.00	0.828	-229.9	0.40		
B3-T1-2	12.4	9.00	6.45	22.32	0.917	-243.6	0.38		
B3-T1-3	12.85	8.94	6.47	21.90	0.781	-239.5	0.30	✓	
B3-T2-1	9.67	8.84	6.59	22.89	0.784	-57.6	1.08		
B3-T2-2	10.01	DRY						✓	
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	11.02							
B3-T6-2	12.34	11.85							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	2.23.09	0920	2.24.09	0830	2.25.09	0905	2.26.09	0840	2.27.09	0930
Rate (gpm) / Cumulative Total (gal)										
T-1	32.8	767,645	32.0	786,749	33.3	807,122	33.1	826,635	847,10	30.7
T-2	14.3	346,443	15.3	374,936	15.8	383,877	13.8	392,715	14.6	401,082
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.76	374,159	7.81	384,132	7.81	394,824	7.96	405,096	Ø	415,497
CS-MW16-CC	14.44	722,108	14.69	740,881	14.63	760,733	14.58	779,985	Ø	799,111

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

PB-1 - PB-2 = 44-40 = 4	PB-1 - PB-2 = 44-38 = 6	PB-1 - PB-2 = 44-38 = 6	PB-1 - PB-2 = 44-38 = 6	PB-1 - PB-2 = 44-38 = 6

Notes: Tank is 4/5 full

Transfer Pump kicked on

MW16-LGR = 287.1

MW16-CC = 374.6

MW16-LGR = 287.1

MW16-CC = 374.8

Tank = 4/5 full

TP did not kick on

MW16-LGR = 287.8

MW16-CC = ~~357.4~~ 375.6

Tank 4/5 full

Week ~~#6~~ 7

TP kicked on

MW16-LGR = ~~287.4~~

MW16-CC = 375.4

Tank 4/5 full

TP did not kick on w/out help

Tank = 3/4 full

TP kicked on

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	2/24/09	1424	14.03	14.20 14.07	22.47
CS-WB05-LGR-02	182		1423		14.25 14.10	14.14
CS-WB05-LGR-03A	216		1422		14.30 14.15	14.29
CS-WB05-LGR-03B	262		1421		20.50 18.70	15.96
CS-WB05-LGR-04A	277		1420		27.00 25.23	21.58
CS-WB05-LGR-04B	329		1419		49.85 47.88	44.17
CS-WB05-BS-01	362		1418		64.00 62.25	58.83
CS-WB05-CC-01	432		1417		94.00 92.66	58.74
CS-WB05-CC-02	460		1416		106.85 104.81	71.13
CS-WB06-UGR-01	20		1501	14.03	14.20 14.01	16.08
CS-WB06-LGR-01	93		1500		14.20 14.07	16.28
CS-WB06-LGR-02	174		1459		14.30 14.09	17.68
CS-WB06-LGR-03A	207		1458		14.35 14.09	18.99
CS-WB06-LGR-03B	260		1457		22.81 22.23	41.93
CS-WB06-LGR-04	320		1456		48.80 48.31	43.67
CS-WB07-UGR-01	14		1518	14.01	14.20 14.05	14.69
CS-WB07-LGR-01	90		1517		14.25 14.06	17.88
CS-WB07-LGR-02	175		1516		14.20 14.10	24.02
CS-WB07-LGR-03A	208		1515		14.30 14.11	15.86
CS-WB07-LGR-03B	257		1514		16.70 16.14	37.13
CS-WB07-LGR-04	318		1513		43.22 42.75	42.66
CS-WB08-UGR-01	38		1445	13.99	14.20 14.06	14.06
CS-WB08-LGR-01	115		1444		14.25 14.06	22.26
CS-WB08-LGR-02	193		1442		14.25 14.10	16.63
CS-WB08-LGR-03A	228		1441		14.30 14.12	14.21
CS-WB08-LGR-03B	273		1440		20.55 19.63	15.21
CS-WB08-LGR-04	341		1438		50.00 49.25	45.13

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch, A. Lindley, W.S. Pearson

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: 3/3/08		Time: 1300							
B3-T1-1	12.9	9.19	6.89	22.55	1.024	-236.5	0.36		
B3-T1-2	12.4	8.96	6.45	22.35	0.961	-249.3	0.38	✓	
B3-T1-3	12.85	8.96	6.43	22.65	0.894	-223.2	0.44		
B3-T2-1	9.67	8.74	6.74	22.63	0.828	-77.6	1.38	✓	
B3-T2-2	10.01	dry							
B3-T3-1	9.96	9.23							
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	11.84							
B3-T6-2	12.34	11.85							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3.2.09	0814	3.3.09	0831	3.4.09	0830	3.5.09	0845	3.6.09	0903
Rate (gpm) / Cumulative Total (gal)										
T-1	899,327	32.7	28.6	919,879	31.1	937,793	34.2	958,326	34.0	979,137
T-2	13.0	421,505	14.2	431,149	14.8	440,071	14.8	448,793	14.7	456,997
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.92	442,884	7.98	452,931	8.04	462,799	7.92	472,856	7.92	482,929
CS-MW16-CC	14.69	847,654	14.63	869,306	14.8	888,878	14.80	908,812	14.85	928,815

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

PB-1 - PB-2 = 44-38=6	PB-1 - PB-2 = 44-36=8	PB-1 - PB-2 = 44-36=8	PB-1 - PB-2 = 40-40=0	PB-1 - PB-2 = 42-40=2

Notes:
- Tank is full TP turned on MW16-LGR=287.9 MW16-CC=375.2
- Tank is 3/4 full TP kicked on MW16-LGR=287.4 MW16-CC=375.6
- Tank 4/5 full MW16-LGR=287.6 MW16-CC=376.3 Week 97
- Tank = 4/5 full changed bag filter
- Tank = 3/4 full

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	3/3/09	1340	14.09	14.20 14.15	22.44
CS-WB05-LGR-02	182		1338		14.25 14.19	14.24
CS-WB05-LGR-03A	216		1336		14.30 14.20 ~~14.2~~ AL	14.29 ~~15.85~~ AL
CS-WB05-LGR-03B	262		1335		20.50 18.71	15.99
CS-WB05-LGR-04A	277		1334		27.00 25.25	21.56
CS-WB05-LGR-04B	329		1332		49.85 47.91	44.14
CS-WB05-BS-01	362		1331		64.00 62.27	58.79
CS-WB05-CC-01	432		1330		94.00 92.68 AC	58.50
CS-WB05-CC-02	460		1328		106.85 104.84	70.87
CS-WB06-UGR-01	20		1324	14.10	14.20 14.10	16.51
CS-WB06-LGR-01	93		1323		14.20 14.14	16.32
CS-WB06-LGR-02	174		1322		14.30 14.20	17.68
CS-WB06-LGR-03A	207		1321		14.35 14.19	18.97
CS-WB06-LGR-03B	260		1320		22.81 22.28	41.91
CS-WB06-LGR-04	320		1319		48.80 48.39	43.62
CS-WB07-UGR-01	14		1356	14.10	14.20 14.13	14.76
CS-WB07-LGR-01	90		1355		14.25 14.14	17.86
CS-WB07-LGR-02	175		1354		14.20 14.18	23.97
CS-WB07-LGR-03A	208		1353		14.30 14.19	15.84
CS-WB07-LGR-03B	257		1350		16.70 16.22	37.11
CS-WB07-LGR-04	318		1345		43.22 42.82	42.64
CS-WB08-UGR-01	38		1414	14.05	14.20 14.12	14.15
CS-WB08-LGR-01	115		1412		14.25 14.15	22.32
CS-WB08-LGR-02	193		1410		14.25 14.17	16.64
CS-WB08-LGR-03A	228		1408		14.30 14.17	14.23
CS-WB08-LGR-03B	273		1407		20.55 19.67	15.19
CS-WB08-LGR-04	341		1405		50.00 49.31	45.07

14.20 | 14.29

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch; S. Elliott A. Liddle

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: 3/10/09		Time: 0840							
B3-T1-1	12.9	9.32	6.48	23.02	0.940	-250.3	0.42	✓	
B3-T1-2	12.4	9.05	6.59	22.99	0.916	-264.6	0.44		
B3-T1-3	12.85	8.95	6.53	22.86	0.818	-226.9	0.39		
B3-T2-1	9.67	8.68	6.60	23.59	0.835	-188.0	~~0.36~~ (RE) 0.41	✓	
B3-T2-2	10.01	dry							
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	11.03							
B3-T6-2	12.34	11.82							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3.9.09	0853	3/10/09	0710	3/11/09	0800	3.12.09	0944	3.13.09	
	Rate (gpm) / Cumulative Total (gal)									
T-1	31.1	1,034,146	33.2	1052502	12.3/31.5	1072551	31.3	1094667	33.2	1113986
T-2	14.1	489176	13.7	487937	4.35/15.5	495,709	13.3	504,503	13.1	512,494
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	8.09	510713	8.19797	7.98	7.87	529967	8.09	540,098	Ø	550654
CS-MW16-CC	14.74	982026	107.98	15.02	14.96	20441	14.91	413278	Ø	550,438

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

PB-1 - PB-2 = 42-40 = 2	PB-1 - PB-2 = 41-40 = 1	PB-1 - PB-2 = 42-40 = 2	PB-1 - PB-2 = 42-40 = 2	PB-1 - PB-2 = 42-40 = 2

Notes:

Tank is 3/5 full

TP did not kick on/out help

Flipped Tank 5/8 full

tank = 7/8
MW16-LGR = 287.5
MW16-CC = 377.2
rain ☺

Tank 3/5 full
MW16-LGR = 289.0
MW16-CC = 379.2
significant rain in a.m.

Tank is 3/4 full

Week 98

Personnel	S. Elliott & A. Lindley

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	3/10/09	0736	13.95	14.20 14.04	22.33
CS-WB05-LGR-02	182		0735		14.25 14.09	14.10
CS-WB05-LGR-03A	216		0734		14.30 14.13	14.18
CS-WB05-LGR-03B	262		0733		20.50 18.61	15.90
CS-WB05-LGR-04A	277		0732		27.00 25.14	21.65
CS-WB05-LGR-04B	329		0731		49.85 47.76	44.25
CS-WB05-BS-01	362		0730		64.00 62.11	58.80
CS-WB05-CC-01	432		0729		94.00 92.51	60.17
CS-WB05-CC-02	460		0728		106.85 104.67	72.58
CS-WB06-UGR-01	20		0805	14.00	14.20 14.04	16.12
CS-WB06-LGR-01	93		0804		14.20 14.08	16.22
CS-WB06-LGR-02	174		0803		14.30 14.11	17.73
CS-WB06-LGR-03A	207		0802		14.35 14.13	18.97
CS-WB06-LGR-03B	260		0801		22.81 22.20	41.85
CS-WB06-LGR-04	320		0800		48.80 48.25	43.55
CS-WB07-UGR-01	14		0818	14.02	14.20 14.03	14.67
CS-WB07-LGR-01	90		0817		14.25 14.08	17.81
CS-WB07-LGR-02	175		0816		14.20 14.12	23.90
CS-WB07-LGR-03A	208		0815		14.30 14.14	15.88
CS-WB07-LGR-03B	257		0814		16.79 16.16	37.08
CS-WB07-LGR-04	318		0813		43.22 42.70	42.63
CS-WB08-UGR-01	38		0751	13.98	14.20 14.03	14.03
CS-WB08-LGR-01	115		0750		14.25 14.06	22.07
CS-WB08-LGR-02	193		0749		14.25 14.11	15.19
CS-WB08-LGR-03A	228		0748		14.30 14.12	14.15
CS-WB08-LGR-03B	273		0747		20.55 19.61	15.20
CS-WB08-LGR-04	341	↓	0746		50.00 49.17	45.03

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch - A Lindley

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 3.19.09		Time: 0845							3.19.09
B3-T1-1	12.9	9.39	6.56	22.23	0.998	-207.1	0.43		@ 0850
B3-T1-2	12.4	8.90	6.59	21.50	0.804	-222.5	0.36		@ 1110
B3-T1-3	12.85	8.62	22.04 → 6.62		0.980	-263.9	0.28		@ 1100
B3-T2-1	9.67	8.77	6.81	22.48	0.815	-9.5	1.31		@ 0940
B3-T2-2	10.01	9.50							
B3-T3-1	9.96	9.18							
B3-T3-2	7.4	dry							
B3-T4-1	6.32	6.25							
B3-T5-1	9.33	9.33 DRY							
B3-T5-2	7.98	7.88							
B3-T6-1	11.45	11.06							
B3-T6-2	12.34	11.90							
B3-UIC			7.37	22.54	0.628	-19.5	5.20		1120 sample

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3/16/09	0810	3.17.09	0823	3/18/09	0830	3.19.09	0837	3-20-09	0847
Rate (gpm) / Cumulative Total (gal)										
T-1	11.9 / 32.6	465,204	32.4	1185,023	33.4	1,205598	28.6	1224,716 2	10.2/28.5	1243555
T-2	4.55 / 13.8	532,663	12.6	540,942	13.4	549,010	14.1	557,719	5.2/15.2	566930
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	7.92	577,404	7.98	588,047	Ø	598,597	7.87	608,881	Ø	618669
CS-MW16-CC	14.96	110,788	14.80	130,714	Ø	150,529	14.91	169884	Ø	189507

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 = 43-38 = 5	PB-1 - PB-2 = 44-38 = 6	PB-1 - PB-2 = 44-38 = 6	PB-1 - PB-2 = 44-40 = 4	PB-1 - PB-2 = 44-41 = 3

Notes:

tank = 3/4 full
MW16 - LGR = 285.8
MW16 - CC = 374.3

TP kicked on
Tank = Full
MW14 - LGR = 288.1
MW-16 - CC = 378.2

Tank = full

MW 16 - LGR = 287.6
MW 16 - CC = 377.3
Tank = full
TP kicked on

TANK = 7/8 full
put TP on 'Auto' - went on OK.

Week 99

Personnel	J. Bouch, A. Lindsey

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	3/18/09	0853	14.02	14.20 14.11	22.32	
CS-WB05-LGR-02	182		0852		14.25 14.15	14.17	
CS-WB05-LGR-03A	216		0851		14.30 14.16	14.22	
CS-WB05-LGR-03B	262		0850		20.50 18.65	16.09	3.18.09 @ 0915
CS-WB05-LGR-04A	277		0849		27.00 25.18	21.91	
CS-WB05-LGR-04B	329		0848		49.85 47.86	44.50	
CS-WB05-BS-01	362		0847		64.00 62.22	59.07 5 (#2)	
CS-WB05-CC-01	432		0846		94.00 92.62	60.05	
CS-WB05-CC-02	460		0844		106.85 104.77	71.94	
CS-WB06-UGR-01	20		1321	14.05	14.20 14.06	16.33	
CS-WB06-LGR-01	93		1320		14.20 14.13	16.26	
CS-WB06-LGR-02	174		1319		14.30 14.16	17.66	
CS-WB06-LGR-03A	207		1318		14.35 14.17	18.97	
CS-WB06-LGR-03B	260		1317		22.81 22.24	41.91	3.18.09 @ 1330
CS-WB06-LGR-04	320		1316		48.80 48.34	44.13	
CS-WB07-UGR-01	14		1400	14.05	14.20 14.09	14.84	
CS-WB07-LGR-01	90		1359		14.25 14.12	17.80	
CS-WB07-LGR-02	175		1358		14.20 14.14	23.86	
CS-WB07-LGR-03A	208		1357		14.30 14.14	15.79	3.18.09
CS-WB07-LGR-03B	257		1356		16.70 16.15	37.07	@ 1410
CS-WB07-LGR-04	318		1354		43.22 42.78	42.99	
CS-WB08-UGR-01	38		1022	14.07	14.20 14.11	14.13	
CS-WB08-LGR-01	115		1018		14.25 14.14	22.19	
CS-WB08-LGR-02	193		1017		14.25 14.17	16.60	
CS-WB08-LGR-03A	228		1015		14.30 14.20	14.19	
CS-WB08-LGR-03B	273		1013		20.55 19.56	15.59	3.18.09 @ 1030
CS-WB08-LGR-04	341		1010		50.00 49.20	~~48.01~~ (VAS) 45.61	

