

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	-5	2.0000	6	5.0000	-1	10.000	9	20.000	-7	50.000	2	75.000	-1	100.00	-4
Chloromethane	0.5000	25	1.0000	-2	2.0000	3	5.0000	-14	10.000	-5	20.000	3	50.000	-1	75.000	-3	100.00	-6
Vinyl Chloride	0.5000	17	1.0000	-4	2.0000	3	5.0000	-8	10.000	0	20.000	3	50.000	0	75.000	-5	100.00	-6
Bromomethane			1.0000	-21	2.0000	-9	5.0000	-15	10.000	5	20.000	11	50.000	12	75.000	10	100.00	6
Chloroethane			1.0000	-3	2.0000	2	5.0000	-8	10.000	2	20.000	2	50.000	3	75.000	3	100.00	-2
Trichlorofluoromethane			1.0000	1	2.0000	2	5.0000	-5	10.000	4	20.000	-2	50.000	4	75.000	-2	100.00	-2
Acetone					2.0000	6	5.0000	-6	10.000	2	20.000	-11	50.000	-1	75.000	6	100.00	5
Freon 113			0.5000	3	2.0000	-14	5.0000	-6	10.000	2	20.000	1	50.000	8	75.000	3	100.00	3
1,1-Dichloroethene			0.5000	0	2.0000	-10	5.0000	-6	10.000	1	20.000	1	50.000	7	75.000	4	100.00	2
Methylene Chloride			0.5000	-2	2.0000	-2	5.0000	-6	10.000	5	20.000	0	50.000	5	75.000	1	100.00	-1
Carbon Disulfide			0.5000	0	2.0000	-7	5.0000	-6	10.000	1	20.000	1	50.000	7	75.000	4	100.00	0
MTBE			0.5000	3	2.0000	-5	5.0000	-5	10.000	7	20.000	-3	50.000	-1	75.000	1	100.00	3
trans-1,2-Dichloroethene			0.5000	2	2.0000	-6	5.0000	-4	10.000	3	20.000	2	50.000	3	75.000	0	100.00	0
Vinyl Acetate					2.0000	5	5.0000	-11	10.000	14	20.000	4	50.000	-1	75.000	-14	100.00	3
1,1-Dichloroethane			0.5000	4	2.0000	-2	5.0000	-4	10.000	8	20.000	1	50.000	6	75.000	-4	100.00	-8
2-Butanone					2.0000	3	5.0000	3	10.000	6	20.000	-4	50.000	-5	75.000	-1	100.00	-2
2,2-Dichloropropane			0.5000	9	2.0000	-5	5.0000	-6	10.000	3	20.000	2	50.000	7	75.000	-4	100.00	-6
cis-1,2-Dichloroethene			0.5000	2	2.0000	-7	5.0000	-8	10.000	2	20.000	2	50.000	7	75.000	4	100.00	-1
Chloroform			0.5000	-1	2.0000	-2	5.0000	-5	10.000	4	20.000	1	50.000	5	75.000	0	100.00	-3
Bromochloromethane			0.5000	-5	2.0000	-8	5.0000	-4	10.000	3	20.000	1	50.000	7	75.000	6	100.00	0
1,1,1-Trichloroethane			0.5000	9	2.0000	-5	5.0000	-5	10.000	1	20.000	1	50.000	4	75.000	-2	100.00	-3
1,1-Dichloropropene			0.5000	7	2.0000	-4	5.0000	-3	10.000	2	20.000	0	50.000	5	75.000	-2	100.00	-4
Carbon Tetrachloride			0.5000	7	2.0000	-6	5.0000	-4	10.000	2	20.000	-1	50.000	5	75.000	0	100.00	-3
1,2-Dichloroethane			0.5000	2	2.0000	-2	5.0000	-2	10.000	8	20.000	-2	50.000	2	75.000	-1	100.00	-7
Benzene			0.5000	2	2.0000	-2	5.0000	-3	10.000	7	20.000	-1	50.000	4	75.000	-1	100.00	-7
Trichloroethene			0.5000	3	2.0000	-8	5.0000	-5	10.000	4	20.000	1	50.000	8	75.000	1	100.00	-3
1,2-Dichloropropane			0.5000	6	2.0000	-2	5.0000	-3	10.000	5	20.000	0	50.000	4	75.000	-1	100.00	-8
Bromodichloromethane			0.5000	-5	2.0000	-6	5.0000	-6	10.000	5	20.000	0	50.000	10	75.000	4	100.00	-1
Dibromomethane			0.5000	-5	2.0000	-6	5.0000	-2	10.000	8	20.000	-3	50.000	3	75.000	4	100.00	1
4-Methyl-2-Pentanone					2.0000	7	5.0000	-4	10.000	10	20.000	-4	50.000	-1	75.000	-3	100.00	-5
cis-1,3-Dichloropropene			0.5000	-3	2.0000	-5	5.0000	-4	10.000	10	20.000	0	50.000	5	75.000	-1	100.00	-1
Toluene			0.5000	9	2.0000	0	5.0000	5	10.000	3	20.000	1	50.000	1	75.000	-7	100.00	-12
trans-1,3-Dichloropropene			0.5000	-5	2.0000	-6	5.0000	0	10.000	6	20.000	-1	50.000	5	75.000	-1	100.00	0
1,1,2-Trichloroethane			0.5000	-6	2.0000	2	5.0000	1	10.000	2	20.000	-1	50.000	3	75.000	-1	100.00	0
2-Hexanone					2.0000	0	5.0000	1	10.000	10	20.000	-2	50.000	-2	75.000	-3	100.00	-3
1,3-Dichloropropane			0.5000	0	2.0000	-1	5.0000	0	10.000	8	20.000	0	50.000	0	75.000	-4	100.00	-3
Tetrachloroethene			0.5000	11	2.0000	-12	5.0000	-2	10.000	0	20.000	-2	50.000	3	75.000	2	100.00	1
Dibromochloromethane			0.5000	-3	2.0000	-10	5.0000	-3	10.000	0	20.000	-4	50.000	7	75.000	6	100.00	7
1,2-Dibromoethane			0.5000	-7	2.0000	-7	5.0000	2	10.000	4	20.000	-4	50.000	4	75.000	4	100.00	4
Chlorobenzene			0.5000	8	2.0000	-5	5.0000	2	10.000	1	20.000	-1	50.000	0	75.000	-2	100.00	-4
1,1,1,2-Tetrachloroethane			0.5000	-1	2.0000	-6	5.0000	0	10.000	-1	20.000	-3	50.000	7	75.000	1	100.00	3
Ethylbenzene			0.5000	12	2.0000	-5	5.0000	4	10.000	3	20.000	-1	50.000	2	75.000	-7	100.00	-9

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	12	1.0000	12	4.0000	-2	10.000	2	20.000	6	40.000	1	100.00	-6	150.00	-12	200.00	-13
o-Xylene			0.5000	2	2.0000	-1	5.0000	2	10.000	4	20.000	2	50.000	5	75.000	-5	100.00	-10
Styrene			0.5000	9	2.0000	4	5.0000	10	10.000	11	20.000	11	50.000	2	75.000	-24	100.00	-23
Bromoform			0.5000	-4	2.0000	-11	5.0000	-8	10.000	-2	20.000	-7	50.000	7	75.000	11	100.00	15
Isopropylbenzene			0.5000	7	2.0000	-2	5.0000	6	10.000	5	20.000	5	50.000	0	75.000	-6	100.00	-14
1,1,2,2-Tetrachloroethane			0.5000	-5	2.0000	8	5.0000	5	10.000	8	20.000	-3	50.000	-6	75.000	-2	100.00	-4
1,2,3-Trichloropropane			0.5000	-8	2.0000	10	5.0000	3	10.000	8	20.000	-5	50.000	-8	75.000	2	100.00	-2
Propylbenzene			0.5000	12	2.0000	0	5.0000	9	10.000	7	20.000	5	50.000	-3	75.000	-11	100.00	-20
Bromobenzene			0.5000	1	2.0000	1	5.0000	4	10.000	3	20.000	3	50.000	1	75.000	-3	100.00	-11
1,3,5-Trimethylbenzene			0.5000	10	2.0000	0	5.0000	7	10.000	7	20.000	10	50.000	-5	75.000	-15	100.00	-15
2-Chlorotoluene			0.5000	13	2.0000	6	5.0000	8	10.000	8	20.000	9	50.000	-6	75.000	-18	100.00	-20
4-Chlorotoluene			0.5000	9	2.0000	0	5.0000	4	10.000	3	20.000	3	50.000	-1	75.000	-7	100.00	-11
tert-Butylbenzene			0.5000	8	2.0000	-3	5.0000	6	10.000	4	20.000	6	50.000	0	75.000	-8	100.00	-14
1,2,4-Trimethylbenzene			0.5000	7	2.0000	1	5.0000	7	10.000	5	20.000	9	50.000	-7	75.000	-10	100.00	-12
sec-Butylbenzene			0.5000	9	2.0000	-4	5.0000	8	10.000	3	20.000	6	50.000	-5	75.000	-7	100.00	-9
para-Isopropyl Toluene			0.5000	7	2.0000	-5	5.0000	7	10.000	3	20.000	3	50.000	1	75.000	-4	100.00	-10
1,3-Dichlorobenzene			0.5000	5	2.0000	-2	5.0000	1	10.000	-1	20.000	0	50.000	0	75.000	-1	100.00	-4
1,4-Dichlorobenzene			0.5000	8	2.0000	-2	5.0000	1	10.000	-1	20.000	0	50.000	-1	75.000	-1	100.00	-4
n-Butylbenzene			0.5000	15	2.0000	-4	5.0000	2	10.000	2	20.000	-1	50.000	1	75.000	-6	100.00	-9
1,2-Dichlorobenzene			0.5000	1	2.0000	-2	5.0000	1	10.000	-1	20.000	-2	50.000	0	75.000	4	100.00	-1
1,2-Dibromo-3-Chloropropane			0.5000	-3	2.0000	2	5.0000	1	10.000	6	20.000	-8	50.000	-6	75.000	6	100.00	1
1,2,4-Trichlorobenzene			0.5000	3	2.0000	-6	5.0000	-2	10.000	-4	20.000	-3	50.000	2	75.000	6	100.00	3
Hexachlorobutadiene			0.5000	11	2.0000	-11	5.0000	-4	10.000	-2	20.000	-1	50.000	3	75.000	2	100.00	1
Naphthalene			0.5000	-8	2.0000	-2	5.0000	0	10.000	4	20.000	-6	50.000	-2	75.000	8	100.00	6
1,2,3-Trichlorobenzene			0.5000	0	2.0000	-3	5.0000	-3	10.000	-2	20.000	-3	50.000	1	75.000	7	100.00	3
Dibromofluoromethane	50.000	-1	50.000	0	50.000	1	50.000	-2	50.000	1	50.000	1	50.000	1	50.000	0	50.000	-2
1,2-Dichloroethane-d4	50.000	2	50.000	2	50.000	10	50.000	1	50.000	6	50.000	-2	50.000	-4	50.000	-4	50.000	-11
Toluene-d8	50.000	-1	50.000	1	50.000	1	50.000	3	50.000	-2	50.000	2	50.000	2	50.000	-4	50.000	-3
Bromofluorobenzene	50.000	5	50.000	0	50.000	5	50.000	3	50.000	3	50.000	1	50.000	-4	50.000	-5	50.000	-9

DAR 10/06/15 [Bromomethane]: Combined split peak1PPB (ij410).

DAR 10/06/15 [tert-Butyl Alcohol (TBA)]: Combined split peak1PPB (ij410).

DAR 10/06/15 [Vinyl Acetate]: Combined split peak1PPB (ij410).

DAR 10/06/15 [2-Butanone]: Combined split peak in 5PPB (ij412).

DAR 10/06/15 [2-Hexanone]: Combined split peak1PPB (ij410).

DAR 10/06/15 : Does not meet min RF, cannot use for 8260c. Acetone, 2-butanone

DAR 10/07/15 : final Iodomethane and 2-Cleve ICV runs were third source

Analyst: DAR

Date: 10/07/15

Reviewer: LW

Date: 10/08/15

m=manual integration

Instrument amount =  $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$ ; AVRG=Average response factor

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485399877001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA09  
Calnum : 485399877001

Name : 826GOX9W  
Cal Date : 04-OCT-2015

Type : WATER

ICV 485399877018 (ij418 05-OCT-2015) stds: S27267 (10000X), S28060 (5000X)  
ICV 485399877019 (ij419 05-OCT-2015) stds: S28219 (10000X), S28220 (10000X),  
S27929 (10000X), S28060 (5000X)  
ICV 485401479003 (ij503 05-OCT-2015) stds: S27929 (10000X), S28060 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	485399877018	20.00	18.32	ug/L	-8	30	
Chloromethane	485399877018	20.00	19.42	ug/L	-3	30	
Vinyl Chloride	485399877018	20.00	19.95	ug/L	0	20	
Bromomethane	485399877018	20.00	14.06	ug/L	<b>-30</b>	30	!v-
Chloroethane	485399877018	20.00	19.77	ug/L	-1	30	
Trichlorofluoromethane	485399877018	20.00	19.84	ug/L	-1	30	
Acetone	485401479003	25.00	22.33	ug/L	-11	40	
Freon 113	485401479003	25.00	20.00	ug/L	-20	30	
1,1-Dichloroethene	485401479003	25.00	20.20	ug/L	-19	20	
Methylene Chloride	485401479003	25.00	21.52	ug/L	-14	30	
Carbon Disulfide	485401479003	25.00	20.11	ug/L	-20	30	
MTBE	485399877019	25.00	22.64	ug/L	-9	30	
trans-1,2-Dichloroethene	485401479003	25.00	19.74	ug/L	<b>-21</b>	30	!v-
Vinyl Acetate	485401479003	25.00	32.85	ug/L	<b>31</b>	40	!v+
1,1-Dichloroethane	485401479003	25.00	21.20	ug/L	-15	30	
2-Butanone	485401479003	25.00	24.24	ug/L	-3	40	
2,2-Dichloropropane	485401479003	25.00	26.28	ug/L	5	30	
cis-1,2-Dichloroethene	485401479003	25.00	23.16	ug/L	-7	30	
Chloroform	485401479003	25.00	22.50	ug/L	-10	20	
Bromochloromethane	485401479003	25.00	22.64	ug/L	-9	30	
1,1,1-Trichloroethane	485401479003	25.00	21.83	ug/L	-13	30	
1,1-Dichloropropene	485401479003	25.00	20.64	ug/L	-17	30	
Carbon Tetrachloride	485401479003	25.00	22.71	ug/L	-9	30	
1,2-Dichloroethane	485401479003	25.00	23.17	ug/L	-7	30	
Benzene	485401479003	25.00	22.80	ug/L	-9	30	
Trichloroethene	485401479003	25.00	22.72	ug/L	-9	30	
1,2-Dichloropropane	485401479003	25.00	20.85	ug/L	-17	20	
Bromodichloromethane	485401479003	25.00	23.56	ug/L	-6	30	
Dibromomethane	485401479003	25.00	24.21	ug/L	-3	30	
4-Methyl-2-Pentanone	485401479003	25.00	25.43	ug/L	2	40	
cis-1,3-Dichloropropene	485401479003	25.00	25.08	ug/L	0	30	
Toluene	485401479003	25.00	25.05	ug/L	0	20	
trans-1,3-Dichloropropene	485401479003	25.00	26.32	ug/L	5	30	
1,1,2-Trichloroethane	485401479003	25.00	26.48	ug/L	6	30	
2-Hexanone	485401479003	25.00	29.06	ug/L	16	40	
1,3-Dichloropropane	485401479003	25.00	27.02	ug/L	8	30	
Tetrachloroethene	485401479003	25.00	26.74	ug/L	7	30	
Dibromochloromethane	485401479003	25.00	25.69	ug/L	3	30	
1,2-Dibromoethane	485401479003	25.00	26.16	ug/L	5	30	
Chlorobenzene	485401479003	25.00	25.53	ug/L	2	30	
1,1,1,2-Tetrachloroethane	485401479003	25.00	25.70	ug/L	3	30	
Ethylbenzene	485401479003	25.00	25.38	ug/L	2	20	
m,p-Xylenes	485401479003	50.00	54.02	ug/L	8	30	
o-Xylene	485401479003	25.00	25.60	ug/L	2	30	
Styrene	485401479003	25.00	28.75	ug/L	15	30	
Bromoform	485401479003	25.00	26.48	ug/L	6	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Isopropylbenzene	485401479003	25.00	26.52	ug/L	6	30	
1,1,2,2-Tetrachloroethane	485401479003	25.00	28.02	ug/L	12	30	
1,2,3-Trichloropropane	485401479003	25.00	27.88	ug/L	12	30	
Propylbenzene	485401479003	25.00	26.78	ug/L	7	30	
Bromobenzene	485401479003	25.00	26.28	ug/L	5	30	
1,3,5-Trimethylbenzene	485401479003	25.00	27.83	ug/L	11	30	
2-Chlorotoluene	485401479003	25.00	26.41	ug/L	6	30	
4-Chlorotoluene	485401479003	25.00	26.26	ug/L	5	30	
tert-Butylbenzene	485401479003	25.00	26.11	ug/L	4	30	
1,2,4-Trimethylbenzene	485401479003	25.00	26.51	ug/L	6	30	
sec-Butylbenzene	485401479003	25.00	27.47	ug/L	10	30	
para-Isopropyl Toluene	485401479003	25.00	27.08	ug/L	8	30	
1,3-Dichlorobenzene	485401479003	25.00	25.57	ug/L	2	30	
1,4-Dichlorobenzene	485401479003	25.00	25.51	ug/L	2	30	
n-Butylbenzene	485401479003	25.00	27.62	ug/L	10	30	
1,2-Dichlorobenzene	485401479003	25.00	25.36	ug/L	1	30	
1,2-Dibromo-3-Chloropropane	485401479003	25.00	26.61	ug/L	6	30	
1,2,4-Trichlorobenzene	485401479003	25.00	26.50	ug/L	6	30	
Hexachlorobutadiene	485401479003	25.00	28.33	ug/L	13	30	
Naphthalene	485401479003	25.00	25.05	ug/L	0	30	
1,2,3-Trichlorobenzene	485401479003	25.00	26.94	ug/L	8	30	

485399877018: Analyst: DAR

Date: 10/07/15

Reviewer: LW

Date: 10/08/15

485399877019: Analyst: DAR

Date: 10/07/15

Reviewer: LW

Date: 10/08/15

485401479003: Analyst: DAR

Date: 10/07/15

Reviewer: LW

Date: 10/08/15

!=warning +=high bias -=low bias v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271203 MSVOA Water: EPA 8260B