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch ; S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 3.27.09		Time: 1110							
B3-T1-1	12.9	9.64	6.53	23.09	1.002	-245.3	0.42		
B3-T1-2	12.4	9.18	6.55	22.88	0.972	-278.1	0.37	✓	
B3-T1-3	12.85	8.98	6.54	22.90	0.825	-243.1	0.36		
B3-T2-1	9.67	8.61	6.62	23.44	0.854	-135.6	0.46		
B3-T2-2	10.01	9.54						✓	
B3-T3-1	9.96	9.20							pH = 6.82
B3-T3-2	7.4	DRY							cond = 0.810
B3-T4-1	6.32	DRY							DO = 2.68 | 2.42
B3-T5-1	9.33	9.33							ORP = -100.2
* B3-T5-2	7.98	6.62	6.60	22.58	0.943	-158.8	0.53		Temp = 22.95
B3-T6-1	11.45	11.04							drill water at 102'
B3-T6-2	12.34	11.93							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3.23.09		3.24.09 0922		3.25.09 0930		3.26.09	0800	3.27.09	0953
			1303318		Rate (gpm) / Cumulative Total (gal)					
T-1	1286695	26.5	~~1303318~~	26.7	1319517	27.7	9.12 / 26.8	1335466	26.6	1352927
T-2	589196	14.3	598037	14.2	606468	13.7	4.56 / 14.0	614748	13.4	623341
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	643649	7.98	652728	8.09	662279	8.04	8.15	671101	7.98	680928
CS-MW16-CC	236249	14.96	253283	15.02	271156	14.96	15.18	287630	15.07	306097

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

	Monday	Tuesday	Wednesday	Thursday	Friday
PB-1 - PB-2 =	44-42=2	44-42=2	44-42=2	44-42=2	44-42=2

Notes:
- Monday: MW16-LGR = 286.0; MW16-CC = 370.2; TP kicked on; Tank is full
- Tuesday: Tank is 3/4 full
- Wednesday: MW16-LGR = 286.6; MW16-CC = 371.8; Tank is full
- Thursday: tank = 3/4 full; MW16-LGR = 285.2; MW16-CC = 369.6
- Friday: Tank = 3/4 full

Week 100

* Drilling of extraction well in Trench 5/6 started 3/19/09

Personnel	S. Elliott & J. Bosch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	3/27/09	1015	13.76	14.20 13.85	22.18
CS-WB05-LGR-02	182		1014		14.25 13.90	13.95
CS-WB05-LGR-03A	216		1013		14.30 13.92	14.07
CS-WB05-LGR-03B	262		1012		20.50 18.29	15.84
CS-WB05-LGR-04A	277		1011		27.00 24.84	21.71
CS-WB05-LGR-04B	329		1010		49.85 47.49	44.40
CS-WB05-BS-01	362		1009		64.00 61.84	58.86
CS-WB05-CC-01	432		1008		94.00 92.25	64.88
CS-WB05-CC-02	460		1007		106.85 104.42	76.77
CS-WB06-UGR-01	20		1044	13.82	14.20 13.83	15.98
CS-WB06-LGR-01	93		1043		14.20 13.07	16.03
CS-WB06-LGR-02	174		1042		14.30 13.91	17.72
CS-WB06-LGR-03A	207		1041		14.35 13.93	18.97
CS-WB06-LGR-03B	260		1040		22.81 21.96	41.91
CS-WB06-LGR-04	320		1039		48.80 48.05	43.70
CS-WB07-UGR-01	14		1100	13.84	14.20 13.87	14.57
CS-WB07-LGR-01	90		1059		14.25 13.88	17.69
CS-WB07-LGR-02	175		1058		14.20 13.90	23.71
CS-WB07-LGR-03A	208		1057		14.30 13.93	15.79
CS-WB07-LGR-03B	257		1056		16.70 15.84	37.04
CS-WB07-LGR-04	318		1055		43.22 42.47	42.76
CS-WB08-UGR-01	38		1028	13.80	14.20 13.83	13.84
CS-WB08-LGR-01	115		1027		14.25 13.86	21.69
CS-WB08-LGR-02	193		1026		14.25 13.90	16.59
CS-WB08-LGR-03A	228		1025		14.30 13.91	14.05
CS-WB08-LGR-03B	273		1024		20.55 19.27	15.24
CS-WB08-LGR-04	341		1023		50.00 48.90	45.18

Personnel	S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	4/2/09	1112	13.88	14.20 13.94	22.11
CS-WB05-LGR-02	182		1111		14.25 13.97	13.97
CS-WB05-LGR-03A	216		1110		14.30 14.00	14.04
CS-WB05-LGR-03B	262		1109		20.50 18.31	15.92
CS-WB05-LGR-04A	277		1108		27.00 24.88	21.71
CS-WB05-LGR-04B	329		1107		49.85 47.55	44.36
CS-WB05-BS-01	362		1106		64.00 61.89	58.88
CS-WB05-CC-01	432		1105		94.00 92.30	64.07
CS-WB05-CC-02	460		1104		106.85 104.46	76.49
CS-WB06-UGR-01	20		1148	13.92	14.20 13.93	15.92
CS-WB06-LGR-01	93		1147		14.20 13.95	16.07
CS-WB06-LGR-02	174		1146		14.30 14.01	20.55
CS-WB06-LGR-03A	207		1145		14.35 14.04	21.24
CS-WB06-LGR-03B	260		1144		22.81 22.05	44.18
CS-WB06-LGR-04	320		1139		48.80 48.13	43.57
CS-WB07-UGR-01	14		1203	13.91	14.20 13.96	14.64
CS-WB07-LGR-01	90		1202		14.25 14.00	17.62
CS-WB07-LGR-02	175		1201		14.20 14.02	24.58
CS-WB07-LGR-03A	208		1200		14.30 14.05	15.92
CS-WB07-LGR-03B	257		1159		16.70 15.93	37.19
CS-WB07-LGR-04	318	1158	~~1134~~	42.55	43.22 ~~48.13~~	~~43.57~~ (SD) 42.64
CS-WB08-UGR-01	38		1128	13.87	14.20 13.93	14.00
CS-WB08-LGR-01	115		1127		14.25 13.98	21.91
CS-WB08-LGR-02	193		1126		14.25 14.00	16.59
CS-WB08-LGR-03A	228		1125		14.30 14.02	14.07
CS-WB08-LGR-03B	273	✓	1123		20.55 19.36	15.20
CS-WB08-LGR-04	341		1122		50.00 48.96	45.04

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: 4·1·09		Time: 1450							
B3-T1-1	12.9	9.50	6.49	23.06	0.613	-175.6	0.39		
B3-T1-2	12.4	9.17	6.48	23.05	0.621	-160.8	0.43		
B3-T1-3	12.85	9.97	6.47	22.82	0.555	-141.8	0.46	✓	
B3-T2-1	9.67	8.72	6.65	23.51	0.527	-51.3	0.55		
B3-T2-2	10.01	9.65						✓	
B3-T3-1	9.96	9.21							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	6.20							
B3-T6-1	11.45	11.06							
B3-T6-2	12.34	11.84							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	3·30·09	1134	3·31·09	0900	4·1·09	0924	4·2·09	1054	4·3·09	1000
	Rate (gpm) / Cumulative Total (gal) (1,411,071)									
T-1	25.0	1395039	26.7	~~1411071~~	25.6	1429179	24.6	1445160	25.1	1460736
T-2	13.9	647133	12.8	655752	11.3	665269	17.6	673115	12.7	681033
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	8.04	705934	8	714610	7.98	724282	8.32	733594	8.04	742092
CS-MW16-CC	14.85	353330	8	369649	14.96	387735	15.18	405056	14.96	422702

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

PB-1 - PB-2 = 44-42=2 (SPS)	PB-1 - PB-2 = 44-42=2	PB-1 - PB-2 = 44-40=4	PB-1 - PB-2 = 44-42=2	PB-1 - PB-2 =

Notes:

Tank is full
TP kicked on

Tank is 3/4 full
TP kicked on
16 LGR = 262.9
16 CC = 316.2

Tank 3/4 full
TP did not kick on

Week 10!
16 LGR = 286.7
16 CC = 370.4

Tank is 3/5 full
TP did not kick on

Tank is 3/4 full
TP did not kick on

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: 4.9.09		Time: 1515							
B3-T1-1	12.9	9.44	6.36	23.21	0.578	-220.9	0.41		
B3-T1-2	12.4	9.14	6.36	23.32	0.633	-221.6	0.40		
B3-T1-3	12.85	9.02	6.34	23.07	0.562	-192.1	0.45 (0.53)	✓	
B3-T2-1	9.67	8.69	6.55	23.67	0.518	-108.0	0.50 (0.53)		
B3-T2-2	10.01	9.70						✓	
B3-T3-1	9.96	9.23							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	7.5							
B3-T6-1	11.45	DRY							
B3-T6-2	12.34	11.84							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.6.09	1305	4.7.09	0916	4.8.09	0923	4.9.09	0853	4-10-09	0750
Rate (gpm) / Cumulative Total (gal)										
T-1	24.9	1506291	24.2	1,520,340	25.3	1534305	25.0	1552532	22.2	1566937
T-2	14.2	704,142	13.9	716,666	13.3	720062	17.9	729,127	14.7	738581
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	8.04	767282	8.15	774904	8.04	783873	8.04	793138	7.99	1955
CS-MW16-CC	15.02	470250	15.12	484,577	14.96	502420	15.12	519756	15.12	536336

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

PB-1 - PB-2 = 46-42=4	PB-1 - PB-2 = 44-42=2	PB-1 - PB-2 = 45-43=0	PB-1 - PB-2 = 46-42=4	PB-1 - PB-2 = 46-43=3

Notes: Tank is 3/4 full | Tank is 3/4 full | Tank is 4/5 full | Tank is 4/5 full | Tank 13/16

16 LGR: 280.9
16 CC: 362.0

Week 102

2748

Personnel	J. Bouch ; K. 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	4.8.09	1448	14.00	14.20 14.05	22.23
CS-WB05-LGR-02	182		1447		14.25 14.07	14.14
CS-WB05-LGR-03A	216		1446		14.39 14.09	14.24
CS-WB05-LGR-03B	262		1444		20.50 18.35	16.14
CS-WB05-LGR-04A	277		1443		27.00 24.92	22.09
CS-WB05-LGR-04B	329		1441		49.85 47.66	63.92
CS-WB05-BS-01	362		1440		64.00 61.93	59.12
CS-WB05-CC-01	432		1439		94.00 92.34	60.07
CS-WB05-CC-02	460		1437		106.85 104.50	72.43
CS-WB06-UGR-01	20	4.8.09	1527	13.98	14.20 14.00	15.97
CS-WB06-LGR-01	93		1524		14.20 14.03	16.21
CS-WB06-LGR-02	174		1523		14.30 14.08	22.68
CS-WB06-LGR-03A	207		1521		14.35 14.09	21.97
CS-WB06-LGR-03B	260		1519		22.81 22.07	44.89
CS-WB06-LGR-04	320		1516		48.80 49.15	44.82
CS-WB07-UGR-01	14	4.8.09	1542	13.98	14.20 14.01	15.27
CS-WB07-LGR-01	90		1540		14.25 14.04	17.74
CS-WB07-LGR-02	175		1539		14.20 14.06	24.79
CS-WB07-LGR-03A	208		1538		14.30 14.09	17.33
CS-WB07-LGR-03B	257		1536		16.70 15.98	38.60
CS-WB07-LGR-04	318		1534		43.22 42.57	43.79
CS-WB08-UGR-01	38	4.8.09	1505	13.95	14.20 14.01	15.53
CS-WB08-LGR-01	115		1504		14.25 14.04	22.37
CS-WB08-LGR-02	193		1503		14.25 14.07	17.36
CS-WB08-LGR-03A	228		1502		14.30 14.10	14.22
CS-WB08-LGR-03B	273		1501		20.55 19.39	15.97
CS-WB08-LGR-04	341		1500		50.00 49.01	46.61

Personnel	S. Elliott & J. Bouch

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	4/14/09	0930	14.05	14.20 14.13	22.12
CS-WB05-LGR-02	182		0929		14.25 14.14	14.16
CS-WB05-LGR-03A	216		0928		14.30 14.18	14.12
CS-WB05-LGR-03B	262		0927		20.50 18.42	16.26
CS-WB05-LGR-04A	277		0926		27.00 24.99	22.27
CS-WB05-LGR-04B	329		0925		49.85 47.66	44.96
CS-WB05-BS-01	362		0924		64.00 62.01	59.35
CS-WB05-CC-01	432		0923		94.00 92.41	65.92
CS-WB05-CC-02	460		0922		106.85 104.57	77.84
CS-WB06-UGR-01	20		1001	14.10	14.20 14.10	16.03
CS-WB06-LGR-01	93		1000		14.20 14.14	16.22
CS-WB06-LGR-02	174		0959		14.30 14.18	20.53
CS-WB06-LGR-03A	207		0958		14.35 14.20	21.12
CS-WB06-LGR-03B	260		0957		22.81 22.16	44.06
CS-WB06-LGR-04	320		0956		48.80 48.28	44.21
CS-WB07-UGR-01	14		1016	14.09	14.20 14.08	14.64
CS-WB07-LGR-01	90		1015		14.25 14.14	17.67
CS-WB07-LGR-02	175		1014		14.20 14.18	23.89
CS-WB07-LGR-03A	208		1013		14.30 14.20	16.58
CS-WB07-LGR-03B	257		1012		16.70 14.10	37.82
CS-WB07-LGR-04	318		1011		43.22 42.69	43.53
CS-WB08-UGR-01	38		0946	14.06	14.20 14.09	14.11
CS-WB08-LGR-01	115		0945		14.25 14.14	21.99
CS-WB08-LGR-02	193		0944		14.25 14.17	17.44
CS-WB08-LGR-03A	228		0943		14.30 14.18	14.14
CS-WB08-LGR-03B	273		0942		20.55 19.46	15.83
CS-WB08-LGR-04	341		0941		50.00 49.11	45.85

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J Bouch, S. Elliott

Trench Sumps Water Levels ('BTOC)

Sump ID	Sump Depth (ft BTOC)	Sump Water Level (ft BTOC)	pH	Temp. (deg. C)	SpCond. (mS/cm)	ORP	DO (mg/L)	Trench Currently Being Used (√)	Notes
Date: 4.14.09		Time: 1025							
B3-T1-1	12.9	10.35	6.46	23.44	0.884	-224.6	0.52		
B3-T1-2	12.4	9.91	6.44	23.22	1.000	-220.0	0.51	✓	
B3-T1-3	12.85	9.59	6.57	23.39	0.901	-209.1	0.41		
B3-T2-1	9.67	8.53	6.71	23.78	0.801	-96.6	0.73		
B3-T2-2	10.01	9.47	6.71	25.11	1.937	-124.3	0.52	✓	
B3-T3-1	9.96	9.20							
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	7.82							
B3-T6-1	11.45	11.04							
B3-T6-2	12.34	11.85							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.13.09	0917	4.14.09	0910	4.15.09	0825	4.16.09	0914	4.17.09	
Rate (gpm) / Cumulative Total (gal)										
T-1	21.7	1605434	20.7	1619567	21.3	1632865	19.6	1647925	7.71/21.0	1660200
T-2	13.2	758907	13.4	767652	13.3	775,563	14.6	784,039	4.05/13.2	791,703
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	8.15	824001	0	832637	0	840,623	8.60	848,764	8.1	857,160
CS-MW16-CC	15.12	577990	0	594009	0	608,765	15.51	623973	15.3	639730

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

Monday	Tuesday	Wednesday	Thursday	Friday
PB-1 - PB-2 = 46-44=2	PB-1 - PB-2 = 46-44=2	PB-1 - PB-2 = 46-44=0	PB-1 - PB-2 = 46-44=0	PB-1 - PB-2 = 48-45=3

Notes:
- 16 LGR = 283.4
- 16 CC = 363.1
- Tank is 3/4 full
- TP did not kick on

- 16 LGR = 276.8
- 16 CC = 324.8
- Tank is 4/5 full
- TP kicked on

Week 03

- Tank is 4/5 full
- TP kicked on

- Tank is 3/5 full
- * TP did not kick on in auto or w/ help
- * came back tank is 3/4 full - TP came on.