Inst : MSVOA10  
 Calnum : 495321824001  
 Units : ug/L

Name : 826GOX10  
 Date : 11-AUG-2015 15:53  
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	jhb08	495321824008	0.25/.5PPB	11-AUG-2015 15:53	S27699 (2000000X), S26220 (1000000X), S27697 (2500X), S26360 (2000000X), S27823 (2000000X)
L2	jhb09	495321824009	0.5/1PPB	11-AUG-2015 16:24	S26360 (1000000X), S27823 (1000000X), S27699 (1000000X), S26220 (500000X), S27697 (2500X)
L3	jhb10	495321824010	2PPB	11-AUG-2015 16:56	S26360 (500000X), S27823 (250000X), S27699 (250000X), S26220 (250000X), S27697 (2500X)
L4	jhb11	495321824011	5PPB	11-AUG-2015 17:27	S26360 (200000X), S27823 (100000X), S27699 (100000X), S26220 (100000X), S27697 (2500X)
L5	jhb12	495321824012	10PPB	11-AUG-2015 17:59	S26360 (100000X), S27823 (50000X), S27699 (50000X), S26220 (50000X), S27697 (2500X)
L6	jhb13	495321824013	20PPB	11-AUG-2015 18:30	S26360 (50000X), S27823 (25000X), S27699 (25000X), S26220 (25000X), S27697 (2500X)
L7	jhb14	495321824014	50PPB	11-AUG-2015 19:01	S26360 (20000X), S27823 (10000X), S27699 (10000X), S26220 (10000X), S27697 (2500X)
L8	jhb15	495321824015	75PPB	11-AUG-2015 19:32	S26360 (13330X), S27823 (6667X), S27699 (6667X), S26220 (6667X), S27697 (2500X)
L9	jhb16	495321824016	100PPB	11-AUG-2015 20:04	S26360 (10000X), S27823 (5000X), S27699 (5000X), S26220 (5000X), S27697 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		1.3415m	1.2241	1.1886m	0.8091	0.8281	0.8035	0.7782	0.7241	QUAD	-0.3134	1.09275	0.003863	0.9621	0.999	15	0.05	0.99	
Chloromethane	2.0077	1.7097	1.5495	1.4604	1.2534	1.1571	1.1104	1.1110	0.9953	QUAD	-0.0637	0.75235	0.002321	1.3727	0.998	15	0.10	0.99	
Vinyl Chloride	1.3548m	1.2905m	1.2330m	1.1439	1.0058	0.9830	0.9373	0.9187		AVRG		0.90224		1.1084	15	15	0.05	0.99	
Bromomethane		0.6877	0.6651	0.5910	0.5543	0.5063	0.5010	0.5234	0.5045	AVRG		1.76478		0.5666	13	15	0.05	0.99	
Chloroethane		0.6916	0.6592	0.6594	0.6255	0.6004	0.5828	0.5805	0.5443	AVRG		1.61824		0.6180	8	15	0.05	0.99	
Trichlorofluoromethane		1.2528	1.2175	1.2043	1.1230	1.1296	1.1024	1.0646	1.0113	AVRG		0.87859		1.1382	7	15	0.05	0.99	
Acetone				0.3920	0.4823	0.3896	0.4595	0.4226	0.3587	AVRG		2.39550		0.4174	11	15	0.05	0.99	
Freon 113		0.4585	0.4712	0.5040	0.5569	0.5540	0.5495	0.5822	0.5606	AVRG		1.88815		0.5296	9	15	0.05	0.99	
1,1-Dichloroethene		0.5021	0.4515	0.4378	0.4950	0.4721	0.4637	0.4872	0.4637	AVRG		2.12029		0.4716	5	15	0.05	0.99	
Methylene Chloride		0.6498	0.6724	0.6280	0.7111	0.6788	0.6614	0.6807	0.6304	AVRG		1.50581		0.6641	4	15	0.05	0.99	
Carbon Disulfide		1.9216	1.7246	1.7383	2.0624	1.9352	1.9270	2.0041	1.8580	AVRG		0.52731		1.8964	6	15	0.05	0.99	
MTBE		2.1837	2.1012	1.9953	2.2019	2.0905	2.0206	2.0574	1.8900	AVRG		0.48366		2.0676	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6081	0.5446	0.5260	0.5990	0.5739	0.5577	0.5806	0.5451	AVRG		1.76412		0.5669	5	15	0.05	0.99	
Vinyl Acetate		2.6551	2.6726	2.5121	2.5065	2.4879	2.2293	2.3030	2.1839	AVRG		0.40920		2.4438	8	15	0.05	0.99	
1,1-Dichloroethane		1.4864	1.3175	1.2966	1.4011	1.3434	1.2902	1.3038	1.2181	AVRG		0.75067		1.3321	6	15	0.10	0.99	
2-Butanone				0.6128	0.6341	0.5752	0.5815	0.5749	0.5212	AVRG		1.71443		0.5833	7	15	0.05	0.99	
2,2-Dichloropropane		1.0135	0.8749	0.8521	0.9200	0.8746	0.8414	0.8485	0.7816	AVRG		1.14180		0.8758	8	15	0.05	0.99	
cis-1,2-Dichloroethene		0.7112	0.6275	0.6009	0.6673	0.6421	0.6321	0.6499	0.6097	AVRG		1.55621		0.6426	5	15	0.05	0.99	
Chloroform		1.3318	1.2230	1.1847	1.2418	1.1897	1.1954	1.1885	1.0968	AVRG		0.82886		1.2065	5	15	0.05	0.99	
Bromochloromethane		0.3081	0.3017	0.3060	0.3377	0.3287	0.3307	0.3334	0.3090	AVRG		3.13073		0.3194	5	15	0.05	0.99	
1,1,1-Trichloroethane		0.9259	0.8768	0.8906	0.9379	0.9024	0.9121	0.9487	0.8990	AVRG		1.09688		0.9117	3	15	0.05	0.99	
1,1-Dichloropropene		0.5983	0.5491	0.5481	0.5700	0.5691	0.5715	0.5718	0.5530	AVRG		1.76565		0.5664	3	15	0.05	0.99	
Carbon Tetrachloride		0.5020	0.4536	0.4679	0.4680	0.4646	0.4785	0.4947	0.4824	AVRG		2.09878		0.4765	3	15	0.05	0.99	
1,2-Dichloroethane		0.6856	0.6580	0.6378	0.6822	0.6643	0.6476	0.6567	0.6129	AVRG		1.52526		0.6556	4	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.4803	1.4408	1.4244	1.5586	1.4760	1.4653	1.4655	1.3882	AVRG		0.68381		1.4624	3	15	0.05	0.99	
Trichloroethene		0.4000	0.3746	0.3663	0.3941	0.3795	0.3862	0.3979	0.3803	AVRG		2.59825		0.3849	3	15	0.05	0.99	
1,2-Dichloropropane		0.5126	0.4623	0.4702	0.5017	0.4759	0.4626	0.4895	0.4553	AVRG		2.08877		0.4787	4	15	0.05	0.99	
Bromodichloromethane		0.5924	0.5645	0.5417	0.5883	0.5761	0.5826	0.5972	0.5628	AVRG		1.73699		0.5757	3	15	0.05	0.99	
Dibromomethane		0.3151	0.2930	0.2848	0.3124	0.3024	0.3022	0.3061	0.2891	AVRG		3.32635		0.3006	4	15	0.05	0.99	
4-Methyl-2-Pentanone				0.7291	0.7937	0.7417	0.7420	0.7371	0.6874	AVRG		1.35410		0.7385	5	15	0.05	0.99	
cis-1,3-Dichloropropene		0.7343	0.6752	0.6777	0.7204	0.6941	0.6948	0.7067	0.6539	AVRG		1.43958		0.6946	4	15	0.05	0.99	
Toluene		1.1585	1.0210	0.9925	1.0541	1.0322	1.0261	1.0493	0.9825	AVRG		0.96199		1.0395	5	15	0.05	0.99	
trans-1,3-Dichloropropene		0.8053	0.7261	0.7283	0.7935	0.7761	0.7603	0.7703	0.7210	AVRG		1.31558		0.7601	4	15	0.05	0.99	
1,1,2-Trichloroethane		0.2481	0.2525	0.2360	0.2506	0.2461	0.2425	0.2523	0.2357	AVRG		4.07389		0.2455	3	15	0.05	0.99	
2-Hexanone				0.6098	0.6709	0.6217	0.6281	0.6219	0.5724	AVRG		1.61083		0.6208	5	15	0.05	0.99	
1,3-Dichloropropane		0.8519	0.7652	0.7529	0.8333	0.7985	0.7815	0.8030	0.7539	AVRG		1.26181		0.7925	5	15	0.05	0.99	
Tetrachloroethene		0.4126	0.3566	0.3675	0.3777	0.3795	0.3896	0.4127	0.3921	AVRG		2.59048		0.3860	5	15	0.05	0.99	
Dibromochloromethane		0.4943	0.4361	0.4244	0.4717	0.4768	0.4822	0.5103	0.4857	AVRG		2.11559		0.4727	6	15	0.05	0.99	
1,2-Dibromoethane		0.4556	0.4534	0.4247	0.4779	0.4643	0.4624	0.4856	0.4580	AVRG		2.17288		0.4602	4	15	0.05	0.99	
Chlorobenzene		1.0945	1.0625	1.0269	1.0989	1.0753	1.0676	1.1046	1.0218	AVRG		0.93544		1.0690	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3725	0.3805	0.3700	0.4021	0.4007	0.4008	0.4221	0.3961	AVRG		2.54390		0.3931	4	15	0.05	0.99	
Ethylbenzene		2.0997	1.9789	1.9222	2.0074	1.9390	1.9095	1.9437	1.7655	AVRG		0.51395		1.9457	5	15	0.05	0.99	
m,p-Xylenes	0.6587	0.7249	0.6502	0.6389	0.6748	0.6806	0.6806	0.7034	0.6472	AVRG		1.48533		0.6733	4	15	0.05	0.99	
o-Xylene		0.6558	0.6106	0.6157	0.6440	0.6605	0.6757	0.7090	0.6510	AVRG		1.53188		0.6528	5	15	0.05	0.99	
Styrene		1.1201	1.0724	1.0778	1.1839	1.2086	1.2149	1.2557	1.1354	AVRG		0.86310		1.1586	6	15	0.05	0.99	
Bromoform		0.2625	0.2709	0.2746	0.3108	0.3156	0.3409	0.3616	0.3449	AVRG		3.22346		0.3102	12	15	0.10	0.99	
Isopropylbenzene		4.4792	3.9714	3.9412	3.9063	3.7992	3.6815	3.7726	3.4671	AVRG		0.25791		3.8773	8	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.5198	1.4875	1.3848	1.4439	1.3683	1.2964	1.3165	1.2395	AVRG		0.72355		1.3821	7	15	0.30	0.99	
1,2,3-Trichloropropane		1.4986	1.3982	1.2850	1.3615	1.2490	1.1898	1.2009	1.1203	AVRG		0.77644		1.2879	10	15	0.05	0.99	
Propylbenzene		5.7353	4.9561	4.8531	4.7407	4.6304	4.4831	4.5749	4.1683	AVRG		0.20974		4.7677	10	15	0.05	0.99	
Bromobenzene		1.1207	0.9825	0.9736	1.0165	1.0061	0.9840	1.0105	0.9450	AVRG		0.99516		1.0049	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.9748	2.6967	2.6774	2.7060	2.6812	2.7115	2.8125	2.6055	AVRG		0.36587		2.7332	4	15	0.05	0.99	
2-Chlorotoluene		3.8627	3.3812	3.2724	3.2617	3.1501	3.0701	3.0869	2.8330	AVRG		0.30866		3.2398	9	15	0.05	0.99	
4-Chlorotoluene		3.3946	3.0294	2.9749	2.9391	2.8257	2.8126	2.8635	2.6428	AVRG		0.34068		2.9353	7	15	0.05	0.99	
tert-Butylbenzene		2.8203	2.5232	2.4785	2.4847	2.4852	2.5103	2.6242	2.4154	AVRG		0.39328		2.5427	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.6653	2.4557	2.4522	2.5059	2.4880	2.5737	2.7146	2.5307	AVRG		0.39242		2.5483	4	15	0.05	0.99	
sec-Butylbenzene		4.3485	3.8569	3.9745	3.9524	3.9395	3.9671	4.0722	3.7111	AVRG		0.25140		3.9778	5	15	0.05	0.99	
para-Isopropyl Toluene		2.9584	2.6125	2.6783	2.7025	2.7157	2.8669	2.9823	2.7807	AVRG		0.35879		2.7872	5	15	0.05	0.99	
1,3-Dichlorobenzene		1.6738	1.6513	1.6074	1.6395	1.6604	1.7017	1.7685	1.6371	AVRG		0.59971		1.6675	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.8189	1.6159	1.6140	1.6796	1.6819	1.6775	1.7477	1.6266	AVRG		0.59426		1.6828	4	15	0.05	0.99	
n-Butylbenzene		2.5889	2.3334	2.4046	2.4370	2.4657	2.5617	2.6904	2.4959	AVRG		0.40045		2.4972	5	15	0.05	0.99	
1,2-Dichlorobenzene		1.6240	1.5858	1.5598	1.6224	1.6157	1.6277	1.6867	1.5852	AVRG		0.61981		1.6134	2	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.1690	0.2619	0.2454	0.2484	0.2536	0.2491	0.2556	0.2413	AVRG		4.15743		0.2405	12	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.3442	0.4557	0.4776	0.5271	0.5712	0.6602			QUAD	0.38516	1.85090	-0.01055	0.5060	1.000	15	0.05	0.99	
Hexachlorobutadiene		0.3237	0.3793	0.3973	0.3822	0.4057	0.4266	0.4565	0.4236	AVRG		2.50403		0.3994	10	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r <sup>2</sup> %RSD	Max %RSD	Min RF	Min r <sup>2</sup>	Flg
Naphthalene			0.8467	0.8929	1.1171	1.2132	1.4662	1.6259		QUAD	1.39135	0.77187	-0.00139	1.1937	1.000	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.1930	0.3717	0.3941	0.4861	0.5296	0.6168			QUAD	0.64581	1.96943	-0.01199	0.4319	1.000	15	0.05	0.99	
Dibromofluoromethane	0.6288	0.6476	0.6240	0.6381	0.6418	0.6313	0.6306	0.6282	0.6186	AVRG		1.58197		0.6321	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.5309	0.5229	0.5183	0.5179	0.5166	0.5045	0.4918	0.4888	0.4941	AVRG		1.96260		0.5095	3	15	0.05	0.99	
Toluene-d8	1.3937	1.4118	1.3929	1.3924	1.3811	1.3605	1.3509	1.3483	1.3434	AVRG		0.72727		1.3750	2	15	0.05	0.99	
Bromofluorobenzene	1.3444	1.3595	1.2953	1.2632	1.2450	1.2210	1.1706	1.1397	1.1457	AVRG		0.80468		1.2427	7	15	0.05	0.99	



Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	16	2.0000	19	5.0000	26	10.000	-12	20.000	-6	50.000	0	75.000	2	100.00	-1
Chloromethane	0.5000	39	1.0000	23	2.0000	15	5.0000	11	10.000	-3	20.000	-7	50.000	-2	75.000	5	100.00	-2
Vinyl Chloride	0.5000	22	1.0000	16	2.0000	11	5.0000	3	10.000	-9	20.000	-11	50.000	-15	75.000	-17		
Bromomethane			1.0000	21	2.0000	17	5.0000	4	10.000	-2	20.000	-11	50.000	-12	75.000	-8	100.00	-11
Chloroethane			1.0000	12	2.0000	7	5.0000	7	10.000	1	20.000	-3	50.000	-6	75.000	-6	100.00	-12
Trichlorofluoromethane			1.0000	10	2.0000	7	5.0000	6	10.000	-1	20.000	-1	50.000	-3	75.000	-6	100.00	-11
Acetone							5.0000	-6	10.000	16	20.000	-7	50.000	10	75.000	1	100.00	-14
Freon 113			0.5000	-13	2.0000	-11	5.0000	-5	10.000	5	20.000	5	50.000	4	75.000	10	100.00	6
1,1-Dichloroethene			0.5000	6	2.0000	-4	5.0000	-7	10.000	5	20.000	0	50.000	-2	75.000	3	100.00	-2
Methylene Chloride			0.5000	-2	2.0000	1	5.0000	-5	10.000	7	20.000	2	50.000	0	75.000	3	100.00	-5
Carbon Disulfide			0.5000	1	2.0000	-9	5.0000	-8	10.000	9	20.000	2	50.000	2	75.000	6	100.00	-2
MTBE			0.5000	6	2.0000	2	5.0000	-3	10.000	6	20.000	1	50.000	-2	75.000	0	100.00	-9
trans-1,2-Dichloroethene			0.5000	7	2.0000	-4	5.0000	-7	10.000	6	20.000	1	50.000	-2	75.000	2	100.00	-4
Vinyl Acetate			0.5000	9	2.0000	9	5.0000	3	10.000	3	20.000	2	50.000	-9	75.000	-6	100.00	-11
1,1-Dichloroethane			0.5000	12	2.0000	-1	5.0000	-3	10.000	5	20.000	1	50.000	-3	75.000	-2	100.00	-9
2-Butanone							5.0000	5	10.000	9	20.000	-1	50.000	0	75.000	-1	100.00	-11
2,2-Dichloropropane			0.5000	16	2.0000	0	5.0000	-3	10.000	5	20.000	0	50.000	-4	75.000	-3	100.00	-11
cis-1,2-Dichloroethene			0.5000	11	2.0000	-2	5.0000	-6	10.000	4	20.000	0	50.000	-2	75.000	1	100.00	-5
Chloroform			0.5000	10	2.0000	1	5.0000	-2	10.000	3	20.000	-1	50.000	-1	75.000	-1	100.00	-9
Bromochloromethane			0.5000	-4	2.0000	-6	5.0000	-4	10.000	6	20.000	3	50.000	4	75.000	4	100.00	-3
1,1,1-Trichloroethane			0.5000	2	2.0000	-4	5.0000	-2	10.000	3	20.000	-1	50.000	0	75.000	4	100.00	-1
1,1-Dichloropropene			0.5000	6	2.0000	-3	5.0000	-3	10.000	1	20.000	0	50.000	1	75.000	1	100.00	-2
Carbon Tetrachloride			0.5000	5	2.0000	-5	5.0000	-2	10.000	-2	20.000	-2	50.000	0	75.000	4	100.00	1
1,2-Dichloroethane			0.5000	5	2.0000	0	5.0000	-3	10.000	4	20.000	1	50.000	-1	75.000	0	100.00	-7
Benzene			0.5000	1	2.0000	-1	5.0000	-3	10.000	7	20.000	1	50.000	0	75.000	0	100.00	-5
Trichloroethene			0.5000	4	2.0000	-3	5.0000	-5	10.000	2	20.000	-1	50.000	0	75.000	3	100.00	-1
1,2-Dichloropropane			0.5000	7	2.0000	-3	5.0000	-2	10.000	5	20.000	-1	50.000	-3	75.000	2	100.00	-5
Bromodichloromethane			0.5000	3	2.0000	-2	5.0000	-6	10.000	2	20.000	0	50.000	1	75.000	4	100.00	-2
Dibromomethane			0.5000	5	2.0000	-3	5.0000	-5	10.000	4	20.000	1	50.000	1	75.000	2	100.00	-4
4-Methyl-2-Pentanone							5.0000	-1	10.000	7	20.000	0	50.000	0	75.000	0	100.00	-7
cis-1,3-Dichloropropene			0.5000	6	2.0000	-3	5.0000	-2	10.000	4	20.000	0	50.000	0	75.000	2	100.00	-6
Toluene			0.5000	11	2.0000	-2	5.0000	-5	10.000	1	20.000	-1	50.000	-1	75.000	1	100.00	-5
trans-1,3-Dichloropropene			0.5000	6	2.0000	-4	5.0000	-4	10.000	4	20.000	2	50.000	0	75.000	1	100.00	-5
1,1,2-Trichloroethane			0.5000	1	2.0000	3	5.0000	-4	10.000	2	20.000	0	50.000	-1	75.000	3	100.00	-4
2-Hexanone							5.0000	-2	10.000	8	20.000	0	50.000	1	75.000	0	100.00	-8
1,3-Dichloropropane			0.5000	7	2.0000	-3	5.0000	-5	10.000	5	20.000	1	50.000	-1	75.000	1	100.00	-5
Tetrachloroethene			0.5000	7	2.0000	-8	5.0000	-5	10.000	-2	20.000	-2	50.000	1	75.000	7	100.00	2
Dibromochloromethane			0.5000	5	2.0000	-8	5.0000	-10	10.000	0	20.000	1	50.000	2	75.000	8	100.00	3
1,2-Dibromoethane			0.5000	-1	2.0000	-1	5.0000	-8	10.000	4	20.000	1	50.000	0	75.000	6	100.00	0
Chlorobenzene			0.5000	2	2.0000	-1	5.0000	-4	10.000	3	20.000	1	50.000	0	75.000	3	100.00	-4
1,1,1,2-Tetrachloroethane			0.5000	-5	2.0000	-3	5.0000	-6	10.000	2	20.000	2	50.000	2	75.000	7	100.00	1
Ethylbenzene			0.5000	8	2.0000	2	5.0000	-1	10.000	3	20.000	0	50.000	-2	75.000	0	100.00	-9

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	-2	1.0000	8	4.0000	-3	10.000	-5	20.000	0	40.000	1	100.00	1	150.00	4	200.00	-4
o-Xylene			0.5000	0	2.0000	-6	5.0000	-6	10.000	-1	20.000	1	50.000	4	75.000	9	100.00	0
Styrene			0.5000	-3	2.0000	-7	5.0000	-7	10.000	2	20.000	4	50.000	5	75.000	8	100.00	-2
Bromoform			0.5000	-15	2.0000	-13	5.0000	-11	10.000	0	20.000	2	50.000	10	75.000	17	100.00	11
Isopropylbenzene			0.5000	16	2.0000	2	5.0000	2	10.000	1	20.000	-2	50.000	-5	75.000	-3	100.00	-11
1,1,2,2-Tetrachloroethane			0.5000	10	2.0000	8	5.0000	0	10.000	4	20.000	-1	50.000	-6	75.000	-5	100.00	-10
1,2,3-Trichloropropane			0.5000	16	2.0000	9	5.0000	0	10.000	6	20.000	-3	50.000	-8	75.000	-7	100.00	-13
Propylbenzene			0.5000	20	2.0000	4	5.0000	2	10.000	-1	20.000	-3	50.000	-6	75.000	-4	100.00	-13
Bromobenzene			0.5000	12	2.0000	-2	5.0000	-3	10.000	1	20.000	0	50.000	-2	75.000	1	100.00	-6
1,3,5-Trimethylbenzene			0.5000	9	2.0000	-1	5.0000	-2	10.000	-1	20.000	-2	50.000	-1	75.000	3	100.00	-5
2-Chlorotoluene			0.5000	19	2.0000	4	5.0000	1	10.000	1	20.000	-3	50.000	-5	75.000	-5	100.00	-13
4-Chlorotoluene			0.5000	16	2.0000	3	5.0000	1	10.000	0	20.000	-4	50.000	-4	75.000	-2	100.00	-10
tert-Butylbenzene			0.5000	11	2.0000	-1	5.0000	-3	10.000	-2	20.000	-2	50.000	-1	75.000	3	100.00	-5
1,2,4-Trimethylbenzene			0.5000	5	2.0000	-4	5.0000	-4	10.000	-2	20.000	-2	50.000	1	75.000	7	100.00	-1
sec-Butylbenzene			0.5000	9	2.0000	-3	5.0000	0	10.000	-1	20.000	-1	50.000	0	75.000	2	100.00	-7
para-Isopropyl Toluene			0.5000	6	2.0000	-6	5.0000	-4	10.000	-3	20.000	-3	50.000	3	75.000	7	100.00	0
1,3-Dichlorobenzene			0.5000	0	2.0000	-1	5.0000	-4	10.000	-2	20.000	0	50.000	2	75.000	6	100.00	-2
1,4-Dichlorobenzene			0.5000	8	2.0000	-4	5.0000	-4	10.000	0	20.000	0	50.000	0	75.000	4	100.00	-3
n-Butylbenzene			0.5000	4	2.0000	-7	5.0000	-4	10.000	-2	20.000	-1	50.000	3	75.000	8	100.00	0
1,2-Dichlorobenzene			0.5000	1	2.0000	-2	5.0000	-3	10.000	1	20.000	0	50.000	1	75.000	5	100.00	-2
1,2-Dibromo-3-Chloropropane			0.5000	-30	2.0000	9	5.0000	2	10.000	3	20.000	5	50.000	4	75.000	6	100.00	0
1,2,4-Trichlorobenzene			0.5000	41	2.0000	3	5.0000	-5	10.000	-2	20.000	1	50.000	0				
Hexachlorobutadiene			0.5000	-19	2.0000	-5	5.0000	-1	10.000	-4	20.000	2	50.000	7	75.000	14	100.00	6
Naphthalene					2.0000	35	5.0000	-4	10.000	-2	20.000	-3	50.000	1	75.000	0		
1,2,3-Trichlorobenzene			0.5000	67	2.0000	5	5.0000	-10	10.000	-1	20.000	1	50.000	0				
Dibromofluoromethane	50.000	-1	50.000	2	50.000	-1	50.000	1	50.000	2	50.000	0	50.000	0	50.000	-1	50.000	-2
1,2-Dichloroethane-d4	50.000	4	50.000	3	50.000	2	50.000	2	50.000	1	50.000	-1	50.000	-3	50.000	-4	50.000	-3
Toluene-d8	50.000	1	50.000	3	50.000	1	50.000	1	50.000	0	50.000	-1	50.000	-2	50.000	-2	50.000	-2
Bromofluorobenzene	50.000	8	50.000	9	50.000	4	50.000	2	50.000	0	50.000	-2	50.000	-6	50.000	-8	50.000	-8

KKM 08/12/15 [Freon 12]: Corrected fronting or tailing peak integration in multiple levels.

KKM 08/12/15 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

KKM 08/12/15 [Chloromethane]: Does not meet 8260C low point requant. High bias. Rerun hits <1.00ppb (standard RL is 1.00ppb)

KKM 08/12/15 [1,2,4-Trichlorobenzene]: Does not meet 8260C low point requant. High bias. Rerun hits <2.00ppb

KKM 08/12/15 [1,2,3-Trichlorobenzene]: Does not meet 8260C low point requant. High bias. Rerun hits <2.00ppb

KKM 08/12/15 [Naphthalene]: Does not meet 8260C low point requant. High bias. Rerun hits <5.00ppb

Analyst: KKM

Date: 08/12/15

Reviewer: LW

Date: 08/12/15

m=manual integration

Instrument amount =  $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$ ; AVRG=Average response factor; QUAD=Quadratic regression

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495321824001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA10  
Calnum : 495321824001

Name : 826GOX10  
Cal Date : 11-AUG-2015

Type : WATER

ICV 495321824017 (jhb17 11-AUG-2015) stds: S27007 (10000X), S27697 (2500X)  
ICV 495321824018 (jhb18 11-AUG-2015) stds: S27558 (10000X), S27697 (2500X),  
S27556 (10000X), S27533 (10000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	495321824017	20.00	26.11	ug/L	31	30	v+
Chloromethane	495321824017	20.00	22.77	ug/L	14	30	
Vinyl Chloride	495321824017	20.00	19.80	ug/L	-1	20	
Bromomethane	495321824017	20.00	19.74	ug/L	-1	30	
Chloroethane	495321824017	20.00	20.47	ug/L	2	30	
Trichlorofluoromethane	495321824017	20.00	21.66	ug/L	8	30	
Acetone	495321824018	25.00	23.95	ug/L	-4	40	
Freon 113	495321824018	25.00	27.80	ug/L	11	30	
1,1-Dichloroethene	495321824018	25.00	28.66	ug/L	15	20	
Methylene Chloride	495321824018	25.00	27.89	ug/L	12	30	
Carbon Disulfide	495321824018	25.00	29.46	ug/L	18	30	
MTBE	495321824018	25.00	26.68	ug/L	7	30	
trans-1,2-Dichloroethene	495321824018	25.00	27.42	ug/L	10	30	
Vinyl Acetate	495321824018	25.00	27.19	ug/L	9	40	
1,1-Dichloroethane	495321824018	25.00	26.75	ug/L	7	30	
2-Butanone	495321824018	25.00	27.47	ug/L	10	40	
2,2-Dichloropropane	495321824018	25.00	24.96	ug/L	0	30	
cis-1,2-Dichloroethene	495321824018	25.00	27.26	ug/L	9	30	
Chloroform	495321824018	25.00	26.85	ug/L	7	20	
Bromochloromethane	495321824018	25.00	28.77	ug/L	15	30	
1,1,1-Trichloroethane	495321824018	25.00	28.36	ug/L	13	30	
1,1-Dichloropropene	495321824018	25.00	26.46	ug/L	6	30	
Carbon Tetrachloride	495321824018	25.00	28.13	ug/L	13	30	
1,2-Dichloroethane	495321824018	25.00	26.74	ug/L	7	30	
Benzene	495321824018	25.00	27.89	ug/L	12	30	
Trichloroethene	495321824018	25.00	27.16	ug/L	9	30	
1,2-Dichloropropane	495321824018	25.00	26.31	ug/L	5	20	
Bromodichloromethane	495321824018	25.00	27.03	ug/L	8	30	
Dibromomethane	495321824018	25.00	26.94	ug/L	8	30	
4-Methyl-2-Pentanone	495321824018	25.00	28.65	ug/L	15	40	
cis-1,3-Dichloropropene	495321824018	25.00	26.54	ug/L	6	30	
Toluene	495321824018	25.00	27.90	ug/L	12	20	
trans-1,3-Dichloropropene	495321824018	25.00	25.22	ug/L	1	30	
1,1,2-Trichloroethane	495321824018	25.00	27.57	ug/L	10	30	
2-Hexanone	495321824018	25.00	29.60	ug/L	18	40	
1,3-Dichloropropane	495321824018	25.00	28.41	ug/L	14	30	
Tetrachloroethene	495321824018	25.00	28.13	ug/L	13	30	
Dibromochloromethane	495321824018	25.00	28.24	ug/L	13	30	
1,2-Dibromoethane	495321824018	25.00	27.66	ug/L	11	30	
Chlorobenzene	495321824018	25.00	28.61	ug/L	14	30	
1,1,1,2-Tetrachloroethane	495321824018	25.00	28.60	ug/L	14	30	
Ethylbenzene	495321824018	25.00	28.86	ug/L	15	20	
m,p-Xylenes	495321824018	50.00	57.55	ug/L	15	30	
o-Xylene	495321824018	25.00	28.96	ug/L	16	30	
Styrene	495321824018	25.00	30.02	ug/L	20	30	
Bromoform	495321824018	25.00	30.77	ug/L	23	30	!v+
Isopropylbenzene	495321824018	25.00	28.27	ug/L	13	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	495321824018	25.00	28.60	ug/L	14	30	
1,2,3-Trichloropropane	495321824018	25.00	27.37	ug/L	9	30	
Propylbenzene	495321824018	25.00	27.78	ug/L	11	30	
Bromobenzene	495321824018	25.00	28.52	ug/L	14	30	
1,3,5-Trimethylbenzene	495321824018	25.00	29.67	ug/L	19	30	
2-Chlorotoluene	495321824018	25.00	28.01	ug/L	12	30	
4-Chlorotoluene	495321824018	25.00	28.58	ug/L	14	30	
tert-Butylbenzene	495321824018	25.00	29.02	ug/L	16	30	
1,2,4-Trimethylbenzene	495321824018	25.00	28.69	ug/L	15	30	
sec-Butylbenzene	495321824018	25.00	29.08	ug/L	16	30	
para-Isopropyl Toluene	495321824018	25.00	29.24	ug/L	17	30	
1,3-Dichlorobenzene	495321824018	25.00	30.09	ug/L	20	30	
1,4-Dichlorobenzene	495321824018	25.00	29.70	ug/L	19	30	
n-Butylbenzene	495321824018	25.00	29.57	ug/L	18	30	
1,2-Dichlorobenzene	495321824018	25.00	30.13	ug/L	<b>21</b>	30	!v+
1,2-Dibromo-3-Chloropropane	495321824018	25.00	29.75	ug/L	19	30	
1,2,4-Trichlorobenzene	495321824018	25.00	30.74	ug/L	<b>23</b>	30	!v+
Hexachlorobutadiene	495321824018	25.00	30.44	ug/L	<b>22</b>	30	!v+
Naphthalene	495321824018	25.00	28.87	ug/L	15	30	
1,2,3-Trichlorobenzene	495321824018	25.00	31.72	ug/L	<b>27</b>	30	!v+

495321824017: Analyst: KKM  
495321824018: Analyst: KKM

Date: 08/12/15  
Date: 08/12/15

Reviewer: LW  
Reviewer: LW

Date: 08/12/15  
Date: 08/12/15

!=warning +=high bias v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271203 MSVOA Water: EPA 8260B