Personnel	J. Bonck; A Lindley

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	4.24.09	0926	14.03	14.20 14.10	22.13
CS-WB05-LGR-02	182		0922		14.25 14.13	14.12
CS-WB05-LGR-03A	216		0921		14.30 14.17	14.15
CS-WB05-LGR-03B	262		0918		20.50 16.33	16.10
CS-WB05-LGR-04A	277		0917		27.00 24.87	21.62
CS-WB05-LGR-04B	329		0915		49.85 47.54	44.18
CS-WB05-BS-01	362		0913		64.00 61.91	58.80
CS-WB05-CC-01	432		0911		94.00 92.37	66.01
CS-WB05-CC-02	460		0908		106.85 104.55	78.49
CS-WB06-UGR-01	20	4.24.09	1033	14.05 ~~14.04~~ JOB	14.20 14.06	14.02
CS-WB06-LGR-01	93		1032		14.20 14.11	14.24
CS-WB06-LGR-02	174		1030		14.30 14.14	21.62
CS-WB06-LGR-03A	207		1028		14.35 14.16	21.81
CS-WB06-LGR-03B	260		1026		22.81 22.0	44.71
CS-WB06-LGR-04	320		1024		48.80 48.10	42.95
CS-WB07-UGR-01	14	4.24.09	1102	14.05	14.20 14.07	14.58
CS-WB07-LGR-01	90		1059		14.25 14.10	17.72
CS-WB07-LGR-02	175		1057		14.20 14.15	24.06
CS-WB07-LGR-03A	208		1055		14.30 14.20	16.21
CS-WB07-LGR-03B	257		1053		16.70 15.92	37.42
CS-WB07-LGR-04	318		1050		43.22 42.53	42.33
CS-WB08-UGR-01	38	4.24.09	1006	14.04	14.20 14.08	14.06
CS-WB08-LGR-01	115		1003		14.25 14.11	22.21
CS-WB08-LGR-02	193		1001		14.25 14.14	16.90
CS-WB08-LGR-03A	228		0959		14.30 14.17	14.15
CS-WB08-LGR-03B	273		0956		20.55 19.26	15.01
CS-WB08-LGR-04	341		0954		50.00 ~~48.97~~ 49.90 JOB	~~57.~~ 44.47

Week 104

Bioreactor Monitoring

Yr

Personnel: J. Booda, A. Lindly, J. Kirk

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:		Time:							
B3-T1-1	12.9	10.60	6.39	23.55	0.645	-219.1	0.36	√	@ 1040
B3-T1-2	12.4	9.80	6.41	23.44	0.727	-221.0	0.33		@ 1358 - burst of air released from syringe after injecting into vial.
B3-T1-3	12.85	9.75	6.45	23.33	0.658	-213.2	0.35		@ 1500
B3-T2-1	9.67	8.45	6.54	24.10	0.609	-100.9	0.59	√	@ 1000
B3-T2-2	10.01	9.69							
B3-T3-1	9.96	9.26	6.04	27.17	0.587	-122.9	0.32		
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	11.21							
B3-T6-2	12.34	11.92							
B3-UIC			7.50	24.46	0.456	-39.6	6.52		@ 1600

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.20.09	0850	4.21.09	0936	4.22.09	0832	4.23.09	0845	4.24.09	0845
Rate (gpm) / Cumulative Total (gal)										
T-1	20.2	1,695,353	19.4	1709942	19.3	1722395	20.4	1,735497	7.04	1,748,611
T-2	14.2	811,329	13.3	820,645	12.9	828,707	13.7	836,928	4.16	845,380
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	8.09	878,135	Ø	886,657	Ø	894,689	Ø	902637	8.54	910,694
CS-MW16-CC	15.12	678732	Ø	694463	Ø	709314	Ø	724037	15.51	739,008

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

	Monday	Tuesday	Wednesday	Thursday	Friday
PB-1 - PB-2 =	46-45=1	48-46=1	48-44=4	47-44=3	

Notes: Tank = full | Tank is 3/4 full | Tank is 3/4 full | 3/4 full (tank)

4/30/09 - Float switch testing

1400 - turned off wells and opened valve at the end of trench 1 to drain tank faster, transfer pump running

1520 - transfer pump kicked off at 1/8 tank

- closed valve at the end of trench 1, turned wells back on, closed valve behind bag filter to allow tank to fill

1535 - checked bag filter, curious as to why the pressure is about 10 psi higher than normal, bag filter had a big hole in the bottom, suspect ~~we~~ wrong filter was used last time, replaced with 75 micron filter*

1600 - ran out of time, will continue float test next week, until then the transfer pump will remain off at night

* 75 micron filter was used last time bag filter was changed pressure still at 48 this morning on bag filter

Personnel J. Bouch, A. Lindley, J. Kirk, S. Elliott

Quarterly Monitoring

MPMWs	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Inside Pressure	Zone Pressure	
CS-WB05-LGR-01	99	4.29.09	1430	14.05	22.13	
CS-WB05-LGR-02	182	4.29.09	1358	14.10	14.10	← dry, no sample
CS-WB05-LGR03A	216	4.29.09	1350	14.12	14.16	← dry, no sample 4/20/09 sample 9:30 20.96 / 16.40 IP / ZP
CS-WB05-LGR03B	262	4/20/09	0930	20.46	16.40	
CS-WB05-LGR04A	277	4.29.09	1330	26.43	21.84	
CS-WB05-LGR04B	329	4.29.09	1100	49.14	44.33	
CS-WB05-BS-01	362	4.29.09	1000	63.57	58.81	
CS-WB05-CC-01	432	4.28.09	1345	94.25	62.86	
CS-WB05-CC-02	460	4.28.09	1145	106.55	76.46	
CS-WB06-UGR-01	20	4.23.09	1235	14.03	15.96	
CS-WB06-LGR-01	93	4.23.09	1000	14.06	16.22	
CS-WB06-LGR-02	174	4.23.09	0900	14.10	19.50	
CS-WB06-LGR03A	207	4.22.09	1300	14.12	20.17	
CS-WB06-LGR03B	260	4/20/09	1355	24.12	43.30	
CS-WB06-LGR-04	320	4/22/09	1030	50.02	43.81	
CS-WB07-UGR-01	14	4.28.09	—	14.11	14.57	Dry ✱
CS-WB07-LGR-01	90	4.28.09	1005	14.13	17.70	
CS-WB07-LGR-02	175	4.28.09	1120	14.13	24.44	
CS-WB07-LGR03A	208	4.27.09	0940	14.11	16.59	
CS-WB07-LGR03B	257	4.20.09	1240	~~22.32~~	37.46	4.20.09 sample ② 1240
CS-WB07-LGR-04	318	4.23.09 ~~4/22/09~~ ② ~~1030~~	1400	44.50	42.36	
CS-WB08-UGR-01	38	4.22.09	—	14.06	14.05	Dry ✱
CS-WB08-LGR-01	115	4.22.09	0900	14.16	22.09	
CS-WB08-LGR-02	193	4/21/09	1420	14.09	17.29	
CS-WB08-LGR03A	228	4/21/09	—	14.07	14.14	DRY ✱
CS-WB08-LGR03B	273	4/21/09	0955	21.46	15.58	
CS-WB08-LGR-04	341	4/21/09	1130	50.96	45.48	

Monitroing Wells	Sample Date	Sample Time	pH	Temp	SpCond	ORP	DO
B3-MW01	4/20/09	1445	7.23	21.59	2.000	-12.8	1.19
CS-D	↓	dry					
CS-MW16-LGR		0915	7.47	22.15	0.547	97.0	2.13
CS-MW16-CC		1015	7.40	22.93	0.635	1.0	3.30
CS-MW1-LGR	↓	1345	7.32	21.55	0.518	52.8	4.08

Personnel: J. Bouch; E Tennyson

Weekly Water Level Monitoring

Well Interval	Sampling Port Depth (ft BTOC)	Sample Date	Sample Time	Pressure at TOC (psi)	Pressure in MP (psi)	Zone Pressure (psi)
CS-WB05-LGR-01	99	5-1-09	1436	14.01	14.20 14.06	21.88
CS-WB05-LGR-02	182		1435		14.25 14.10	14.14
CS-WB05-LGR-03A	216		1434		14.30 14.13	14.17
CS-WB05-LGR-03B	262		1433		20.50 17.83	16.15
CS-WB05-LGR-04A	277		1432		27.00 24.34	22.04
CS-WB05-LGR-04B	329		1429		49.85 46.97	44.35
CS-WB05-BS-01	362		1428		64.00 61.31	59.01
CS-WB05-CC-01	432		1427		94.00 91.71	66.0
CS-WB05-CC-02	460		1426		106.85 103.89	78.40
CS-WB06-UGR-01	20	5-1-09	1517	14.03	14.20 14.0	15.96
CS-WB06-LGR-01	93		1516		14.20 14.04	16.22
CS-WB06-LGR-02	174		1514		14.30 14.09	22.0
CS-WB06-LGR-03A	207		1513		14.35 14.11	21.95
CS-WB06-LGR-03B	260		1512		22.81 21.91	44.85
CS-WB06-LGR-04	320		1510		48.80 47.97	43.16
CS-WB07-UGR-01	14	5-1-09	1540	14.03	14.20 14.00	1440
CS-WB07-LGR-01	90		1538		14.25 14.03	17.65
CS-WB07-LGR-02	175		1537		14.20 14.07	24.32
CS-WB07-LGR-03A	208		1535		14.30 14.09	16.70
CS-WB07-LGR-03B	257		1534		16.70 15.84	37.90
CS-WB07-LGR-04	318		1530		43.22 42.78	42.52
CS-WB08-UGR-01	38	5-1-09	1459	14.00	14.20 14.02	14.02
CS-WB08-LGR-01	115		1457		14.25 14.05	22.04
CS-WB08-LGR-02	193		1456		14.25 14.08	17.45
CS-WB08-LGR-03A	228		1455		14.30 14.11	14.10
CS-WB08-LGR-03B	273		1454		20.55 19.16	15.28
CS-WB08-LGR-04	341		1451		50.00 48.74	44.60

SWMU B-3 Tree Mulch Bioreactor

Bioreactor Monitoring

Personnel: J. Bouch, S. Elliott, J. Kirk

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: 5.1.09		Time: 1400							
B3-T1-1	12.9	10.68	6.27	24.12	0.580	-201.0	0.47		
B3-T1-2	12.4	10.54	6.24	23.94	0.652	-189.3	0.46	✓	
B3-T1-3	12.85	10.40	6.34	23.80	0.564	-179.8	0.41		
B3-T2-1	9.67	8.58	6.43	24.56	0.550	-201.0	0.56		
B3-T2-2	10.01	9.70					✓	✓	
B3-T3-1	9.96	9.22	6.23	27.31	0.556	-184.8	0.49		
B3-T3-2	7.4	DRY							
B3-T4-1	6.32	DRY							
B3-T5-1	9.33	DRY							
B3-T5-2	7.98	7.03							
B3-T6-1	11.45	11.05							
B3-T6-2	12.34	11.85							
B3-UIC									

B-3 Transfer System Monitoring

Flow Meters Readings

Meter	Monday		Tuesday		Wednesday		Thursday		Friday	
Date/Time:	4.27.09	0900	4.28.09	0930	4.29.09	0844	4.30.09	0845	5.1.09	1024
Rate (gpm) / Cumulative Total (gal)										
T-1	19.6	1779669	19.3	1792772	5.83	1,804,541	4.71/16.1	1,806,660	11.6	1911,149
T-2	14.0	865,665	12.5	874,313	4.33	882,804	8.65/12.6	884,404	11.4	890,157
T-3										
T-4										
T-5										
T-6										
B-3 (Total)										
CS-MW16-LGR	0	931,458	0	939,428	0	947413	8.99	947413	0	954,482
CS-MW16-CC	0	777334	0	791,983	0	806628	16.05	806628	0	819,453

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

PB-1 - PB-2 = 48-44=4	PB-1 - PB-2 = 48-44=04	PB-1 - PB-2 =	PB-1 - PB-2 = 48-45=3	PB-1 - PB-2 = 48-48=0

Notes:

Tank is 4/5 full
TP kicked on

Tank is 3/4 full
- TP + wells will be off all day for float switch repair

- wells off all nite, tank empty upon arrival, float repair complete, float testing

Tank 3/4 full
MW16-LGR - 286.7
MW16-CC - 362.6

* must be the Ohio math
Must be * *

Week 105 month 24 Quarter 8
mw16-LGR = 251.4
mw16-CC = 354.4 over

New Extraction Well B3-EXW01
Analytical Data

Laboratory Report

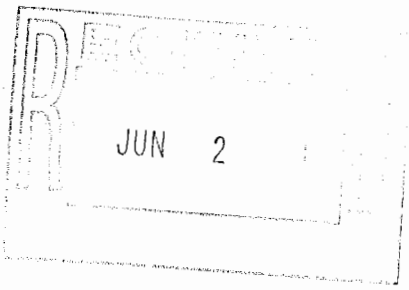
Parsons

CSSA

D011 - #39

Subcontract #: 746545.70000.7051.61 WBS 02000

ARF: 58872



Sample collected: May 12, 2009

APPL, Inc.

Data Validation Package
for
Subcontract #: 746545.70000
ARF 58872
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 58872

Project: 746546.02000 CSSA

State Certification Number: CA1312 (DW & WW)

NELAP Certification number: 05233CA (HW)

Results in this report apply to the sample analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

The water sample was received May 13, 2009, at 2.5°C. The samples were assigned Analytical Request Form (ARF) number 58872. The sample number and requested analyses were compared to the chain of custody. No exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
B3-EXW01	AX96655	WATER	05/12/09	05/13/09

Volatile Organic Compounds
EPA Method 8260B

Sample Preparation:

The sample was purged according to EPA method 5030B. All holding times were met.

Sample Analysis Information:

The sample was analyzed according to EPA method 8260B using a Hewlett Packard Gas Chromatograph with a mass spectrometer detector. All holding times were met.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard was used for the LCS. Two compounds recovered below their lower control limit: 1,1-DCE at 71.7% and trans-1,2-DCE at 72.1%. Three compounds recovered above their upper control limits: 1-Chlorohexane at 128%, Bromomethane at 136%, and Chloromethane at 150%. All other recoveries were acceptable.

No sample was designated by the client for an MS/MSD analysis.

Surrogates

All surrogate recoveries met acceptance criteria.

Method blanks

No target analyte was detected above the reporting limit.

Calibration

Initial and continuing calibrations were analyzed according to the method. All SPCC and CCC calibration criteria were met, except 1,1-DCE which decreased in sensitivity with a 23% deviation.

Tuning:

The instrument was tuned using BFB. All method criteria were met.

Internal Standards

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All acceptance criteria were met.

Summary:

No other analytical exception is noted.

Inorganic Analyses

EPA Method 160.1

Sample Preparation and Analysis Information:

The water was prepared and analyzed according to the method.

Quality Control/Assurance

Calibrations:

Blanks:

No target analyte was detected above the PQL in the method blank.

Spikes:

Laboratory Control Spikes (LCS/LCSD) were used for quality assurance. All recoveries met acceptance criteria.

Summary:

No analytical exception is noted.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Leonard Fong, Ph.D., Laboratory Director / Date

CHAIN OF CUSTODY

AND ARF

APPL - Analysis Request Form 58872

Client: **Parsons**
Address: **8000 Centre Park Drive Ste 200**
Austin, TX 78754
Attn: **Tammy Chang**
Phone: **512-719-6092** Fax: **512-719-6099**
Job: **746546.02000 CSSA**
PO #: **746545.70000.7051.61 WBS 02000**
Chain of Custody (Y/N): **Y** # **051209APPFA**
RAD Screen (Y/N): **Y** pH (Y/N): **N**
Turn Around Type: **ONE WEEK**

Received by: **TBV**
Date Received: **05/13/09** Time: **09:45**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y**
Chest Temp(s): **2.5°C**
Color: **VOA,O-ORGREEN**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Diane Anderson** TA
QC Report Type: **DVP3/ERPIMS/TX** ✓SV
Due Date: **05/19/09**

Comments:
pdf ARF to Tammy & Pam; send 2 DVP3 to Tammy

Data screening project: analyze samples ONCE; report deficiencies; ✓SV
do NOT re-analyze. Case Narrative. CSSA + AFCEE 3.1 QAPP ✓SV
Report J values to MDL; standard RLs and control limits. Standard Lab QC. ✓SV

5-18 POP-4 ARF

Sample Distribution:
VOA: 1-$826AW
Wetlab: 1-$TDS

Charges:

Invoice To:
8000 Centre Park Drive Ste 200
Austin, TX 78754-5140
Attn: Ellen Felfe

	Client ID	APPL ID	Sampled	Analyses Requested
1.	B3-EXW01	AX96655W	05/12/09 12:00	$826AW, $TDS

VSB

Camp Stanley Storage Activity Chain Of Custody

COC ID:	051209APPFA	Relinquish_Date:	5/12/2009	Cooler ID:	A
Project Location:	CSSA	Relinquished_By:	JDB	LabCode:	APPF
Job Number:	746546.02000	Relinquish_Time:	5:00 PM	Carrier:	FedEx
Creation Date:	5/12/2009	Collection Team:	JDB	Airbill Carrier:	869060387776

Sampler(s): J Boyd

LOCID: **B3-EXW01** LOGDATE: **5/12/2009** MATRIX: **WG** TBLOT:

SBD: **0** LOGTIME: **12:00** SACODE: **N** SMCODE: **G** ABLOT:

SED: **0** FLDSAMPID **B3-EXW01_051209_N1200** EBLOT:

Containers: 4

Remarks:

Analysis Required:

E160.1	TOTAL DISSOLVED SOL	SW8260B	VOLATILE ORGANIC CO

7 Day TAT

10

Relinquished by: _____ Date 5/13/09 Time 1930

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: _____ Date 5/13/09 Time 945

JE 8/12/09

COOLER RECEIPT FORM

1) Project: ~~74~~ 74654456.02000 CSSA Date Received: 8/13/09

2) Coolers: Number of Coolers: 1

3) (YES) NO Were coolers and samples screened for radioactivity?