Inst : MSVOA14  
 Calnum : 955422499001  
 Units : ug/L

Name : 8260X14W  
 Date : 20-OCT-2015 15:49  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	njk17	955422499017		20-OCT-2015 15:49	S27004 (2000000X), S28008 (2000000X), S28355 (2000000X), S27081 (1000000X), S28246 (2500X)
L2	njk18	955422499018		20-OCT-2015 16:15	S27004 (1000000X), S28008 (1000000X), S28355 (1000000X), S27081 (500000X), S28246 (2500X)
L3	njk19	955422499019		20-OCT-2015 16:41	S27004 (500000X), S28008 (250000X), S28355 (250000X), S27081 (250000X), S28246 (2500X)
L4	njk20	955422499020		20-OCT-2015 17:08	S27004 (200000X), S28008 (100000X), S28355 (100000X), S27081 (100000X), S28246 (2500X)
L5	njk21	955422499021		20-OCT-2015 17:34	S27004 (100000X), S28008 (50000X), S28355 (50000X), S27081 (50000X), S28246 (2500X)
L6	njk22	955422499022		20-OCT-2015 18:00	S27004 (50000X), S28008 (25000X), S28355 (25000X), S27081 (25000X), S28246 (2500X)
L7	njk23	955422499023		20-OCT-2015 18:26	S27004 (20000X), S28008 (10000X), S28355 (10000X), S27081 (10000X), S28246 (2500X)
L8	njk24	955422499024		20-OCT-2015 18:53	S27004 (13330X), S28008 (6667X), S28355 (6667X), S27081 (6667X), S28246 (2500X)
L9	njk25	955422499025		20-OCT-2015 19:19	S27004 (10000X), S28008 (5000X), S28355 (5000X), S27081 (5000X), S28246 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.6837	0.6585	0.6598	0.6465	0.6233	0.6133	0.6239	0.6226	AVRG		1.55896		0.6415	4	15	0.05	0.99	
Chloromethane	0.9255	1.1154	0.9404	0.9896	0.9803	0.8971	0.9091	0.8887	0.9132	AVRG		1.05148		0.9510	7	15	0.10	0.99	
Vinyl Chloride	0.8999	1.0998	0.9717	0.9947	0.9714	0.9323	0.9560	0.9515	0.9588	AVRG		1.03020		0.9707	6	15	0.05	0.99	
Bromomethane		0.2097	0.2055	0.2338	0.2282	0.2241	0.2349	0.2304	0.2266	AVRG		4.46123		0.2242	5	15	0.05	0.99	
Chloroethane		0.6283	0.5547	0.5452	0.5234	0.5146	0.5057	0.5021	0.5021	AVRG		1.87084		0.5345	8	15	0.05	0.99	
Trichlorofluoromethane		0.9312	0.8190	0.8477	0.8279	0.8073	0.7916	0.7943	0.8005	AVRG		1.20854		0.8274	6	15	0.05	0.99	
Acetone			0.4907m	0.4211m	0.4174m	0.4203m	0.3912m	0.3730m	0.3952m	AVRG		2.40635		0.4156	9	15	0.05	0.99	
Freon 113		0.5077	0.4409	0.4305	0.4099	0.4100	0.4298	0.4276	0.4209	AVRG		2.30057		0.4347	7	15	0.05	0.99	
1,1-Dichloroethene		0.4902	0.4204	0.4204	0.4075	0.3943	0.4100	0.4093	0.4061	AVRG		2.38219		0.4198	7	15	0.05	0.99	
Methylene Chloride		0.5744	0.4944	0.5013	0.4855	0.4733	0.4934	0.4875	0.4851	AVRG		2.00255		0.4994	6	15	0.05	0.99	
Carbon Disulfide		1.6007	1.5105	1.4858	1.4361	1.3946	1.4590	1.4543	1.4486	AVRG		0.67857		1.4737	4	15	0.05	0.99	
MTBE		1.8670	1.6464	1.6428	1.6332	1.6163	1.6646	1.6531	1.6950	AVRG		0.59620		1.6773	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.5631	0.4839	0.4724	0.4676	0.4501	0.4642	0.4637	0.4643	AVRG		2.08918		0.4787	7	15	0.05	0.99	
Vinyl Acetate		1.7426	1.4446	1.7048	1.5558	1.7632	1.8221	1.7386	1.9343	AVRG		0.58369		1.7132	9	15	0.05	0.99	
1,1-Dichloroethane		1.5314	1.3333	1.3266	1.3053	1.2600	1.3091	1.2960	1.3074	AVRG		0.74984		1.3336	6	15	0.10	0.99	
2-Butanone			0.5179	0.4876	0.4793	0.4796	0.4848	0.4727	0.4985	AVRG		2.04652		0.4886	3	15	0.05	0.99	
2,2-Dichloropropane		0.7631	0.6617	0.6577	0.6369	0.6165	0.6452	0.6397	0.6364	AVRG		1.52174		0.6571	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6344	0.5605	0.5725	0.5451	0.5320	0.5509	0.5520	0.5522	AVRG		1.77795		0.5624	6	15	0.05	0.99	
Chloroform		1.0104	0.9092	0.8810	0.8677	0.8361	0.8779	0.8764	0.8784	AVRG		1.12093		0.8921	6	15	0.05	0.99	
Bromochloromethane		0.2823	0.2653	0.2526	0.2458	0.2368	0.2408	0.2356	0.2327	AVRG		4.01645		0.2490	7	15	0.05	0.99	
1,1,1-Trichloroethane		0.8544	0.7822	0.7928	0.7752	0.7424	0.7819	0.7782	0.7817	AVRG		1.27208		0.7861	4	15	0.05	0.99	
1,1-Dichloropropene		0.5075	0.4901	0.4843	0.4655	0.4587	0.4788	0.4831	0.4826	AVRG		2.07764		0.4813	3	15	0.05	0.99	
Carbon Tetrachloride		0.4378	0.3967	0.4105	0.3905	0.3878	0.4132	0.4186	0.4157	AVRG		2.44587		0.4089	4	15	0.05	0.99	
1,2-Dichloroethane		0.6891	0.6343	0.6391	0.6267	0.6133	0.6248	0.6320	0.6346	AVRG		1.57054		0.6367	4	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.6254	1.3784	1.4119	1.3495	1.3209	1.3753	1.3789	1.3730	AVRG		0.71344		1.4017	7	15	0.05	0.99	
Trichloroethene		0.4025	0.3692	0.3582	0.3493	0.3487	0.3589	0.3589	0.3565	AVRG		2.75647		0.3628	5	15	0.05	0.99	
1,2-Dichloropropane		0.5757	0.4929	0.5244	0.4817m	0.4821m	0.4992m	0.4980m	0.4974m	AVRG		1.97465		0.5064	6	15	0.05	0.99	
Bromodichloromethane		0.4533	0.4459	0.4344	0.4366	0.4280	0.4517	0.4533	0.4556	AVRG		2.24799		0.4448	2	15	0.05	0.99	
Dibromomethane		0.2428	0.2246	0.2279	0.2128	0.2108	0.2160	0.2156	0.2186	AVRG		4.52219		0.2211	5	15	0.05	0.99	
4-Methyl-2-Pentanone			0.6560	0.6384	0.6210	0.6446	0.6454	0.6358	0.6711	AVRG		1.55130		0.6446	2	15	0.05	0.99	
cis-1,3-Dichloropropene		0.6089	0.5354	0.5413	0.5251	0.5310	0.5586	0.5619	0.5638	AVRG		1.80754		0.5532	5	15	0.05	0.99	
Toluene		1.9507	1.6507	1.6330	1.6277	1.5840	1.6564	1.6419	1.6301	AVRG		0.59816		1.6718	7	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5638	0.5265	0.5471	0.5354	0.5405	0.5648	0.5680	0.5725	AVRG		1.81051		0.5523	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.2042	0.1862	0.1868	0.1823	0.1794	0.1849	0.1829	0.1830	AVRG		5.37022		0.1862	4	15	0.05	0.99	
2-Hexanone			0.4851	0.4874	0.4896	0.4905	0.5035	0.4921	0.5175	AVRG		2.01976		0.4951	2	15	0.05	0.99	
1,3-Dichloropropane		0.6835	0.6350	0.6219	0.6187	0.6136	0.6304	0.6219	0.6312	AVRG		1.58221		0.6320	3	15	0.05	0.99	
Tetrachloroethene		0.4048	0.3665	0.3651	0.3474	0.3398	0.3565	0.3543	0.3539	AVRG		2.76980		0.3610	5	15	0.05	0.99	
Dibromochloromethane		0.4335	0.3523	0.3636	0.3677	0.3690	0.3898	0.3881	0.3917	AVRG		2.61807		0.3820	7	15	0.05	0.99	
1,2-Dibromoethane		0.4210	0.3578	0.3536	0.3543	0.3528	0.3666	0.3640	0.3675	AVRG		2.72342		0.3672	6	15	0.05	0.99	
Chlorobenzene		1.1930	1.0437	1.0547	1.0088	0.9940	1.0357	1.0309	1.0231	AVRG		0.95422		1.0480	6	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4003	0.3408	0.3541	0.3493	0.3507	0.3662	0.3658	0.3667	AVRG		2.76439		0.3617	5	15	0.05	0.99	
Ethylbenzene		2.2020	1.9060	1.9237	1.8725	1.8465	1.9238	1.9190	1.9236	AVRG		0.51556		1.9396	6	15	0.05	0.99	
m,p-Xylenes	0.6673	0.8362	0.7342	0.7448	0.7084	0.7126	0.7401	0.7368	0.7375	AVRG		1.35991		0.7353	6	15	0.05	0.99	
o-Xylene		0.7708	0.7121	0.7417	0.7154	0.7075	0.7337	0.7320	0.7326	AVRG		1.36850		0.7307	3	15	0.05	0.99	
Styrene		1.4284	1.2162	1.2466	1.2092	1.2092	1.2606	1.2573	1.2598	AVRG		0.79308		1.2609	6	15	0.05	0.99	
Bromoform		0.2976	0.2582	0.2607	0.2546	0.2583	0.2748	0.2723	0.2843	AVRG		3.70223		0.2701	6	15	0.10	0.99	
Isopropylbenzene		3.9761	3.5450	3.6250	3.4828	3.4189	3.5304	3.5404	3.5087	AVRG		0.27945		3.5784	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.0367	0.8055	0.8587	0.7907	0.8097	0.8217	0.8186	0.8550	AVRG		1.17709		0.8496	9	15	0.30	0.99	
1,2,3-Trichloropropane		1.1143	0.9847	0.9773	0.9535	0.9429	0.9603	0.9452	0.9752	AVRG		1.01868		0.9817	6	15	0.05	0.99	
Propylbenzene		4.7698	4.3192	4.3657	4.2011	4.1600	4.3312	4.3185	4.3047	AVRG		0.23008		4.3463	4	15	0.05	0.99	
Bromobenzene		0.9841	0.8326	0.8466	0.8202	0.8060	0.8238	0.8190	0.8084	AVRG		1.18683		0.8426	7	15	0.05	0.99	
1,3,5-Trimethylbenzene		3.4587	3.0402	3.1055	2.9658	2.9331	3.0739	3.0886	3.0777	AVRG		0.32332		3.0929	5	15	0.05	0.99	
2-Chlorotoluene		3.2675	2.9352	2.9659	2.8163	2.7289	2.8697	2.8591	2.8589	AVRG		0.34333		2.9127	6	15	0.05	0.99	
4-Chlorotoluene		2.9939	2.6512	2.7564	2.6373	2.5811	2.6823	2.6733	2.6739	AVRG		0.36952		2.7062	5	15	0.05	0.99	
tert-Butylbenzene		2.9899	2.6374	2.6651	2.5470	2.5447	2.6403	2.6300	2.6164	AVRG		0.37610		2.6588	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		3.2533	3.1263	3.1636	3.0200	2.9884	3.1369	3.1498	3.1495	AVRG		0.32016		3.1235	3	15	0.05	0.99	
sec-Butylbenzene		4.5661	3.9855	4.0250	3.8675	3.8320	4.0254	3.9857	3.9955	AVRG		0.24781		4.0353	6	15	0.05	0.99	
para-Isopropyl Toluene		3.6147	3.3196	3.3606	3.2451	3.2444	3.3996	3.3729	3.3681	AVRG		0.29712		3.3656	3	15	0.05	0.99	
1,3-Dichlorobenzene		1.8036	1.5631	1.6145	1.5338	1.5081	1.5635	1.5542	1.5585	AVRG		0.62996		1.5874	6	15	0.05	0.99	
1,4-Dichlorobenzene		1.9904	1.6226	1.6369	1.5736	1.5443	1.5889	1.5728	1.5750	AVRG		0.61048		1.6381	9	15	0.05	0.99	
n-Butylbenzene		3.6954	3.1137	3.1369	3.0403	3.0612	3.2155	3.1986	3.2209	AVRG		0.31150		3.2103	6	15	0.05	0.99	
1,2-Dichlorobenzene		1.7139	1.5835	1.5779	1.4877	1.4738	1.5320	1.5251	1.5205	AVRG		0.64441		1.5518	5	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.2906	0.2292	0.2143	0.2078	0.2173	0.2215	0.2194	0.2364	AVRG		4.35583		0.2296	11	15	0.05	0.99	
1,2,4-Trichlorobenzene		1.3164	1.1849	1.2055	1.1777	1.1526	1.2023	1.1824	1.1691	AVRG		0.83412		1.1989	4	15	0.05	0.99	
Hexachlorobutadiene		0.6213	0.5325	0.5136	0.5382	0.5470	0.5910	0.5929	0.5879	AVRG		1.76812		0.5656	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		3.8240	3.3505	3.4727	3.3602	3.3820	3.4978	3.4049	3.4519	AVRG		0.28835		3.4680	4	15	0.05	0.99	
1,2,3-Trichlorobenzene		1.2864	1.1793	1.2248	1.1701	1.1346	1.1732	1.1654	1.1444	AVRG		0.84406		1.1848	4	15	0.05	0.99	
Dibromofluoromethane	0.4466	0.4485	0.4526	0.4538	0.4531	0.4511	0.4533	0.4576	0.4581	AVRG		2.20877		0.4527	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4571	0.4656	0.4693	0.4632	0.4637	0.4685	0.4625	0.4660	0.4695	AVRG		2.15041		0.4650	1	15	0.05	0.99	
Toluene-d8	1.3377	1.3408	1.3415	1.3438	1.3335	1.3520	1.3441	1.3312	1.3394	AVRG		0.74602		1.3404	0	15	0.05	0.99	
Bromofluorobenzene	1.0206	1.0203	1.0242	1.0391	1.0109	1.0120	1.0134	1.0040	1.0036	AVRG		0.98379		1.0165	1	15	0.05	0.99	



Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	7	2.0000	3	5.0000	3	10.000	1	20.000	-3	50.000	-4	75.000	-3	100.00	-3
Chloromethane	0.5000	-3	1.0000	17	2.0000	-1	5.0000	4	10.000	3	20.000	-6	50.000	-4	75.000	-7	100.00	-4
Vinyl Chloride	0.5000	-7	1.0000	13	2.0000	0	5.0000	2	10.000	0	20.000	-4	50.000	-2	75.000	-2	100.00	-1
Bromomethane			1.0000	-6	2.0000	-8	5.0000	4	10.000	2	20.000	0	50.000	5	75.000	3	100.00	1
Chloroethane			1.0000	18	2.0000	4	5.0000	2	10.000	-2	20.000	-4	50.000	-5	75.000	-6	100.00	-6
Trichlorofluoromethane			1.0000	13	2.0000	-1	5.0000	2	10.000	0	20.000	-2	50.000	-4	75.000	-4	100.00	-3
Acetone					2.0000	18	5.0000	1	10.000	0	20.000	1	50.000	-6	75.000	-10	100.00	-5
Freon 113			0.5000	17	2.0000	1	5.0000	-1	10.000	-6	20.000	-6	50.000	-1	75.000	-2	100.00	-3
1,1-Dichloroethene			0.5000	17	2.0000	0	5.0000	0	10.000	-3	20.000	-6	50.000	-2	75.000	-2	100.00	-3
Methylene Chloride			0.5000	15	2.0000	-1	5.0000	0	10.000	-3	20.000	-5	50.000	-1	75.000	-2	100.00	-3
Carbon Disulfide			0.5000	9	2.0000	2	5.0000	1	10.000	-3	20.000	-5	50.000	-1	75.000	-1	100.00	-2
MTBE			0.5000	11	2.0000	-2	5.0000	-2	10.000	-3	20.000	-4	50.000	-1	75.000	-1	100.00	1
trans-1,2-Dichloroethene			0.5000	18	2.0000	1	5.0000	-1	10.000	-2	20.000	-6	50.000	-3	75.000	-3	100.00	-3
Vinyl Acetate			0.5000	2	2.0000	-16	5.0000	0	10.000	-9	20.000	3	50.000	6	75.000	1	100.00	13
1,1-Dichloroethane			0.5000	15	2.0000	0	5.0000	-1	10.000	-2	20.000	-6	50.000	-2	75.000	-3	100.00	-2
2-Butanone					2.0000	6	5.0000	0	10.000	-2	20.000	-2	50.000	-1	75.000	-3	100.00	2
2,2-Dichloropropane			0.5000	16	2.0000	1	5.0000	0	10.000	-3	20.000	-6	50.000	-2	75.000	-3	100.00	-3
cis-1,2-Dichloroethene			0.5000	13	2.0000	0	5.0000	2	10.000	-3	20.000	-5	50.000	-2	75.000	-2	100.00	-2
Chloroform			0.5000	13	2.0000	2	5.0000	-1	10.000	-3	20.000	-6	50.000	-2	75.000	-2	100.00	-2
Bromochloromethane			0.5000	13	2.0000	7	5.0000	1	10.000	-1	20.000	-5	50.000	-3	75.000	-5	100.00	-7
1,1,1-Trichloroethane			0.5000	9	2.0000	0	5.0000	1	10.000	-1	20.000	-6	50.000	-1	75.000	-1	100.00	-1
1,1-Dichloropropene			0.5000	5	2.0000	2	5.0000	1	10.000	-3	20.000	-5	50.000	-1	75.000	0	100.00	0
Carbon Tetrachloride			0.5000	7	2.0000	-3	5.0000	0	10.000	-4	20.000	-5	50.000	1	75.000	2	100.00	2
1,2-Dichloroethane			0.5000	8	2.0000	0	5.0000	0	10.000	-2	20.000	-4	50.000	-2	75.000	-1	100.00	0
Benzene			0.5000	16	2.0000	-2	5.0000	1	10.000	-4	20.000	-6	50.000	-2	75.000	-2	100.00	-2
Trichloroethene			0.5000	11	2.0000	2	5.0000	-1	10.000	-4	20.000	-4	50.000	-1	75.000	-1	100.00	-2
1,2-Dichloropropane			0.5000	14	2.0000	-3	5.0000	4	10.000	-5	20.000	-5	50.000	-1	75.000	-2	100.00	-2
Bromodichloromethane			0.5000	2	2.0000	0	5.0000	-2	10.000	-2	20.000	-4	50.000	2	75.000	2	100.00	2
Dibromomethane			0.5000	10	2.0000	2	5.0000	3	10.000	-4	20.000	-5	50.000	-2	75.000	-2	100.00	-1
4-Methyl-2-Pentanone					2.0000	2	5.0000	-1	10.000	-4	20.000	0	50.000	0	75.000	-1	100.00	4
cis-1,3-Dichloropropene			0.5000	10	2.0000	-3	5.0000	-2	10.000	-5	20.000	-4	50.000	1	75.000	2	100.00	2
Toluene			0.5000	17	2.0000	-1	5.0000	-2	10.000	-3	20.000	-5	50.000	-1	75.000	-2	100.00	-2
trans-1,3-Dichloropropene			0.5000	2	2.0000	-5	5.0000	-1	10.000	-3	20.000	-2	50.000	2	75.000	3	100.00	4
1,1,2-Trichloroethane			0.5000	10	2.0000	0	5.0000	0	10.000	-2	20.000	-4	50.000	-1	75.000	-2	100.00	-2
2-Hexanone					2.0000	-2	5.0000	-2	10.000	-1	20.000	-1	50.000	2	75.000	-1	100.00	5
1,3-Dichloropropane			0.5000	8	2.0000	0	5.0000	-2	10.000	-2	20.000	-3	50.000	0	75.000	-2	100.00	0
Tetrachloroethene			0.5000	12	2.0000	2	5.0000	1	10.000	-4	20.000	-6	50.000	-1	75.000	-2	100.00	-2
Dibromochloromethane			0.5000	13	2.0000	-8	5.0000	-5	10.000	-4	20.000	-3	50.000	2	75.000	2	100.00	3
1,2-Dibromoethane			0.5000	15	2.0000	-3	5.0000	-4	10.000	-4	20.000	-4	50.000	0	75.000	-1	100.00	0
Chlorobenzene			0.5000	14	2.0000	0	5.0000	1	10.000	-4	20.000	-5	50.000	-1	75.000	-2	100.00	-2
1,1,1,2-Tetrachloroethane			0.5000	11	2.0000	-6	5.0000	-2	10.000	-3	20.000	-3	50.000	1	75.000	1	100.00	1
Ethylbenzene			0.5000	14	2.0000	-2	5.0000	-1	10.000	-3	20.000	-5	50.000	-1	75.000	-1	100.00	-1

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	-9	1.0000	14	4.0000	0	10.000	1	20.000	-4	40.000	-3	100.00	1	150.00	0	200.00	0
o-Xylene			0.5000	5	2.0000	-3	5.0000	2	10.000	-2	20.000	-3	50.000	0	75.000	0	100.00	0
Styrene			0.5000	13	2.0000	-4	5.0000	-1	10.000	-4	20.000	-4	50.000	0	75.000	0	100.00	0
Bromoform			0.5000	10	2.0000	-4	5.0000	-3	10.000	-6	20.000	-4	50.000	2	75.000	1	100.00	5
Isopropylbenzene			0.5000	11	2.0000	-1	5.0000	1	10.000	-3	20.000	-4	50.000	-1	75.000	-1	100.00	-2
1,1,2,2-Tetrachloroethane			0.5000	<b>22</b>	2.0000	-5	5.0000	1	10.000	-7	20.000	-5	50.000	-3	75.000	-4	100.00	1
1,2,3-Trichloropropane			0.5000	14	2.0000	0	5.0000	0	10.000	-3	20.000	-4	50.000	-2	75.000	-4	100.00	-1
Propylbenzene			0.5000	10	2.0000	-1	5.0000	0	10.000	-3	20.000	-4	50.000	0	75.000	-1	100.00	-1
Bromobenzene			0.5000	17	2.0000	-1	5.0000	0	10.000	-3	20.000	-4	50.000	-2	75.000	-3	100.00	-4
1,3,5-Trimethylbenzene			0.5000	12	2.0000	-2	5.0000	0	10.000	-4	20.000	-5	50.000	-1	75.000	0	100.00	0
2-Chlorotoluene			0.5000	12	2.0000	1	5.0000	2	10.000	-3	20.000	-6	50.000	-1	75.000	-2	100.00	-2
4-Chlorotoluene			0.5000	11	2.0000	-2	5.0000	2	10.000	-3	20.000	-5	50.000	-1	75.000	-1	100.00	-1
tert-Butylbenzene			0.5000	12	2.0000	-1	5.0000	0	10.000	-4	20.000	-4	50.000	-1	75.000	-1	100.00	-2
1,2,4-Trimethylbenzene			0.5000	4	2.0000	0	5.0000	1	10.000	-3	20.000	-4	50.000	0	75.000	1	100.00	1
sec-Butylbenzene			0.5000	13	2.0000	-1	5.0000	0	10.000	-4	20.000	-5	50.000	0	75.000	-1	100.00	-1
para-Isopropyl Toluene			0.5000	7	2.0000	-1	5.0000	0	10.000	-4	20.000	-4	50.000	1	75.000	0	100.00	0
1,3-Dichlorobenzene			0.5000	14	2.0000	-2	5.0000	2	10.000	-3	20.000	-5	50.000	-2	75.000	-2	100.00	-2
1,4-Dichlorobenzene			0.5000	<b>22</b>	2.0000	-1	5.0000	0	10.000	-4	20.000	-6	50.000	-3	75.000	-4	100.00	-4
n-Butylbenzene			0.5000	15	2.0000	-3	5.0000	-2	10.000	-5	20.000	-5	50.000	0	75.000	0	100.00	0
1,2-Dichlorobenzene			0.5000	10	2.0000	2	5.0000	2	10.000	-4	20.000	-5	50.000	-1	75.000	-2	100.00	-2
1,2-Dibromo-3-Chloropropane			0.5000	<b>27</b>	2.0000	0	5.0000	-7	10.000	-9	20.000	-5	50.000	-4	75.000	-4	100.00	3
1,2,4-Trichlorobenzene			0.5000	10	2.0000	-1	5.0000	1	10.000	-2	20.000	-4	50.000	0	75.000	-1	100.00	-2
Hexachlorobutadiene			0.5000	10	2.0000	-6	5.0000	-9	10.000	-5	20.000	-3	50.000	5	75.000	5	100.00	4
Naphthalene			0.5000	10	2.0000	-3	5.0000	0	10.000	-3	20.000	-2	50.000	1	75.000	-2	100.00	0
1,2,3-Trichlorobenzene			0.5000	9	2.0000	0	5.0000	3	10.000	-1	20.000	-4	50.000	-1	75.000	-2	100.00	-3
Dibromofluoromethane	50.000	-1	50.000	-1	50.000	0	50.000	0	50.000	0	50.000	0	50.000	0	50.000	1	50.000	1
1,2-Dichloroethane-d4	50.000	-2	50.000	0	50.000	1	50.000	0	50.000	0	50.000	1	50.000	-1	50.000	0	50.000	1
Toluene-d8	50.000	0	50.000	0	50.000	0	50.000	0	50.000	-1	50.000	1	50.000	0	50.000	-1	50.000	0
Bromofluorobenzene	50.000	0	50.000	0	50.000	1	50.000	2	50.000	-1	50.000	0	50.000	0	50.000	-1	50.000	-1

MCT 10/21/15 [Acetone]: Separated from coeluting peak in multiple levels.