4) (YES) NO Were custody seals on outside of cooler? How many? 1 Date on seal? 8/12/09

5) Name on seal? See below

6) (YES) NO NA Were custody seals unbroken and intact at the time of arrival?

7) (YES) NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 8690 6038 7776 2) 3)

9) (YES) NO NA Was the shipping slip scanned into the database?

10) YES NO (NA) If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.):
Bubble wrap, wet Ice

12) YES NO (NA) For hand delivered samples was sufficient ice present to start the cooling process?

13) (YES) NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: A39267 Correction factor: 0

15) Cooler temp(s): 1) 2.5°C 2) 3) 4) 5) 6) 7) 8)

Chain of custody:

16) (YES) NO Was a chain of custody received?

17) (YES) NO Were the custody papers signed in the appropriate places?

18) (YES) NO Was the project identifiable from custody papers?

19) (YES) NO Did the chain of custody include date and time of sampling?

20) (YES) NO Is location where sample was taken listed on the chain of custody?

Sample Labels:

21) (YES) NO Were container labels in good condition?

22) (YES) NO Was the client ID on the label?

23) (YES) NO Was the date of sampling on the label?

24) (YES) NO Was the time of sampling on the label?

25) (YES) NO Did all container labels agree with custody papers?

Sample Containers:

26) (YES) NO Were all containers sealed in separate bags?

27) (YES) NO Did all containers arrive unbroken?

28) YES (NO) Was there any leakage from samples?

29) YES (NO) Were any of the lids cracked or broken?

30) (YES) NO Were correct containers used for the tests indicated?

31) (YES) NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO (NA) Were bubbles present in volatile samples? If yes, the following were received with ai

Larger than a pea:

Smaller than a pea:

Preservation & Hold time:

33) (YES) NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) YES NO (NA) Do the sample containers contain the same preservative as what is stated on the CO(

35) YES NO (NA) Was the pH taken of all non-VOA preserved samples and written on the sample conta

36) YES NO (NA) Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples >

Lab notified if pH was not adequate:

Deficiencies:

Signature of personnel receiving samples: Second reviewer:

Signature of project manager notified: Date and Time of notification:

Name of client notified: Date and Time of notification:

Information given to client:

by whom (Initials):

EPA METHOD 8260B
Volatile Organic Compounds

EPA METHOD 8260B
Volatile Organic Compounds
QC Summary

Method Blank

EPA 8260B - AFCEE 3.0 (Water)

Blank Name/QCG: **090513W-96655 - 132731**

Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-Tetrachloroethane	Not detected	0.5	0.13	ug/L	5/13/2009	5/13/2009
BLANK	1,1,1-TCA	Not detected	0.8	0.14	ug/L	5/13/2009	5/13/2009
BLANK	1,1,2,2-Tetrachloroethane	Not detected	0.4	0.10	ug/L	5/13/2009	5/13/2009
BLANK	1,1,2-TCA	Not detected	1.0	0.20	ug/L	5/13/2009	5/13/2009
BLANK	1,1-DCA	Not detected	0.4	0.19	ug/L	5/13/2009	5/13/2009
BLANK	1,1-DCE	Not detected	1.2	0.30	ug/L	5/13/2009	5/13/2009
BLANK	1,1-Dichloropropene	Not detected	1.0	0.20	ug/L	5/13/2009	5/13/2009
BLANK	1,2,3-Trichlorobenzene	Not detected	0.3	0.29	ug/L	5/13/2009	5/13/2009
BLANK	1,2,3-Trichloropropane	Not detected	3.2	0.39	ug/L	5/13/2009	5/13/2009
BLANK	1,2,4-Trichlorobenzene	Not detected	0.4	0.21	ug/L	5/13/2009	5/13/2009
BLANK	1,2,4-Trimethylbenzene	Not detected	1.3	0.19	ug/L	5/13/2009	5/13/2009
BLANK	1,2-DCA	Not detected	0.6	0.14	ug/L	5/13/2009	5/13/2009
BLANK	1,2-DCB	Not detected	0.3	0.17	ug/L	5/13/2009	5/13/2009
BLANK	1,2-Dibromo-3-chloropropane	Not detected	2.6	0.76	ug/L	5/13/2009	5/13/2009
BLANK	1,2-Dichloropropane	Not detected	0.4	0.17	ug/L	5/13/2009	5/13/2009
BLANK	1,2-EDB	Not detected	0.6	0.20	ug/L	5/13/2009	5/13/2009
BLANK	1,3,5-Trimethylbenzene	Not detected	0.5	0.12	ug/L	5/13/2009	5/13/2009
BLANK	1,3-DCB	Not detected	1.2	0.11	ug/L	5/13/2009	5/13/2009
BLANK	1,3-Dichloropropane	Not detected	0.4	0.17	ug/L	5/13/2009	5/13/2009
BLANK	1,4-DCB	Not detected	0.3	0.19	ug/L	5/13/2009	5/13/2009
BLANK	1-Chlorohexane	Not detected	0.5	0.17	ug/L	5/13/2009	5/13/2009
BLANK	2,2-Dichloropropane	Not detected	3.5	0.22	ug/L	5/13/2009	5/13/2009
BLANK	2-Chlorotoluene	Not detected	0.4	0.14	ug/L	5/13/2009	5/13/2009
BLANK	4-Chlorotoluene	Not detected	0.6	0.13	ug/L	5/13/2009	5/13/2009
BLANK	Benzene	Not detected	0.4	0.16	ug/L	5/13/2009	5/13/2009
BLANK	Bromobenzene	Not detected	0.3	0.16	ug/L	5/13/2009	5/13/2009
BLANK	Bromochloromethane	Not detected	0.4	0.15	ug/L	5/13/2009	5/13/2009
BLANK	Bromodichloromethane	Not detected	0.8	0.14	ug/L	5/13/2009	5/13/2009
BLANK	Bromoform	Not detected	1.2	0.14	ug/L	5/13/2009	5/13/2009
BLANK	Bromomethane	Not detected	1.1	0.24	ug/L	5/13/2009	5/13/2009
BLANK	Carbon tetrachloride	Not detected	2.1	0.10	ug/L	5/13/2009	5/13/2009
BLANK	Chlorobenzene	Not detected	0.4	0.21	ug/L	5/13/2009	5/13/2009
BLANK	Chloroethane	Not detected	1.0	0.21	ug/L	5/13/2009	5/13/2009
BLANK	Chloroform	Not detected	0.3	0.07	ug/L	5/13/2009	5/13/2009

Quant Method: N826AW.M
Run #: 0513N05
Instrument: Neo
Sequence: N090504
Initials: GM

GC SC-Blank-REG MDLs
Printed: 5/29/2009 10:40:06 AM

Method Blank

EPA 8260B - AFCEE 3.0 (Water)

Blank Name/QCG: **090513W-96655 - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	Chloromethane	Not detected	1.3	0.31	ug/L	5/13/2009	5/13/2009
BLANK	Cis-1,2-DCE	Not detected	1.2	0.16	ug/L	5/13/2009	5/13/2009
BLANK	Cis-1,3-Dichloropropene	Not detected	1.0	0.15	ug/L	5/13/2009	5/13/2009
BLANK	Dibromochloromethane	Not detected	0.5	0.19	ug/L	5/13/2009	5/13/2009
BLANK	Dibromomethane	Not detected	2.4	0.20	ug/L	5/13/2009	5/13/2009
BLANK	Dichlorodifluoromethane	Not detected	1.0	0.19	ug/L	5/13/2009	5/13/2009
BLANK	Ethylbenzene	Not detected	0.6	0.23	ug/L	5/13/2009	5/13/2009
BLANK	Hexachlorobutadiene	Not detected	1.1	0.19	ug/L	5/13/2009	5/13/2009
BLANK	Isopropylbenzene	Not detected	0.5	0.16	ug/L	5/13/2009	5/13/2009
BLANK	m&p-Xylene	Not detected	0.5	0.40	ug/L	5/13/2009	5/13/2009
BLANK	Methylene chloride	Not detected	1.0	0.35	ug/L	5/13/2009	5/13/2009
BLANK	n-Butylbenzene	Not detected	1.1	0.15	ug/L	5/13/2009	5/13/2009
BLANK	n-Propylbenzene	Not detected	0.4	0.21	ug/L	5/13/2009	5/13/2009
BLANK	Naphthalene	Not detected	0.4	0.36	ug/L	5/13/2009	5/13/2009
BLANK	o-Xylene	Not detected	1.1	0.19	ug/L	5/13/2009	5/13/2009
BLANK	p-Isopropyltoluene	Not detected	1.2	0.12	ug/L	5/13/2009	5/13/2009
BLANK	Sec-Butylbenzene	Not detected	1.3	0.12	ug/L	5/13/2009	5/13/2009
BLANK	Styrene	Not detected	0.4	0.25	ug/L	5/13/2009	5/13/2009
BLANK	TCE	Not detected	1.0	0.16	ug/L	5/13/2009	5/13/2009
BLANK	Tert-Butylbenzene	Not detected	1.4	0.13	ug/L	5/13/2009	5/13/2009
BLANK	Tetrachloroethene	Not detected	1.4	0.15	ug/L	5/13/2009	5/13/2009
BLANK	Toluene	Not detected	1.1	0.17	ug/L	5/13/2009	5/13/2009
BLANK	Trans-1,2-DCE	Not detected	0.6	0.19	ug/L	5/13/2009	5/13/2009
BLANK	Trans-1,3-Dichloropropene	Not detected	1.0	0.18	ug/L	5/13/2009	5/13/2009
BLANK	Trichlorofluoromethane	Not detected	0.8	0.24	ug/L	5/13/2009	5/13/2009
BLANK	Vinyl chloride	Not detected	1.1	0.23	ug/L	5/13/2009	5/13/2009
BLANK	Surrogate: 1,2-Dichloroethane-d4 (S)	102	69-139		%	5/13/2009	5/13/2009
BLANK	Surrogate: 4-Bromofluorobenzene (S)	86.3	75-125		%	5/13/2009	5/13/2009
BLANK	Surrogate: Dibromofluoromethane (S)	104	75-125		%	5/13/2009	5/13/2009
BLANK	Surrogate: Toluene-D8 (S)	90.0	75-125		%	5/13/2009	5/13/2009

Quant Method: N826AW.M
Run #: 0513N05
Instrument: Neo
Sequence: N090504
Initials: GM

GC SC-Blank-REG MDLs
Printed: 5/29/2009 10:40:06 AM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 58872

Case No: 58872 Date Analyzed: 5/13/2009

Matrix: WATER Instrument: Neo

APPL ID.	Client Sample No.	Surrogate: 1,2-Dichloroethane-d4	Surrogate: 4-Bromofluorobenzene
090513AN-LCS	Lab Control Spike	102	96.1
090513AN-BLK	Blank	102	86.3
AX96655	B3-EXW01	103	89.9

Comments: Batch: $826AW-090513AN

Printed: 5/29/2009 11:24:17 AM

Form 2 & 8, Surrogate Recovery Summary

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 58872

Case No: 58872 Date Analyzed: 5/13/2009

Matrix: WATER Instrument: Neo

APPL ID.	Client Sample No.	Surrogate: Dibromofluoromethane	Surrogate: Toluene-D8 (S)
090513AN-LCS	Lab Control Spike	108	102
090513AN-BLK	Blank	104	90.0
AX96655	B3-EXW01	105	94.3

Comments: Batch: $826AW-090513AN

Printed: 5/29/2009 11:24:17 AM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery

EPA 8260B - AFCEE 3.0 (Water)

APPL ID: **090513W-96655 LCS - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-Tetrachloroethane	10.00	10.1	101	72-125
1,1,1-TCA	10.00	7.80	78.0	75-125
1,1,2,2-Tetrachloroethane	10.00	9.34	93.4	74-125
1,1,2-TCA	10.00	9.89	98.9	75-127
1,1-DCA	10.00	8.66	86.6	75-125
1,1-DCE	10.00	7.17	71.7 #	75-125
1,1-Dichloropropene	10.00	7.66	76.6	75-125
1,2,3-Trichlorobenzene	10.00	9.69	96.9	75-137
1,2,3-Trichloropropane	10.00	9.70	97.0	75-125
1,2,4-Trichlorobenzene	10.00	9.65	96.5	75-135
1,2,4-Trimethylbenzene	10.00	8.79	87.9	75-125
1,2-DCA	10.00	8.01	80.1	68-127
1,2-DCB	10.00	9.44	94.4	75-125
1,2-Dibromo-3-chloropropane	10.00	10.7	107	59-125
1,2-Dichloropropane	10.00	8.12	81.2	70-125
1,2-EDB	10.00	9.22	92.2	75-125
1,3,5-Trimethylbenzene	10.00	9.25	92.5	72-112
1,3-DCB	10.00	9.21	92.1	75-125
1,3-Dichloropropane	10.00	9.61	96.1	75-125
1,4-DCB	10.00	8.96	89.6	75-125
1-Chlorohexane	10.00	12.8	128 #	75-125
2,2-Dichloropropane	10.00	8.79	87.9	75-125
2-Chlorotoluene	10.00	9.32	93.2	73-125
4-Chlorotoluene	10.00	9.26	92.6	74-125
Benzene	10.00	8.15	81.5	75-125
Bromobenzene	10.00	9.09	90.9	75-125

= Recovery is outside QC limits.

Comments:

Primary	SPK
Quant Method :	N826AW.M
Extraction Date :	5/13/2009
Analysis Date :	5/13/2009
Instrument :	Neo
Run :	0513N02
Initials :	GM

Printed: 5/29/2009 11:24:24 AM

APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8260B - AFCEE 3.0 (Water)

APPL ID: **090513W-96655 LCS - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Bromochloromethane	10.00	9.61	96.1	73-125
Bromodichloromethane	10.00	10.4	104	75-125
Bromoform	10.00	10.0	100	75-125
Bromomethane	10.00	13.6	136 #	72-125
Carbon tetrachloride	10.00	7.75	77.5	62-125
Chlorobenzene	10.00	9.46	94.6	75-125
Chloroethane	10.00	10.1	101	65-125
Chloroform	10.00	9.59	95.9	74-125
Chloromethane	10.00	15.0	150 #	75-125
Cis-1,2-DCE	10.00	8.61	86.1	75-125
Cis-1,3-Dichloropropene	10.00	8.05	80.5	74-125
Dibromochloromethane	10.00	9.67	96.7	73-125
Dibromomethane	10.00	9.48	94.8	69-127
Dichlorodifluoromethane	10.00	10.0	100	72-125
Ethylbenzene	10.00	8.86	88.6	75-125
Hexachlorobutadiene	10.00	9.71	97.1	75-125
Isopropylbenzene	10.00	9.31	93.1	75-125
m&p-Xylene	20.0	17.7	88.5	75-125
Methylene chloride	10.00	8.31	83.1	75-125
n-Butylbenzene	10.00	9.44	94.4	75-125
n-Propylbenzene	10.00	9.21	92.1	75-125
Naphthalene	10.00	9.79	97.9	75-125
o-Xylene	10.00	9.30	93.0	75-125
p-Isopropyltoluene	10.00	9.29	92.9	75-125
Sec-Butylbenzene	10.00	9.25	92.5	75-125
Styrene	10.00	9.85	98.5	75-125
TCE	10.00	8.30	83.0	71-125

= Recovery is outside QC limits.

Comments:

Primary	SPK
Quant Method :	N826AW.M
Extraction Date :	5/13/2009
Analysis Date :	5/13/2009
Instrument :	Neo
Run :	0513N02
Initials :	GM

Printed: 5/29/2009 11:24:24 AM

APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B - AFCEE 3.0 (Water)

APPL ID: **090513W-96655 LCS - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Tert-Butylbenzene	10.00	9.20	92.0	75-125
Tetrachloroethene	10.00	8.33	83.3	71-125
Toluene	10.00	8.50	85.0	74-125
Trans-1,2-DCE	10.00	7.21	72.1 #	75-125
Trans-1,3-Dichloropropene	10.00	8.21	82.1	66-125
Trichlorofluoromethane	10.00	10.8	108	67-125
Vinyl chloride	10.00	12.1	121	46-134
Surrogate: 1,2-Dichloroethane-d4 (S)	17.2	17.6	102	69-139
Surrogate: 4-Bromofluorobenzene (S)	21.5	20.7	96.1	75-125
Surrogate: Dibromofluoromethane (S)	20.3	21.9	108	75-125
Surrogate: Toluene-D8 (S)	21.4	21.8	102	75-125

= Recovery is outside QC limits.

Comments:

Primary	SPK
Quant Method :	N826AW.M
Extraction Date :	5/13/2009
Analysis Date :	5/13/2009
Instrument :	Neo
Run :	0513N02
Initials :	GM

Printed: 5/29/2009 11:24:24 AM

APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 58872

Case No: 58872 Date Analyzed: 5/13/2009

Matrix: WATER Instrument: Neo

Blank ID: 090513AN-BLK Time Analyzed: 1237

APPL ID.	Client Sample No.	File ID.	Date Analyzed
090513AN-LCS	Lab Control Spike	0513N02	5/13/2009 1054
090513AN-BLK	Blank	0513N05	5/13/2009 1237
AX96655	B3-EXW01	0513N06	5/13/2009 1312

Comments: Batch: $826AW-090513AN

Printed: 5/29/2009 11:24:09 AM

Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 58872
Matrix: Water
ID: 20ug/L BFB Std 2-24-09K

SDG No: 58872
Date Analyzed: 5/13/2009
Instrument: Neo
Time Analyzed: 10:19

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	090513A LCS-1WN	0513N02W.D	5/13/2009 10:54
2	Blank	090513A BLK-1WN	0513N05W.D	5/13/2009 12:37
3	B3-EXW01	AX96655W01	0513N06W.D	5/13/2009 13:12
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	31.6
75	30 - 60% of mass 95	51.0
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2% of mass 174	0.0
174	50 - 100% of mass 95	89.4
175	5 - 9% of mass 174	8.7
176	95 - 101% of mass 174	97.6
177	5 - 9% of mass 176	7.1

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: W9126G07D00280011

Lab Code: _____ SDG No.: 58872

Lab File ID (Standard): 0504N07W.D Date Analyzed: 4 May 09 22:10

Instrument ID: Neo Time Analyzed: 4 May 09 22:10

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	196800	9.18	147072	14.20	86040	18.27
	UPPER LIMIT	393600	9.68	294144	14.70	172080	18.77
	LOWER LIMIT	98400	8.68	73536	13.70	43020	17.77
	SAMPLE NO.						
01	090513A LCS-1WN	224912	9.19	179968	14.20	108936	18.27
02	090513A BLK-1WN	203595	9.19	170112	14.20	83136	18.28
03	AX96655W01	192944	9.19	160896	14.20	87752	18.28
04							
05							
06							
07							
08							
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16							
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20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA METHOD 8260B
Volatile Organic Compounds
Sample Data

EPA 8260B - AFCEE 3.0 (Water)

Parsons Engineering Science, Inc.
8000 Centre Park Drive Ste 200
Austin, TX 78754

Attn: Tammy Chang

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 746546.02000 CSSA

ARF: 58872

Sample ID: B3-EXW01

APPL ID: AX96655

Sample Collection Date: 5/12/2009

QCG: $826AW-090513AN-132731

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,1,1,2-Tetrachloroethane	Not detected	0.5	0.13	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,1,1-TCA	Not detected	0.8	0.14	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,1,2,2-Tetrachloroethane	Not detected	0.4	0.10	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,1,2-TCA	Not detected	1.0	0.20	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,1-DCA	Not detected	0.4	0.19	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,1-DCE	Not detected	1.2	0.30	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,1-Dichloropropene	Not detected	1.0	0.20	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2,3-Trichlorobenzene	Not detected	0.3	0.29	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2,3-Trichloropropane	Not detected	3.2	0.39	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2,4-Trichlorobenzene	Not detected	0.4	0.21	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2,4-Trimethylbenzene	Not detected	1.3	0.19	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2-DCA	Not detected	0.6	0.14	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2-DCB	Not detected	0.3	0.17	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2-Dibromo-3-chloropropane	Not detected	2.6	0.76	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2-Dichloropropane	Not detected	0.4	0.17	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,2-EDB	Not detected	0.6	0.20	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,3,5-Trimethylbenzene	Not detected	0.5	0.12	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,3-DCB	Not detected	1.2	0.11	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,3-Dichloropropane	Not detected	0.4	0.17	ug/L	5/13/2009	5/13/2009
EPA 8260B	1,4-DCB	0.25 J	0.3	0.19	ug/L	5/13/2009	5/13/2009
EPA 8260B	1-Chlorohexane	Not detected	0.5	0.17	ug/L	5/13/2009	5/13/2009
EPA 8260B	2,2-Dichloropropane	Not detected	3.5	0.22	ug/L	5/13/2009	5/13/2009
EPA 8260B	2-Chlorotoluene	Not detected	0.4	0.14	ug/L	5/13/2009	5/13/2009
EPA 8260B	4-Chlorotoluene	Not detected	0.6	0.13	ug/L	5/13/2009	5/13/2009
EPA 8260B	Benzene	Not detected	0.4	0.16	ug/L	5/13/2009	5/13/2009
EPA 8260B	Bromobenzene	Not detected	0.3	0.16	ug/L	5/13/2009	5/13/2009
EPA 8260B	Bromochloromethane	Not detected	0.4	0.15	ug/L	5/13/2009	5/13/2009
EPA 8260B	Bromodichloromethane	Not detected	0.8	0.14	ug/L	5/13/2009	5/13/2009
EPA 8260B	Bromoform	Not detected	1.2	0.14	ug/L	5/13/2009	5/13/2009
EPA 8260B	Bromomethane	Not detected	1.1	0.24	ug/L	5/13/2009	5/13/2009
EPA 8260B	Carbon tetrachloride	Not detected	2.1	0.10	ug/L	5/13/2009	5/13/2009
EPA 8260B	Chlorobenzene	0.32 J	0.4	0.21	ug/L	5/13/2009	5/13/2009
EPA 8260B	Chloroethane	Not detected	1.0	0.21	ug/L	5/13/2009	5/13/2009
EPA 8260B	Chloroform	Not detected	0.3	0.07	ug/L	5/13/2009	5/13/2009
EPA 8260B	Chloromethane	Not detected	1.3	0.31	ug/L	5/13/2009	5/13/2009
EPA 8260B	Cis-1,2-DCE	160	1.2	0.16	ug/L	5/13/2009	5/13/2009
EPA 8260B	Cis-1,3-Dichloropropene	Not detected	1.0	0.15	ug/L	5/13/2009	5/13/2009

J = Estimated value.

Quant Method: N826AW.M
Run #: 0513N06
Instrument: Neo
Sequence: N090504
Dilution Factor: 1
Initials: GM

Printed: 5/29/2009 10:40:40 AM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8260B - AFCEE 3.0 (Water)

Parsons Engineering Science, Inc.
8000 Centre Park Drive Ste 200
Austin, TX 78754

Attn: Tammy Chang

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 746546.02000 CSSA

ARF: 58872

Sample ID: B3-EXW01

APPL ID: AX96655

Sample Collection Date: 5/12/2009

QCG: $826AW-090513AN-132731

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	Dibromochloromethane	Not detected	0.5	0.19	ug/L	5/13/2009	5/13/2009
EPA 8260B	Dibromomethane	Not detected	2.4	0.20	ug/L	5/13/2009	5/13/2009
EPA 8260B	Dichlorodifluoromethane	Not detected	1.0	0.19	ug/L	5/13/2009	5/13/2009
EPA 8260B	Ethylbenzene	Not detected	0.6	0.23	ug/L	5/13/2009	5/13/2009
EPA 8260B	Hexachlorobutadiene	Not detected	1.1	0.19	ug/L	5/13/2009	5/13/2009
EPA 8260B	Isopropylbenzene	Not detected	0.5	0.16	ug/L	5/13/2009	5/13/2009
EPA 8260B	m&p-Xylene	Not detected	0.5	0.40	ug/L	5/13/2009	5/13/2009
EPA 8260B	Methylene chloride	Not detected	1.0	0.35	ug/L	5/13/2009	5/13/2009
EPA 8260B	n-Butylbenzene	Not detected	1.1	0.15	ug/L	5/13/2009	5/13/2009
EPA 8260B	n-Propylbenzene	Not detected	0.4	0.21	ug/L	5/13/2009	5/13/2009
EPA 8260B	Naphthalene	Not detected	0.4	0.36	ug/L	5/13/2009	5/13/2009
EPA 8260B	o-Xylene	Not detected	1.1	0.19	ug/L	5/13/2009	5/13/2009
EPA 8260B	p-Isopropyltoluene	Not detected	1.2	0.12	ug/L	5/13/2009	5/13/2009
EPA 8260B	Sec-Butylbenzene	Not detected	1.3	0.12	ug/L	5/13/2009	5/13/2009
EPA 8260B	Styrene	Not detected	0.4	0.25	ug/L	5/13/2009	5/13/2009
EPA 8260B	TCE	8.3	1.0	0.16	ug/L	5/13/2009	5/13/2009
EPA 8260B	Tert-Butylbenzene	Not detected	1.4	0.13	ug/L	5/13/2009	5/13/2009
EPA 8260B	Tetrachloroethene	5.8	1.4	0.15	ug/L	5/13/2009	5/13/2009
EPA 8260B	Toluene	78	1.1	0.17	ug/L	5/13/2009	5/13/2009
EPA 8260B	Trans-1,2-DCE	4.5	0.6	0.19	ug/L	5/13/2009	5/13/2009
EPA 8260B	Trans-1,3-Dichloropropene	Not detected	1.0	0.18	ug/L	5/13/2009	5/13/2009
EPA 8260B	Trichlorofluoromethane	Not detected	0.8	0.24	ug/L	5/13/2009	5/13/2009
EPA 8260B	Vinyl chloride	34	1.1	0.23	ug/L	5/13/2009	5/13/2009
EPA 8260B	Surrogate: 1,2-Dichloroethane-d4 (S)	103	69-139		%	5/13/2009	5/13/2009
EPA 8260B	Surrogate: 4-Bromofluorobenzene (S)	89.9	75-125		%	5/13/2009	5/13/2009
EPA 8260B	Surrogate: Dibromofluoromethane (S)	105	75-125		%	5/13/2009	5/13/2009
EPA 8260B	Surrogate: Toluene-D8 (S)	94.3	75-125		%	5/13/2009	5/13/2009

J = Estimated value.

Quant Method: N826AW.M
Run #: 0513N06
Instrument: Neo
Sequence: N090504
Dilution Factor: 1
Initials: GM

Printed: 5/29/2009 10:40:40 AM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA METHOD 8260B
Volatile Organic Compounds
Calibration Data

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 58872
Case No: Initial Cal. Date: 5/4/2009
Matrix: Instrument: Neo
Initials:

		Compound	0504N03W.D 0.3	0504N04W.D 0.5	0504N05W.D 1	0504N06W.D 5	0504N07W.D 10	0504N08W.D 40	0504N09W.D 100	0504N10W.D 200			Avg	%RSD		
1	I	Fluorobenzene (IS)	ISTD													
2	TM	Dichlorodifluoromethane		0.4958	0.4255	0.3957	0.3927	0.4405	0.4916	0.4644			0.44	9.5	TM	
3	TM**L	Chloromethane	0.9749	0.7749	0.6879	0.5330	0.5212	0.4962	0.5718	0.5484			0.64	26	TM**L	0.999
4	TM*	Vinyl chloride		0.4110	0.3429	0.3228	0.3139	0.2755	0.2621	0.2275			0.31	20	TM*	
5	TML	Bromomethane		0.1533	0.1216	0.0494	0.0546	0.0494	0.0659	0.0794			0.08	49	TML	0.990
6	TM	Chloroethane		0.2264	0.1800	0.1877	0.1758	0.1516	0.1697	0.1800			0.18	13	TM	
7	TM	Trichlorofluoromethane		0.2796	0.2480	0.2410	0.2345	0.2300	0.2546	0.2569			0.25	6.7	TM	
8	TM*	1,1-DCE		1.998	2.144	1.876	1.649	1.671	1.655	1.523			1.8	13	TM*	
9	TML	Methylene Chloride		1.561	1.436	1.055	0.9230	0.9788	1.051	1.086			1.2	21	TML	0.999
10	TML	Trans-1,2-DCE		1.116	0.7896	0.8343	0.7378	0.7610	0.7932	0.7721			0.83	16	TML	1.000
11	TM**	1,1-DCA	2.018	2.128	1.878	1.939	1.794	1.982	1.988	1.978			2.0	5.0	TM**	
12	TM	Cis-1,2-DCE		1.080	1.060	1.056	0.8988	0.9597	0.9691	0.9580			1.00	6.8	TM	
13	TMQ	2,2-Dichloropropane		0.0431	0.0156	0.0034	0.0032	0.0168	0.0473	0.0954			0.03	103	TMQ	1.00
14	TM*	Chloroform	1.868	1.913	1.809	1.907	1.701	1.793	1.829	1.762			1.8	4.0	TM*	
15	TM	Bromochloromethane		0.3805	0.3905	0.4632	0.4372	0.5184	0.5459	0.5095			0.46	14	TM	
16	S	Dibromofluoromethane(S)		1.140	1.111	1.063	1.020	1.076					1.1	4.2	S	
17	TML	1,1,1-TCA		0.8477	0.7924	1.069	1.057	1.326	1.367	1.343			1.1	21	TML	1.000
18	TM	1,1-Dichloropropene		1.261	1.185	1.239	1.143	1.241	1.278	1.202			1.2	3.9	TM	
19	S	1,2-DCA-D4(S)		1.211	1.028	1.034	0.9549	0.9516	1.340				1.1	14	S	
20	TMQ	Carbon Tetrachloride		0.1341	0.1720	0.3868	0.4367	0.6044	0.6617	0.6458			0.43	50	TMQ	1.000
21	TM	1,2-DCA		1.332	1.295	1.457	1.237	1.490	1.425	1.383			1.4	6.6	TM	
22	TM	Benzene		3.797	3.595	3.668	3.309	3.537	3.614	3.354			3.6	4.8	TM	
23	TM	TCE		0.9178	0.9058	0.9903	0.8773	0.9099	0.9562	0.9142			0.92	4.0	TM	
24	TM*	1,2-Dichloropropane	0.4571	0.4088	0.3079	0.3403	0.3261	0.2900	0.3191	0.2630			0.34	19	TM*	
25	TM	Bromodichloromethane		1.054	0.9572	1.170	1.103	1.190	1.194	1.148			1.1	7.7	TM	
26	TM	Dibromomethane	0.2907	0.3500	0.3286	0.4196	0.3963	0.3851	0.3499	0.2682			0.35	15	TM	
27	TMQ	Cis-1,3-Dichloropropene		0.3871	0.2896	0.5321	0.6085	0.7342	0.9271	0.7899			0.61	37	TMQ	0.997
28	TM*	Toluene		1.306	1.225	1.406	1.213	1.314	1.432	1.363			1.3	6.4	TM*	
29	TMQ	Trans-1,3-Dichloropropene		0.1173	0.0381	0.1924	0.3291	0.4763	0.7552	0.6429			0.36	74	TMQ	0.992
30	TM	1,1,2-TCA		0.6236	0.6087	0.6448	0.5735	0.6056	0.6131	0.5673			0.61	4.5	TM	
31	I	Chlorobenzene-D5 (IS)	ISTD													
32	S	Toluene-D8(S)		4.094	3.828	3.711	3.918	4.202					4.0	5.0	S	
33	TM	1,2-EDB		0.8635	0.8269	0.8238	0.8572	0.7380	0.8081				0.82	5.5	TM	
34	TM	Tetrachloroethene		1.277	1.160	1.063	1.095	1.121	1.142	1.132			1.1	5.9	TM	
35	TM	1-Chlorohexane		1.305	1.267	1.270	1.270	1.334	1.338	1.455			1.3	5.1	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 58872
Case No: Initial Cal. Date: 5/4/2009
Matrix: Instrument: Neo
Initials:

		Compound	0.3	0.5	1	5	10	40	100	200			Avg	%RSD		
36	TM	1,1,1,2-Tetrachloroethane		1.145	1.085	1.191	1.193	1.245	1.244	1.269			1.2	5.4	TM	
37	TM	m&p-Xylene		1.901	1.808	1.915	1.865	2.043	2.061	2.224			2.0	7.3	TM	
38	TM	o-Xylene		1.870	1.822	1.846	1.896	2.015	1.954	2.175			1.9	6.3	TM	
39	TM	Styrene	2.803	2.955	2.837	3.151	3.226	3.566	3.497	4.041			3.3	13	TM	
40	S	4-Bromofluorobenzene(S)		1.505	1.449	1.327	1.462	1.578					1.5	6.3	S	
41	TM	1,3-Dichloropropane	1.219	1.323	1.190	1.327	1.355	1.214	1.302	1.117			1.3	6.6	TM	
42	TML	Dibromochloromethane		0.6433	0.6949	0.9545	1.040	1.068	1.098	1.040			0.93	20	TML	0.999
43	TM**	Chlorobenzene	3.156	3.051	3.089	3.194	3.076	3.201	3.045	3.469			3.2	4.4	TM**	
44	TM*	Ethylbenzene	5.560	5.291	5.238	5.199	5.025	5.481	5.550	5.891			5.4	5.0	TM*	
45	TM**	Bromoform			0.2877	0.3488	0.3558	0.4171	0.4186	0.4300			0.38	15	TM**	
46	I	1,4-Dichlorobenzene-D (IS)	ISTD													
47	TM	Isopropylbenzene	7.004	6.695	6.587	7.261	7.178	7.325	7.705	7.663			7.2	5.7	TM	
48	TM**	1,1,2,2-Tetrachloroethane	1.858	1.716	1.683	1.855	1.747	1.719	1.711	1.633			1.7	4.5	TM**	
49	TM	1,2,3-Trichloropropane		0.3354	0.3600	0.4097	0.4125	0.3930	0.3796	0.3572			0.38	7.6	TM	
50	TM	Bromobenzene	2.592	2.511	2.430	2.635	2.447	2.416	2.526	2.478			2.5	3.1	TM	
51	TM	n-Propylbenzene	10.5	10.2	8.821	10.1	9.803	9.922	10.5	10.7			10	5.9	TM	
52	TM	2-Chlorotoluene	7.265	7.766	6.950	7.448	7.121	7.233	7.589	7.734			7.4	4.0	TM	
53	TM	1,3,5-Trimethylbenzene	5.938	6.223	6.769	6.994	6.734	6.816	7.294	7.511			6.8	7.6	TM	
54	TM	4-Chlorotoluene	6.068	6.844	6.496	7.159	6.666	6.706	7.035	7.236			6.8	5.7	TM	
55	TM	Tert-Butylbenzene	6.679	6.289	6.497	6.815	6.375	6.693	6.653	6.851			6.6	3.1	TM	
56	TM	1,2,4-Trimethylbenzene		7.457	7.174	7.441	7.014	7.240	7.131	7.552			7.3	2.7	TM	
57	TM	Sec-Butylbenzene		8.259	8.385	9.059	8.531	9.063	9.551	9.806			9.0	6.6	TM	
58	TM	p-Isopropyltoluene		6.323	6.480	7.449	7.027	7.409	7.690	8.157			7.2	9.1	TM	
59	TM	1,3-DCB		4.102	4.184	4.490	4.448	4.346	4.413	4.682			4.4	4.4	TM	
60	TM	1,4-DCB	4.685	4.588	4.260	4.497	4.179	4.418	4.379	4.608			4.5	4.0	TM	
61	TM	n-Butylbenzene		7.052	6.928	7.108	6.575	7.104	7.250	7.386			7.1	3.7	TM	
62	TM	1,2-DCB	3.522	4.025	3.798	4.027	3.872	3.859	3.901	3.973			3.9	4.2	TM	
63	TM	1,2-Dibromo-3-chloropropane		0.1856	0.2411	0.2765	0.2618	0.2552	0.2521	0.2431			0.25	12	TM	
64	TM	1,2,4-Trichlorobenzene	2.777	2.672	2.670	2.864	2.824	2.850	2.777	2.894			2.8	3.0	TM	
65	TM	Hexachlorobutadiene		1.708	1.641	1.671	1.572	1.654	1.661	1.616			1.6	2.6	TM	
66	TM	Naphthalene	3.965	3.969	3.726	4.165	4.100	4.395	4.362	4.334			4.1	5.7	TM	
67	TM	1,2,3-Trichlorobenzene	2.373	2.237	2.401	2.571	2.403	2.469	2.561	2.517			2.4	4.6	TM	
68																
69																
70																

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 58872
Date Analyzed: 5 May 09 13:32
Instrument: Neo
Initial Cal. Date: 5/4/2009
Data File: 0505N02W.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.4437	0.4361	1.7	TM	
3	TM**L	Chloromethane	0.6385	0.4187	34	TM**L	22
4	TM*	Vinyl chloride	0.3079	0.3025	1.8	TM*	
5	TML	Bromomethane	0.0819	0.0547	33	TML	15
6	TM	Chloroethane	0.1816	0.1741	4.1	TM	
7	TM	Trichlorofluoromethane	0.2493	0.2427	2.6	TM	
8	TM*	1,1-DCE	1.788	1.747	2.3	TM*	
9	TML	Methylene Chloride	1.156	0.9865	15	TML	1.8
10	TML	Trans-1,2-DCE	0.8291	0.7846	5.4	TML	0.19
11	TM**	1,1-DCA	1.963	1.926	1.9	TM**	
12	TM	Cis-1,2-DCE	0.9975	0.9479	5.0	TM	
13	TMQ	2,2-Dichloropropane	0.0321	0.0054	83	TMQ	16
14	TM*	Chloroform	1.823	1.764	3.2	TM*	
15	TM	Bromochloromethane	0.4636	0.5062	9.2	TM	
16	S	Dibromofluoromethane(S)	1.082	1.110	2.6	S	
17	TML	1,1,1-TCA	1.115	1.096	1.7	TML	12
18	TM	1,1-Dichloropropene	1.221	1.196	2.0	TM	
19	S	1,2-DCA-D4(S)	1.087	1.147	5.5	S	
20	TMQ	Carbon Tetrachloride	0.4345	0.4702	8.2	TMQ	11
21	TM	1,2-DCA	1.374	1.259	8.4	TM	
22	TM	Benzene	3.553	3.346	5.8	TM	
23	TM	TCE	0.9245	0.9035	2.3	TM	
24	TM*	1,2-Dichloropropane	0.3390	0.3412	0.64	TM*	
25	TM	Bromodichloromethane	1.116	1.174	5.2	TM	
26	TM	Dibromomethane	0.3486	0.3984	14	TM	
27	TMQ	Cis-1,3-Dichloropropene	0.6098	0.6320	3.7	TMQ	11
28	TM*	Toluene	1.323	1.273	3.7	TM*	
29	TMQ	Trans-1,3-Dichloropropene	0.3645	0.3361	7.8	TMQ	17
30	TM	1,1,2-TCA	0.6052	0.5956	1.6	TM	
31	I	Chlorobenzene-D5 (IS)	ISTD			I	
32	S	Toluene-D8(S)	3.951	3.703	6.3	S	
33	TM	1,2-EDB	0.8196	0.7563	7.7	TM	
34	TM	Tetrachloroethene	1.141	0.9800	14	TM	
35	TM	1-Chlorohexane	1.320	1.166	12	TM	
36	TM	1,1,1,2-Tetrachloroethane	1.196	1.100	8.0	TM	
37	TM	m&p-Xylene	1.974	1.670	15	TM	
38	TM	o-Xylene	1.940	1.711	12	TM	
39	TM	Styrene	3.260	2.936	9.9	TM	
40	S	4-Bromofluorobenzene(S)	1.464	1.344	8.2	S	
		Average			9.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 58872
Date Analyzed: 5 May 09 13:32
Instrument: Neo
Cal. Date: 5/4/2009
Data File: 0505N02W.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,3-Dichloropropane	1.256	1.175	6.5	TM	
42	TML	Dibromochloromethane	0.9340	0.9478	1.5	TML	13
43	TM**	Chlorobenzene	3.160	2.757	13	TM**	
44	TM*	Ethylbenzene	5.404	4.877	9.8	TM*	
45	TM**	Bromoform	0.3763	0.3446	8.4	TM**	
46	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
47	TM	Isopropylbenzene	7.177	7.081	1.3	TM	
48	TM**	1,1,2,2-Tetrachloroethane	1.740	1.682	3.4	TM**	
49	TM	1,2,3-Trichloropropane	0.3782	0.4023	6.4	TM	
50	TM	Bromobenzene	2.504	2.452	2.1	TM	
51	TM	n-Propylbenzene	10.1	9.950	1.2	TM	
52	TM	2-Chlorotoluene	7.388	7.149	3.2	TM	
53	TM	1,3,5-Trimethylbenzene	6.785	6.402	5.6	TM	
54	TM	4-Chlorotoluene	6.776	6.628	2.2	TM	
55	TM	Tert-Butylbenzene	6.606	6.273	5.0	TM	
56	TM	1,2,4-Trimethylbenzene	7.287	6.870	5.7	TM	
57	TM	Sec-Butylbenzene	8.951	8.585	4.1	TM	
58	TM	p-Isopropyltoluene	7.219	6.863	4.9	TM	
59	TM	1,3-DCB	4.381	4.156	5.1	TM	
60	TM	1,4-DCB	4.452	4.170	6.3	TM	
61	TM	n-Butylbenzene	7.058	6.883	2.5	TM	
62	TM	1,2-DCB	3.872	3.786	2.2	TM	
63	TM	1,2-Dibromo-3-chloropropane	0.2450	0.2520	2.8	TM	
64	TM	1,2,4-Trichlorobenzene	2.791	2.656	4.9	TM	
65	TM	Hexachlorobutadiene	1.646	1.574	4.4	TM	
66	TM	Naphthalene	4.127	4.093	0.83	TM	
67	TM	1,2,3-Trichlorobenzene	2.442	2.484	1.7	TM	
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			4.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 58872
Date Analyzed: 5/13/2009
Instrument: Neo
Initial Cal. Date: 5/4/2009
Data File: 0513N01W.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.4437	0.4000	9.8	TM	
3	TM**L	Chloromethane	0.6385	0.6735	5.5	TM**L	24
4	TM*	Vinyl chloride	0.3079	0.3514	14	TM*	
5	TML	Bromomethane	0.0819	0.0556	32	TML	16
6	TM	Chloroethane	0.1816	0.1792	1.3	TM	
7	TM	Trichlorofluoromethane	0.2493	0.2425	2.7	TM	
8	TM*	1,1-DCE	1.788	1.377	23	TM*	
9	TML	Methylene Chloride	1.156	0.8012	31	TML	15
10	TML	Trans-1,2-DCE	0.8291	0.5946	28	TML	25
11	TM**	1,1-DCA	1.963	1.781	9.3	TM**	
12	TM	Cis-1,2-DCE	0.9975	0.8707	13	TM	
13	TMQ	2,2-Dichloropropane	0.0321	0.0024	93	TMQ	22
14	TM*	Chloroform	1.823	1.792	1.7	TM*	
15	TM	Bromochloromethane	0.4636	0.4193	9.5	TM	
16	S	Dibromofluoromethane(S)	1.082	1.242	15	S	
17	TML	1,1,1-TCA	1.115	0.9851	12	TML	20
18	TM	1,1-Dichloropropene	1.221	0.9908	19	TM	
19	S	1,2-DCA-D4(S)	1.087	1.158	6.6	S	
20	TMQ	Carbon Tetrachloride	0.4345	0.3933	9.5	TMQ	23
21	TM	1,2-DCA	1.374	1.072	22	TM	
22	TM	Benzene	3.553	3.077	13	TM	
23	TM	TCE	0.9245	0.8252	11	TM	
24	TM*	1,2-Dichloropropane	0.3390	0.2702	20	TM*	
25	TM	Bromodichloromethane	1.116	1.199	7.4	TM	
26	TM	Dibromomethane	0.3486	0.3213	7.8	TM	
27	TMQ	Cis-1,3-Dichloropropene	0.6098	0.4450	27	TMQ	30
28	TM*	Toluene	1.323	1.165	12	TM*	
29	TMQ	Trans-1,3-Dichloropropene	0.3645	0.2273	38	TMQ	31
30	TM	1,1,2-TCA	0.6052	0.5673	6.3	TM	
31	I	Chlorobenzene-D5 (IS)	ISTD			I	
32	S	Toluene-D8(S)	3.951	4.312	9.1	S	
33	TM	1,2-EDB	0.8196	0.6694	18	TM	
34	TM	Tetrachloroethene	1.141	0.9989	12	TM	
35	TM	1-Chlorohexane	1.320	1.753	33	TM	
36	TM	1,1,1,2-Tetrachloroethane	1.196	1.105	7.6	TM	
37	TM	m&p-Xylene	1.974	1.845	6.5	TM	
38	TM	o-Xylene	1.940	1.855	4.4	TM	
39	TM	Styrene	3.260	3.243	0.50	TM	
40	S	4-Bromofluorobenzene(S)	1.464	1.441	1.6	S	
		Average			15.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 58872
Date Analyzed: 5/13/2009
Instrument: Neo
Cal. Date: 5/4/2009
Data File: 0513N01W.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,3-Dichloropropane	1.256	1.078	14	TM	
42	TML	Dibromochloromethane	0.9340	0.9177	1.8	TML	16
43	TM**	Chlorobenzene	3.160	2.853	9.7	TM**	
44	TM*	Ethylbenzene	5.404	4.878	9.7	TM*	
45	TM**	Bromoform	0.3763	0.3497	7.1	TM**	
46	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
47	TM	Isopropylbenzene	7.177	7.276	1.4	TM	
48	TM**	1,1,2,2-Tetrachloroethane	1.740	1.448	17	TM**	
49	TM	1,2,3-Trichloropropane	0.3782	0.3195	16	TM	
50	TM	Bromobenzene	2.504	2.392	4.5	TM	
51	TM	n-Propylbenzene	10.1	9.973	0.92	TM	
52	TM	2-Chlorotoluene	7.388	7.323	0.88	TM	
53	TM	1,3,5-Trimethylbenzene	6.785	6.799	0.20	TM	
54	TM	4-Chlorotoluene	6.776	6.756	0.29	TM	
55	TM	Tert-Butylbenzene	6.606	6.500	1.6	TM	
56	TM	1,2,4-Trimethylbenzene	7.287	7.170	1.6	TM	
57	TM	Sec-Butylbenzene	8.951	8.910	0.45	TM	
58	TM	p-Isopropyltoluene	7.219	7.512	4.1	TM	
59	TM	1,3-DCB	4.381	4.335	1.0	TM	
60	TM	1,4-DCB	4.452	4.165	6.4	TM	
61	TM	n-Butylbenzene	7.058	7.236	2.5	TM	
62	TM	1,2-DCB	3.872	3.589	7.3	TM	
63	TM	1,2-Dibromo-3-chloropropane	0.2450	0.2329	4.9	TM	
64	TM	1,2,4-Trichlorobenzene	2.791	2.664	4.5	TM	
65	TM	Hexachlorobutadiene	1.646	1.754	6.5	TM	
66	TM	Naphthalene	4.127	3.800	7.9	TM	
67	TM	1,2,3-Trichlorobenzene	2.442	2.160	12	TM	
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			5.5		

EPA METHOD 8260B
Volatile Organic Compounds
Raw Data

Method Blank

EPA 8260B - AFCEE 3.0 (Water)

Blank Name/QCG: **090513W-96655 - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-Tetrachloroethane	Not detected	0.5	0.13	ug/L	5/13/2009	5/13/2009
BLANK	1,1,1-TCA	Not detected	0.8	0.14	ug/L	5/13/2009	5/13/2009
BLANK	1,1,2,2-Tetrachloroethane	Not detected	0.4	0.10	ug/L	5/13/2009	5/13/2009
BLANK	1,1,2-TCA	Not detected	1.0	0.20	ug/L	5/13/2009	5/13/2009
BLANK	1,1-DCA	Not detected	0.4	0.19	ug/L	5/13/2009	5/13/2009
BLANK	1,1-DCE	Not detected	1.2	0.30	ug/L	5/13/2009	5/13/2009
BLANK	1,1-Dichloropropene	Not detected	1.0	0.20	ug/L	5/13/2009	5/13/2009
BLANK	1,2,3-Trichlorobenzene	Not detected	0.3	0.29	ug/L	5/13/2009	5/13/2009
BLANK	1,2,3-Trichloropropane	Not detected	3.2	0.39	ug/L	5/13/2009	5/13/2009
BLANK	1,2,4-Trichlorobenzene	Not detected	0.4	0.21	ug/L	5/13/2009	5/13/2009
BLANK	1,2,4-Trimethylbenzene	Not detected	1.3	0.19	ug/L	5/13/2009	5/13/2009
BLANK	1,2-DCA	Not detected	0.6	0.14	ug/L	5/13/2009	5/13/2009
BLANK	1,2-DCB	Not detected	0.3	0.17	ug/L	5/13/2009	5/13/2009
BLANK	1,2-Dibromo-3-chloropropane	Not detected	2.6	0.76	ug/L	5/13/2009	5/13/2009
BLANK	1,2-Dichloropropane	Not detected	0.4	0.17	ug/L	5/13/2009	5/13/2009
BLANK	1,2-EDB	Not detected	0.6	0.20	ug/L	5/13/2009	5/13/2009
BLANK	1,3,5-Trimethylbenzene	Not detected	0.5	0.12	ug/L	5/13/2009	5/13/2009
BLANK	1,3-DCB	Not detected	1.2	0.11	ug/L	5/13/2009	5/13/2009
BLANK	1,3-Dichloropropane	Not detected	0.4	0.17	ug/L	5/13/2009	5/13/2009
BLANK	1,4-DCB	Not detected	0.3	0.19	ug/L	5/13/2009	5/13/2009
BLANK	1-Chlorohexane	Not detected	0.5	0.17	ug/L	5/13/2009	5/13/2009
BLANK	2,2-Dichloropropane	Not detected	3.5	0.22	ug/L	5/13/2009	5/13/2009
BLANK	2-Chlorotoluene	Not detected	0.4	0.14	ug/L	5/13/2009	5/13/2009
BLANK	4-Chlorotoluene	Not detected	0.6	0.13	ug/L	5/13/2009	5/13/2009
BLANK	Benzene	Not detected	0.4	0.16	ug/L	5/13/2009	5/13/2009
BLANK	Bromobenzene	Not detected	0.3	0.16	ug/L	5/13/2009	5/13/2009
BLANK	Bromochloromethane	Not detected	0.4	0.15	ug/L	5/13/2009	5/13/2009
BLANK	Bromodichloromethane	Not detected	0.8	0.14	ug/L	5/13/2009	5/13/2009
BLANK	Bromoform	Not detected	1.2	0.14	ug/L	5/13/2009	5/13/2009
BLANK	Bromomethane	Not detected	1.1	0.24	ug/L	5/13/2009	5/13/2009
BLANK	Carbon tetrachloride	Not detected	2.1	0.10	ug/L	5/13/2009	5/13/2009
BLANK	Chlorobenzene	Not detected	0.4	0.21	ug/L	5/13/2009	5/13/2009
BLANK	Chloroethane	Not detected	1.0	0.21	ug/L	5/13/2009	5/13/2009
BLANK	Chloroform	Not detected	0.3	0.07	ug/L	5/13/2009	5/13/2009

Quant Method: N826AW.M
Run #: 0513N05
Instrument: Neo
Sequence: N090504
Initials: GM

GC SC-Blank-REG MDLs
Printed: 5/29/2009 10:40:50 AM

Method Blank

EPA 8260B - AFCEE 3.0 (Water)

Blank Name/QCG: **090513W-96655 - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	Chloromethane	Not detected	1.3	0.31	ug/L	5/13/2009	5/13/2009
BLANK	Cis-1,2-DCE	Not detected	1.2	0.16	ug/L	5/13/2009	5/13/2009
BLANK	Cis-1,3-Dichloropropene	Not detected	1.0	0.15	ug/L	5/13/2009	5/13/2009
BLANK	Dibromochloromethane	Not detected	0.5	0.19	ug/L	5/13/2009	5/13/2009
BLANK	Dibromomethane	Not detected	2.4	0.20	ug/L	5/13/2009	5/13/2009
BLANK	Dichlorodifluoromethane	Not detected	1.0	0.19	ug/L	5/13/2009	5/13/2009
BLANK	Ethylbenzene	Not detected	0.6	0.23	ug/L	5/13/2009	5/13/2009
BLANK	Hexachlorobutadiene	Not detected	1.1	0.19	ug/L	5/13/2009	5/13/2009
BLANK	Isopropylbenzene	Not detected	0.5	0.16	ug/L	5/13/2009	5/13/2009
BLANK	m&p-Xylene	Not detected	0.5	0.40	ug/L	5/13/2009	5/13/2009
BLANK	Methylene chloride	Not detected	1.0	0.35	ug/L	5/13/2009	5/13/2009
BLANK	n-Butylbenzene	Not detected	1.1	0.15	ug/L	5/13/2009	5/13/2009
BLANK	n-Propylbenzene	Not detected	0.4	0.21	ug/L	5/13/2009	5/13/2009
BLANK	Naphthalene	Not detected	0.4	0.36	ug/L	5/13/2009	5/13/2009
BLANK	o-Xylene	Not detected	1.1	0.19	ug/L	5/13/2009	5/13/2009
BLANK	p-Isopropyltoluene	Not detected	1.2	0.12	ug/L	5/13/2009	5/13/2009
BLANK	Sec-Butylbenzene	Not detected	1.3	0.12	ug/L	5/13/2009	5/13/2009
BLANK	Styrene	Not detected	0.4	0.25	ug/L	5/13/2009	5/13/2009
BLANK	TCE	Not detected	1.0	0.16	ug/L	5/13/2009	5/13/2009
BLANK	Tert-Butylbenzene	Not detected	1.4	0.13	ug/L	5/13/2009	5/13/2009
BLANK	Tetrachloroethene	Not detected	1.4	0.15	ug/L	5/13/2009	5/13/2009
BLANK	Toluene	Not detected	1.1	0.17	ug/L	5/13/2009	5/13/2009
BLANK	Trans-1,2-DCE	Not detected	0.6	0.19	ug/L	5/13/2009	5/13/2009
BLANK	Trans-1,3-Dichloropropene	Not detected	1.0	0.18	ug/L	5/13/2009	5/13/2009
BLANK	Trichlorofluoromethane	Not detected	0.8	0.24	ug/L	5/13/2009	5/13/2009
BLANK	Vinyl chloride	Not detected	1.1	0.23	ug/L	5/13/2009	5/13/2009
BLANK	Surrogate: 1,2-Dichloroethane-d4 (S)	102	69-139		%	5/13/2009	5/13/2009
BLANK	Surrogate: 4-Bromofluorobenzene (S)	86.3	75-125		%	5/13/2009	5/13/2009
BLANK	Surrogate: Dibromofluoromethane (S)	104	75-125		%	5/13/2009	5/13/2009
BLANK	Surrogate: Toluene-D8 (S)	90.0	75-125		%	5/13/2009	5/13/2009

Quant Method: N826AW.M
Run #: 0513N05
Instrument: Neo
Sequence: N090504
Initials: GM

GC SC-Blank-REG MDLs
Printed: 5/29/2009 10:40:50 AM

Laboratory Control Spike Recovery

EPA 8260B - AFCEE 3.0 (Water)

APPL ID: **090513W-96655 LCS - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-Tetrachloroethane	10.00	9.24	92.4	72-125
1,1,1-TCA	10.00	8.02	80.2	75-125
1,1,2,2-Tetrachloroethane	10.00	8.32	83.2	74-125
1,1,2-TCA	10.00	9.37	93.7	75-127
1,1-DCA	10.00	9.07	90.7	75-125
1,1-DCE	10.00	7.85	78.5	75-125
1,1-Dichloropropene	10.00	8.11	81.1	75-125
1,2,3-Trichlorobenzene	10.00	8.85	88.5	75-137
1,2,3-Trichloropropane	10.00	8.45	84.5	75-125
1,2,4-Trichlorobenzene	10.00	9.55	95.5	75-135
1,2,4-Trimethylbenzene	10.00	9.84	98.4	75-125
1,2-DCA	10.00	7.80	78.0	68-127
1,2-DCB	10.00	9.27	92.7	75-125
1,2-Dibromo-3-chloropropane	10.00	9.51	95.1	59-125
1,2-Dichloropropane	10.00	7.97	79.7	70-125
1,2-EDB	10.00	8.17	81.7	75-125
1,3,5-Trimethylbenzene	10.00	10.0	100	72-112
1,3-DCB	10.00	9.90	99.0	75-125
1,3-Dichloropropane	10.00	8.59	85.9	75-125
1,4-DCB	10.00	9.36	93.6	75-125
1-Chlorohexane	10.00	13.3	133 #	75-125
2,2-Dichloropropane	10.00	7.76	77.6	75-125
2-Chlorotoluene	10.00	9.91	99.1	73-125
4-Chlorotoluene	10.00	9.97	99.7	74-125
Benzene	10.00	8.66	86.6	75-125
Bromobenzene	10.00	9.55	95.5	75-125

= Recovery is outside QC limits.

Comments: _____

Primary	SPK
Quant Method :	N826AW.M
Extraction Date :	5/13/2009
Analysis Date :	5/13/2009
Instrument :	Neo
Run :	0513N01
Initials :	GM

Printed: 5/29/2009 10:40:56 AM

APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8260B - AFCEE 3.0 (Water)

APPL ID: **090513W-96655 LCS - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Bromochloromethane	10.00	9.05	90.5	73-125
Bromodichloromethane	10.00	10.7	107	75-125
Bromoform	10.00	9.29	92.9	75-125
Bromomethane	10.00	11.6	116	72-125
Carbon tetrachloride	10.00	7.72	77.2	62-125
Chlorobenzene	10.00	9.03	90.3	75-125
Chloroethane	10.00	9.87	98.7	65-125
Chloroform	10.00	9.83	98.3	74-125
Chloromethane	10.00	12.4	124	75-125
Cis-1,2-DCE	10.00	8.73	87.3	75-125
Cis-1,3-Dichloropropene	10.00	7.04	70.4 #	74-125
Dibromochloromethane	10.00	8.40	84.0	73-125
Dibromomethane	10.00	9.22	92.2	69-127
Dichlorodifluoromethane	10.00	9.02	90.2	72-125
Ethylbenzene	10.00	9.03	90.3	75-125
Hexachlorobutadiene	10.00	10.7	107	75-125
Isopropylbenzene	10.00	10.1	101	75-125
m&p-Xylene	20.0	18.7	93.5	75-125
Methylene chloride	10.00	8.47	84.7	75-125
n-Butylbenzene	10.00	10.3	103	75-125
n-Propylbenzene	10.00	9.91	99.1	75-125
Naphthalene	10.00	9.21	92.1	75-125
o-Xylene	10.00	9.56	95.6	75-125
p-Isopropyltoluene	10.00	10.4	104	75-125
Sec-Butylbenzene	10.00	9.95	99.5	75-125
Styrene	10.00	9.95	99.5	75-125
TCE	10.00	8.93	89.3	71-125

= Recovery is outside QC limits.

Comments: _____

Primary	SPK
Quant Method :	N826AW.M
Extraction Date :	5/13/2009
Analysis Date :	5/13/2009
Instrument :	Neo
Run :	0513N01
Initials :	GM

Printed: 5/29/2009 10:40:56 AM

APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B - AFCEE 3.0 (Water)

APPL ID: **090513W-96655 LCS - 132731**
Batch ID: $826AW-090513AN

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Tert-Butylbenzene	10.00	9.84	98.4	75-125
Tetrachloroethene	10.00	8.75	87.5	71-125
Toluene	10.00	8.81	88.1	74-125
Trans-1,2-DCE	10.00	7.53	75.3	75-125
Trans-1,3-Dichloropropene	10.00	6.87	68.7	66-125
Trichlorofluoromethane	10.00	9.73	97.3	67-125
Vinyl chloride	10.00	11.4	114	46-134
Surrogate: 1,2-Dichloroethane-d4 (S)	17.2	18.3	106	69-139
Surrogate: 4-Bromofluorobenzene (S)	21.5	21.2	98.4	75-125
Surrogate: Dibromofluoromethane (S)	20.3	23.3	115	75-125
Surrogate: Toluene-D8 (S)	21.4	23.4	109	75-125

= Recovery is outside QC limits.

Comments:

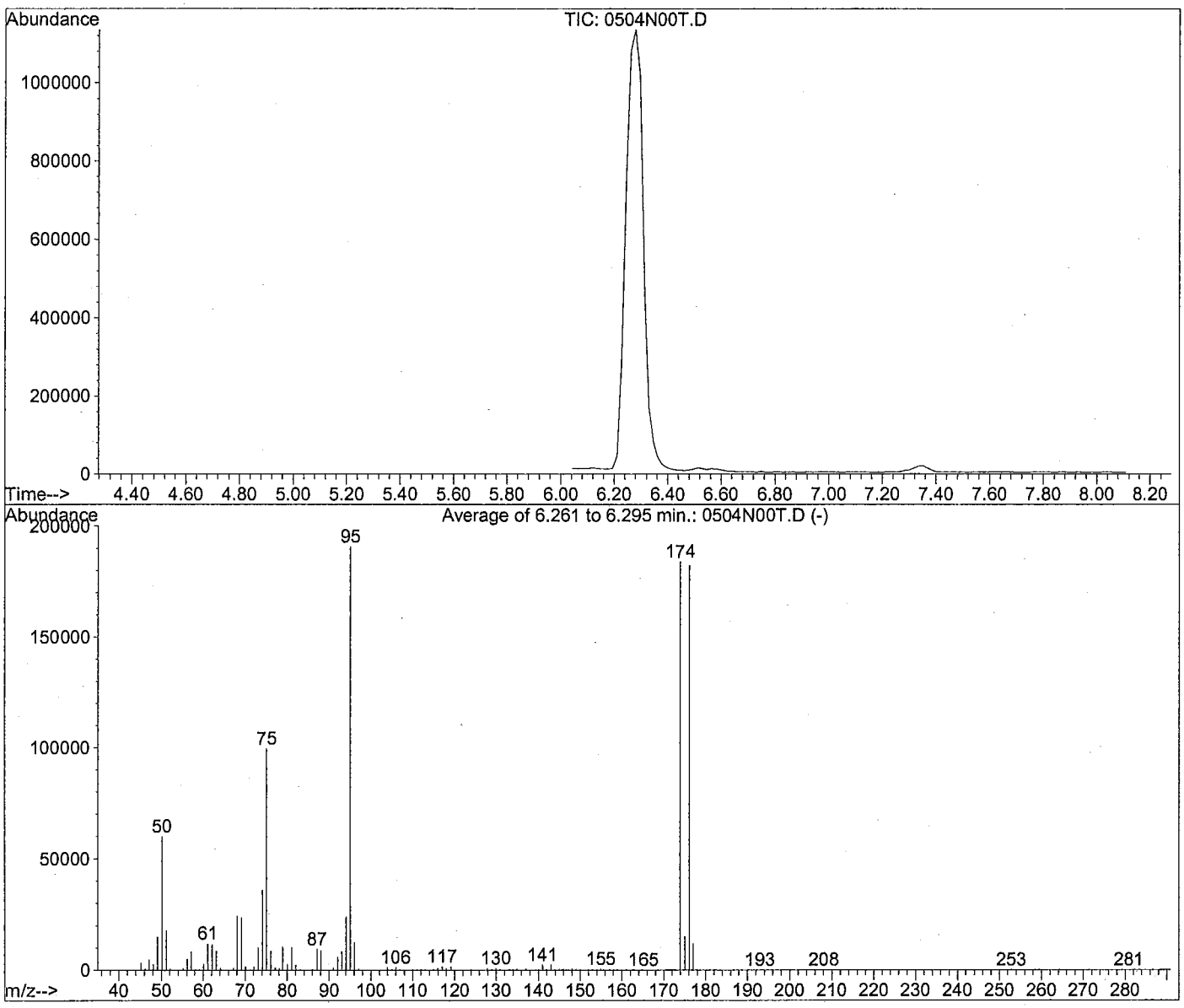
Primary	SPK
Quant Method :	N826AW.M
Extraction Date :	5/13/2009
Analysis Date :	5/13/2009
Instrument :	Neo
Run :	0513N01
Initials :	GM

Printed: 5/29/2009 10:40:56 AM

APPL Standard LCS

Data File : M:\NEO\DATA\N090504\0504N00T.D Vial: 1
Acq On : 4 May 09 17:51 Operator: NR
Sample : 20ug/L BFB Std 2-24-09K Inst : Neo
Misc : 2ul Multiplr: 1.00

Method : M:\NEO\DATA\N090504\N826AW.M (RTE Integrator)
Title : METHOD 8260B: 10ML PURGE



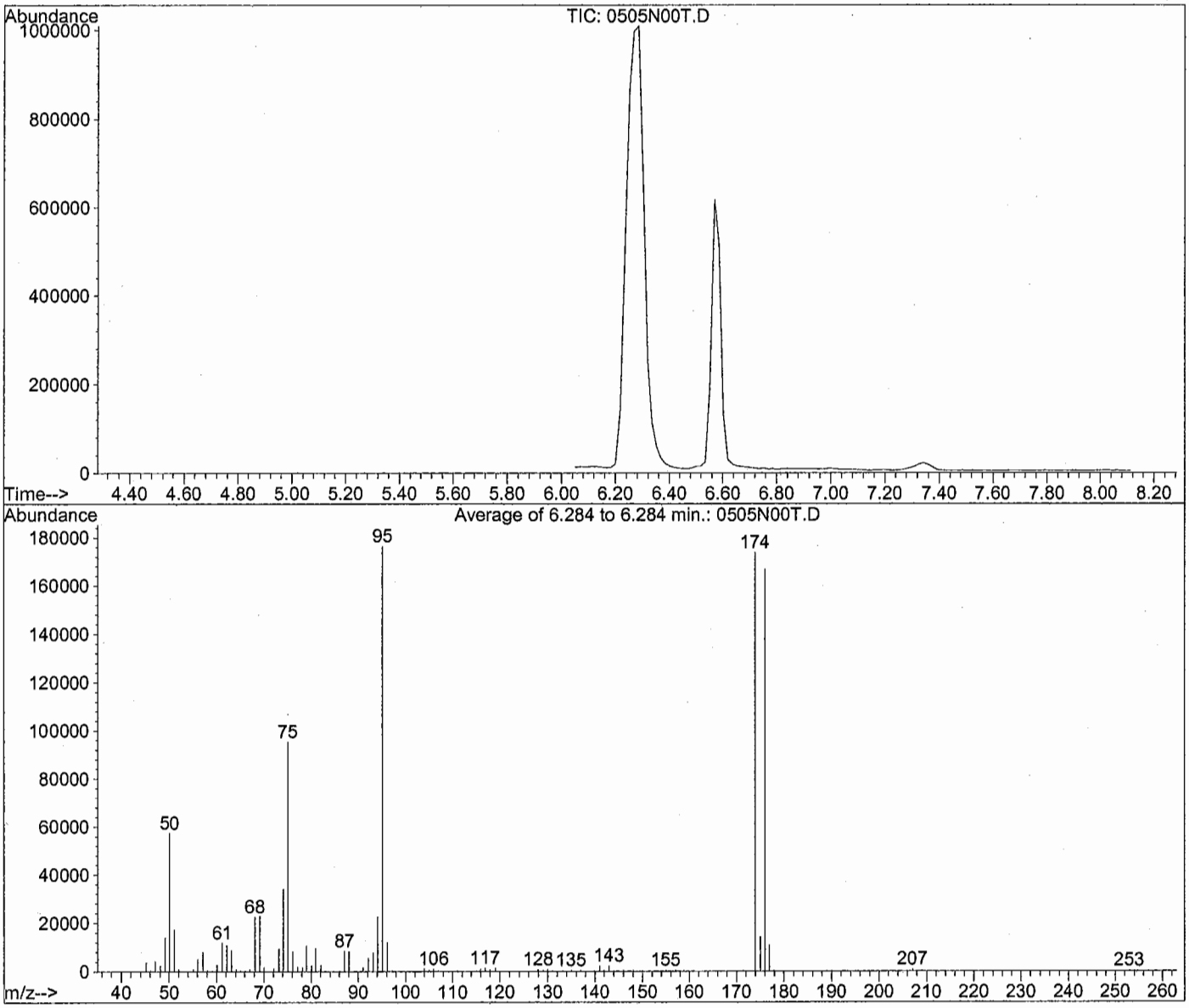
Spectrum Information: Average of 6.261 to 6.295 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	31.4	59978	PASS
75	95	30	60	52.2	99617	PASS
95	95	100	100	100.0	190729	PASS
96	95	5	9	6.5	12371	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.4	183936	PASS
175	174	5	9	8.2	15087	PASS
176	174	95	101	99.1	182251	PASS
177	176	5	9	6.5	11931	PASS

0504N00T.D N826AW.M Fri May 29 10:59:36 2009

Data File : M:\NEO\DATA\N090504\0505N00T.D Vial: 1
Acq On : 5 May 09 12:20 Operator: NR
Sample : 20ug/L BFB Std 2-24-09K Inst : Neo
Misc : 2ul Multiplr: 1.00

Method : M:\NEO\DATA\N090504\N826AW.M (RTE Integrator)
Title : METHOD 8260B: 10ML PURGE



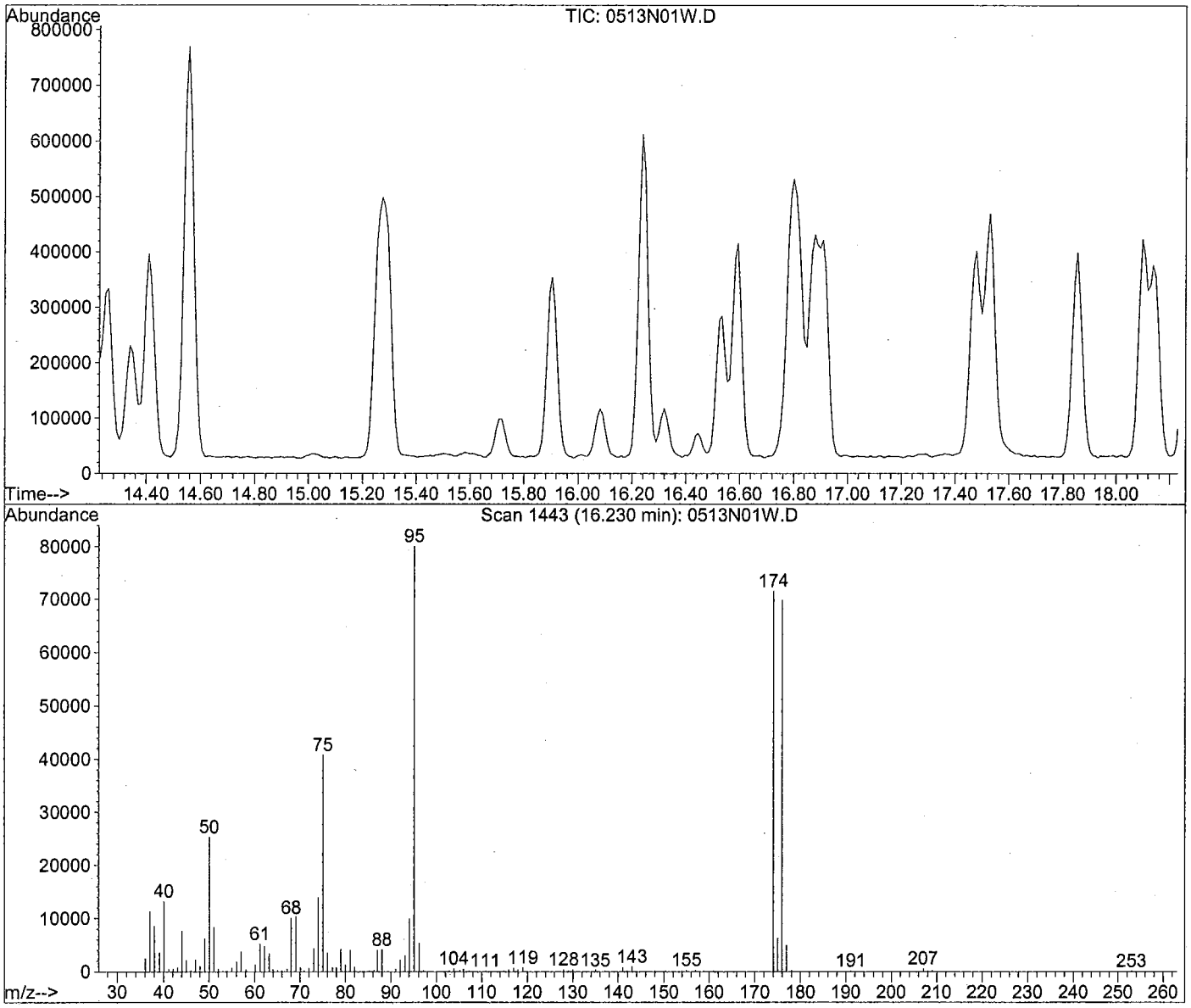
Spectrum Information: Average of 6.284 to 6.284 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	32.5	57368	PASS
75	95	30	60	54.0	95368	PASS
95	95	100	100	100.0	176448	PASS
96	95	5	9	6.8	12021	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	98.5	173760	PASS
175	174	5	9	8.2	14299	PASS
176	174	95	101	95.9	166720	PASS
177	176	5	9	6.5	10806	PASS

0505N00T.D N826AW.M Fri May 29 10:59:50 2009

Data File : M:\NEO\DATA\N090504\0513N01W.D Vial: 1
Acq On : 13 May 09 10:19 Operator: NR
Sample : 20ug/L BFB Std 2-24-09K Inst : Neo
Misc : 2ul Multiplr: 1.00

Method : M:\NEO\DATA\N090504\N826AW.M (RTE Integrator)
Title : METHOD 8260B: 10ML PURGE



Spectrum Information: Scan 1443

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	31.6	25280	PASS
75	95	30	60	51.0	40808	PASS
95	95	100	100	100.0	80048	PASS
96	95	5	9	6.6	5297	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	89.4	71584	PASS
175	174	5	9	8.7	6212	PASS
176	174	95	101	97.6	69848	PASS
177	176	5	9	7.1	4954	PASS

0513N01W.D N826AW.M Fri May 29 11:26:43 2009

Injection Log

Directory: M:\NEO\DATA\N090504\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0504N00T.D	1	20ug/L BFB Std 2-24-09K	2ul	4 May 09 17:51
2	1	0504N03W.D	1	Vol Std 5-4-09AJ@ 0.3ug/L	Water 10mL w/IS:4-07-09C	4 May 09 19:50
3	1	0504N04W.D	1	Vol Std 5-4-09AK@ 0.5ug/L	Water 10mL w/IS:4-07-09C	4 May 09 20:25
4	1	0504N05W.D	1	Vol Std 5-4-09AL@ 1.0ug/L	Water 10mL w/IS:4-07-09C	4 May 09 21:00
5	1	0504N06W.D	1	Vol Std 5-4-09AM@ 5.0ug/L	Water 10mL w/IS:4-07-09C	4 May 09 21:35
6	1	0504N07W.D	1	Vol Std 5-4-09AN@10ug/L	Water 10mL w/IS:4-07-09C	4 May 09 22:10
7	1	0504N08W.D	1	Vol Std 5-4-09 AO@40ug/L	Water 10mL w/IS:4-07-09C	4 May 09 22:44
8	1	0504N09W.D	1	Vol Std 5-4-09 AP@100ug/L	Water 10mL w/IS:4-07-09C	4 May 09 23:20
9	1	0504N10W.D	1	Vol Std 5-4-09AQ@200ug/L	Water 10mL w/IS:4-07-09C	4 May 09 23:54
10	1	0505N00T.D	1	20ug/L BFB Std 2-24-09K	2ul	5 May 09 12:20
11	1	0505N02W.D	1	090505A LCS-1WN (SS)	Water 10mL w/IS&S:4-07C/4-17B	5 May 09 13:32
12	1	0513N00T.D	1	20ug/L BFB Std 2-24-09K	2ul	13 May 09 9:54
13	1	0513N02W.D	1	090513A LCS-1WN	Water 10mL w/IS&S:4-07C/4-17B	13 May 09 10:54
14	1	0513N05W.D	1	090513A BLK-1WN	Water 10mL w/IS&S:4-07C/4-17B	13 May 09 12:37
15	1	0513N06W.D	1	AX96655W01	Water 10mL w/IS&S:4-07C/4-17B	13 May 09 13:12

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
EPA 160.1	Total Dissolved Solids EPA 160	Not detected	10	4.4	mg/L	05/15/09	05/18/09	$TDS-090515A-AX96655

Metals SC-Blank-REG MDLs
Printed: 05/26/09 10:17:19 AM

Laboratory Control Spike Recoveries

WETLAB DISSOLVED

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 160.1	Total Dissolved Solids EPA	221	237	205	107	92.8	14.5	20	80-120	05/15/09	05/18/09	05/15/09	05/18/09	$TDS-090515A-AX96655

Comments: _____

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

Parsons Engineering Science, Inc.
8000 Centre Park Drive Ste 200
Austin, TX 78754

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Tammy Chang

Project: 746546.02000 CSSA

Sample ID: B3-EXW01

Sample Collection Date: 05/12/09

APPL ID: AX96655

ARF: 58872

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date
EPA 160.1	Total Dissolved Solids EPA 160.1	523	10	4.4	mg/L	05/15/09	05/18/09

Printed: 05/26/09 10:17:18 AM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

INORGANIC ANALYSIS
Raw Data

APPL, INC.

TDS

Batch: QCG 090515-T001911

Date: 05/15/09

Sample	Container	Volume (mL)	Pan (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	TDS / TSS (mg/L)	Comments
AX96655M1	W04	100	102.6943 05/15/09 16:43	102.7671 05/18/09 11:42	102.7670 05/18/09 17:13	**727.0000**	
AX96655	W04	100	102.8768 05/15/09 16:43	102.9292 05/18/09 11:41	102.9291 05/18/09 17:11	**523.0000**	
LCS		100	104.4197 05/15/09 16:44	104.4433 05/18/09 11:39	104.4434 05/18/09 17:14	**237.0000**	
Blank1		100	96.2687 05/15/09 16:44	96.2688 05/18/09 11:39	96.2689 05/18/09 17:15	**2.0000**	
LCSD		100	102.0662 05/15/09 16:45	102.0865 05/18/09 11:37	102.0867 05/18/09 17:16	**205.0000**	

Date/Time @104°C	Date/Time @180°C	Date/Time inDessicator	Date/Time Weighed	Date/Time @180°C	Date/Time inDessicator	Date/Time Weighed
05/15/09 4:50:00 PM	05/18/09 8:00:00 AM	05/18/09 10:30:00 AM	05/18/09 11:37:00 AM	05/18/09 11:45:00 AM	05/18/09 3:50:00 PM	05/18/09 5:11:00 PM

Date	Initials	Balance	Weight	Reading	Lower Limit	Upper Limit	Comments
							Bubble centered
5/13/09	MR	Mettler AT200	0.5g	0.5000 g	0.4995	0.5005	Yes
		Mettler AT200	1g	0.9999 g	0.9990	1.0010	
		Mettler AT200	20g	20.0000 g	19.9800	20.0200	
		Mettler AT200	50g	50.0001 g	49.9500	50.0500	
		Mettler AT200	100g	100.0002g	99.9000	100.1000	
		Mettler AT200	150g	150.0003g	149.8500	150.1500	
		OHAUS ARC120	0.1g	0.10 g	0.08	0.12	
		OHAUS ARC120	0.5g	0.50g	0.48	0.52	
		OHAUS ARC120	1g	1.00 g	0.98	1.02	
		OHAUS ARC120	100g	100.00 g	99.80	100.20	
		OHAUS ARC120	1kg	999.92 g	998.00	1002 ~~102~~.00	KM 1/13/09
		OHAUS ARC120	2kg	1999.85g	1998.00	2002.00	
5/14/09	DOB						
		Mettler AT200	0.5g	0.5001 g	0.4995	0.5005	Bubble centred.
		Mettler AT200	1g	0.9998 g	0.9990	1.0010	
		Mettler AT200	20g	19.9999 g	19.9800	20.0200	
		Mettler AT200	50g	50.0002 g	49.9500	50.0500	
		Mettler AT200	100g	99.9995 g	99.9000	100.1000	
		Mettler AT200	150g	150.0001 g	149.8500	150.1500	
		OHAUS ARC120	0.1g	0.10 g	0.08	0.12	
		OHAUS ARC120	0.5g	0.50 g	0.48	0.52	
		OHAUS ARC120	1g	1.00 g	0.98	1.02	
		OHAUS ARC120	100g	100.00 g	99.80	100.20	
		OHAUS ARC120	1kg	999.87 g	998.00	1002 ~~102~~.00	KM 1/13/09
		OHAUS ARC120	2kg	1999.77 g	1998.00	2002.00	
5/15/09	MR	Mettler AT200	0.5g	0.5000 g	0.4995	0.5005	Yes
		Mettler AT200	1g	0.9999 g	0.9990	1.0010	
		Mettler AT200	20g	20.0000g	19.9800	20.0200	
		Mettler AT200	50g	50.0003g	49.9500	50.0500	
		Mettler AT200	100g	99.9998g	99.9000	100.1000	
		Mettler AT200	150g	150.0001g	149.8500	150.1500	
		OHAUS ARC120	0.1g	0.10g	0.08	0.12	
		OHAUS ARC120	0.5g	0.50g	0.48	0.52	
		OHAUS ARC120	1g	1.00g	0.98	1.02	
		OHAUS ARC120	100g	100.00 g	99.80	100.20	
		OHAUS ARC120	1kg	999.90g	998.00	1002 ~~102~~.00	KM 1/13/09
		OHAUS ARC120	2kg	1999.79g	1998.00	2002.00	
5/18/09	MR	Mettler AT200	0.5g	0.5000g	0.4995	0.5005	Yes
		Mettler AT200	1g	0.9999g	0.9990	1.0010	
		Mettler AT200	20g	20.0001g	19.9800	20.0200	
		Mettler AT200	50g	50.0003g	49.9500	50.0500	
		Mettler AT200	100g	100.0001g	99.9000	100.1000	
		Mettler AT200	150g	150.0004g	149.8500	150.1500	
		OHAUS ARC120	0.1g	0.10 g	0.08	0.12	
		OHAUS ARC120	0.5g	0.50g	0.48	0.52	
		OHAUS ARC120	1g	1.00g	0.98	1.02	
		OHAUS ARC120	100g	100.00g	99.80	100.20	
		OHAUS ARC120	1kg	999.92 g	998.00	1002 ~~102~~.00	KM 9/13/09
		OHAUS ARC120	2kg	1999.81 g	1998.00	2002.00	