MCT 10/21/15 [1,2-Dichloropropane]: Corrected fronting or tailing peak integration in multiple levels.

MCT 10/21/15 [Iodomethane]: Corrected fronting or tailing peak integration in (nj25).

MCT 10/21/15 [Iodomethane]: ICV doesn't pass for Iodomethane

MCT 10/21/15 [tert-Butyl Alcohol (TBA)]: Rerun if sample hit less than 20ppb for TBA.

MCT 10/21/15 [2-Chloroethylvinylether]: Rerun if sample hit less than 5ppb for 2-Cleve.

MCT: 10/23/15 LW: 10/23/15 DJA: 10/26/15 KKM: 10/26/15

m=manual integration

Instrument amount =  $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$ ; AVRG=Average response factor

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955422499001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA14  
Calnum : 955422499001

Name : 8260X14W  
Cal Date : 20-OCT-2015

ICV 955422499028 (njk28 20-OCT-2015) stds: S28219 (10000X), S28220 (10000X), S28167 (10000X), S28246 (2500X)

ICV 955423728006 (njl06 21-OCT-2015) stds: S27267 (10000X), S28246 (2500X)

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
Freon 12	955423728006	21-OCT-2015	20.00	20.12	ug/L	1	30	
Chloromethane	955423728006	21-OCT-2015	20.00	21.56	ug/L	8	30	
Vinyl Chloride	955423728006	21-OCT-2015	20.00	19.65	ug/L	-2	20	
Bromomethane	955423728006	21-OCT-2015	20.00	16.95	ug/L	-15	30	
Chloroethane	955423728006	21-OCT-2015	20.00	19.51	ug/L	-2	30	
Trichlorofluoromethane	955423728006	21-OCT-2015	20.00	19.08	ug/L	-5	30	
Acetone	955422499028	20-OCT-2015	25.00	24.68	ug/L	-1	40	m
Freon 113	955422499028	20-OCT-2015	25.00	20.88	ug/L	-16	30	
1,1-Dichloroethene	955422499028	20-OCT-2015	25.00	24.12	ug/L	-4	20	
Methylene Chloride	955422499028	20-OCT-2015	25.00	24.71	ug/L	-1	30	
Carbon Disulfide	955422499028	20-OCT-2015	25.00	23.73	ug/L	-5	30	
MTBE	955422499028	20-OCT-2015	25.00	24.47	ug/L	-2	30	
trans-1,2-Dichloroethene	955422499028	20-OCT-2015	25.00	22.79	ug/L	-9	30	
Vinyl Acetate	955422499028	20-OCT-2015	25.00	23.17	ug/L	-7	40	
1,1-Dichloroethane	955422499028	20-OCT-2015	25.00	24.05	ug/L	-4	30	
2-Butanone	955422499028	20-OCT-2015	25.00	25.04	ug/L	0	40	
2,2-Dichloropropane	955422499028	20-OCT-2015	25.00	21.79	ug/L	-13	30	
cis-1,2-Dichloroethene	955422499028	20-OCT-2015	25.00	25.08	ug/L	0	30	
Chloroform	955422499028	20-OCT-2015	25.00	24.63	ug/L	-1	20	
Bromochloromethane	955422499028	20-OCT-2015	25.00	24.14	ug/L	-3	30	
1,1,1-Trichloroethane	955422499028	20-OCT-2015	25.00	25.01	ug/L	0	30	
1,1-Dichloropropene	955422499028	20-OCT-2015	25.00	21.55	ug/L	-14	30	
Carbon Tetrachloride	955422499028	20-OCT-2015	25.00	25.22	ug/L	1	30	
1,2-Dichloroethane	955422499028	20-OCT-2015	25.00	24.66	ug/L	-1	30	
Benzene	955422499028	20-OCT-2015	25.00	23.67	ug/L	-5	30	
Trichloroethene	955422499028	20-OCT-2015	25.00	25.16	ug/L	1	30	
1,2-Dichloropropane	955422499028	20-OCT-2015	25.00	24.68	ug/L	-1	20	
Bromodichloromethane	955422499028	20-OCT-2015	25.00	24.50	ug/L	-2	30	
Dibromomethane	955422499028	20-OCT-2015	25.00	23.78	ug/L	-5	30	
4-Methyl-2-Pentanone	955422499028	20-OCT-2015	25.00	25.11	ug/L	0	40	
cis-1,3-Dichloropropene	955422499028	20-OCT-2015	25.00	25.80	ug/L	3	30	
Toluene	955422499028	20-OCT-2015	25.00	23.93	ug/L	-4	20	
trans-1,3-Dichloropropene	955422499028	20-OCT-2015	25.00	24.36	ug/L	-3	30	
1,1,2-Trichloroethane	955422499028	20-OCT-2015	25.00	24.62	ug/L	-2	30	
2-Hexanone	955422499028	20-OCT-2015	25.00	25.90	ug/L	4	40	
1,3-Dichloropropane	955422499028	20-OCT-2015	25.00	25.04	ug/L	0	30	
Tetrachloroethene	955422499028	20-OCT-2015	25.00	24.91	ug/L	0	30	
Dibromochloromethane	955422499028	20-OCT-2015	25.00	24.22	ug/L	-3	30	
1,2-Dibromoethane	955422499028	20-OCT-2015	25.00	23.75	ug/L	-5	30	
Chlorobenzene	955422499028	20-OCT-2015	25.00	24.70	ug/L	-1	30	
1,1,1,2-Tetrachloroethane	955422499028	20-OCT-2015	25.00	23.70	ug/L	-5	30	
Ethylbenzene	955422499028	20-OCT-2015	25.00	23.87	ug/L	-5	20	
m,p-Xylenes	955422499028	20-OCT-2015	50.00	48.60	ug/L	-3	30	
o-Xylene	955422499028	20-OCT-2015	25.00	23.84	ug/L	-5	30	
Styrene	955422499028	20-OCT-2015	25.00	23.84	ug/L	-5	30	
Bromoform	955422499028	20-OCT-2015	25.00	24.68	ug/L	-1	30	
Isopropylbenzene	955422499028	20-OCT-2015	25.00	23.93	ug/L	-4	30	

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	955422499028	20-OCT-2015	25.00	24.78	ug/L	-1	30	
1,2,3-Trichloropropane	955422499028	20-OCT-2015	25.00	24.91	ug/L	0	30	
Propylbenzene	955422499028	20-OCT-2015	25.00	23.64	ug/L	-5	30	
Bromobenzene	955422499028	20-OCT-2015	25.00	24.36	ug/L	-3	30	
1,3,5-Trimethylbenzene	955422499028	20-OCT-2015	25.00	24.70	ug/L	-1	30	
2-Chlorotoluene	955422499028	20-OCT-2015	25.00	23.98	ug/L	-4	30	
4-Chlorotoluene	955422499028	20-OCT-2015	25.00	24.13	ug/L	-3	30	
tert-Butylbenzene	955422499028	20-OCT-2015	25.00	24.03	ug/L	-4	30	
1,2,4-Trimethylbenzene	955422499028	20-OCT-2015	25.00	24.04	ug/L	-4	30	
sec-Butylbenzene	955422499028	20-OCT-2015	25.00	23.81	ug/L	-5	30	
para-Isopropyl Toluene	955422499028	20-OCT-2015	25.00	23.83	ug/L	-5	30	
1,3-Dichlorobenzene	955422499028	20-OCT-2015	25.00	24.82	ug/L	-1	30	
1,4-Dichlorobenzene	955422499028	20-OCT-2015	25.00	24.84	ug/L	-1	30	
n-Butylbenzene	955422499028	20-OCT-2015	25.00	23.56	ug/L	-6	30	
1,2-Dichlorobenzene	955422499028	20-OCT-2015	25.00	25.14	ug/L	1	30	
1,2-Dibromo-3-Chloropropane	955422499028	20-OCT-2015	25.00	23.68	ug/L	-5	30	
1,2,4-Trichlorobenzene	955422499028	20-OCT-2015	25.00	24.13	ug/L	-3	30	
Hexachlorobutadiene	955422499028	20-OCT-2015	25.00	24.32	ug/L	-3	30	
Naphthalene	955422499028	20-OCT-2015	25.00	22.90	ug/L	-8	30	
1,2,3-Trichlorobenzene	955422499028	20-OCT-2015	25.00	23.84	ug/L	-5	30	

955422499028: DJA: 10/22/15 \* MCT: 10/23/15 LW: 10/23/15  
955423728006: Analyst: DJA Date: 10/22/15 Reviewer: LW Date: 10/22/15

m=manual integration

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA03                      Run Name : QC811624                      IDF : 1.0  
 Seqnum : 425447153004.2          File : ck604                      Time : 06-NOV-2015 14:20  
 Cal : 425383715001                Caldate : 23-SEP-2015          Caltype : WATER  
 Standards: S28219 (20000X), S28220 (20000X), S28167 (20000X), S28123 (20000X),  
 S28450 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.5033	0.6638	10.00	13.19	ug/L	32	30	0.0500	!v- c+ u ***
Chloromethane	0.4791	0.7158	10.00	14.94	ug/L	49	30	0.1000	c+ u ***
Vinyl Chloride	0.4311	0.6960	10.00	16.14	ug/L	61	20	0.0500	?LOD c+ u ***
Bromomethane	0.2497	0.4372	10.00	17.51	ug/L	75	30	0.0500	!v- c+ u ***
Chloroethane	0.2498	0.4101	10.00	16.42	ug/L	64	30	0.0500	c+ u ***
Trichlorofluoromethane	0.5295	0.7114	10.00	13.43	ug/L	34	30	0.0500	c+ u ***
Acetone	0.2162	0.2037	12.50	11.78	ug/L	-6	40	0.0500	u
Freon 113	0.4073	0.3911	12.50	12.00	ug/L	-4	30	0.0500	!v- u
1,1-Dichloroethene	0.3973	0.3977	12.50	12.51	ug/L	0	20	0.0500	u
Methylene Chloride	0.5344	0.6005	12.50	14.05	ug/L	12	30	0.0500	u
Carbon Disulfide	1.6245	1.6134	12.50	12.41	ug/L	-1	30	0.0500	u
MTBE	1.2784	1.3562	12.50	13.26	ug/L	6	30	0.0500	u
trans-1,2-Dichloroethene	0.4588	0.4781	12.50	13.03	ug/L	4	30	0.0500	u
Vinyl Acetate	0.9841	1.6126	12.50	20.48	ug/L	64	40	0.0500	c+ u ***
1,1-Dichloroethane	0.8798	1.0368	12.50	14.73	ug/L	18	30	0.1000	u
2-Butanone	0.3118	0.3180	12.50	12.75	ug/L	2	40	0.0500	u
cis-1,2-Dichloroethene	0.5338	0.6393	12.50	14.97	ug/L	20	30	0.0500	u
2,2-Dichloropropane	0.4662	0.7604	12.50	20.39	ug/L	63	30	0.0500	c+ u ***
Chloroform	0.8536	1.0238	12.50	14.99	ug/L	20	20	0.0500	u
Bromochloromethane	0.2939	0.3323	12.50	14.13	ug/L	13	30	0.0500	u
1,1,1-Trichloroethane	0.6192	0.7329	12.50	14.79	ug/L	18	30	0.0500	u
1,1-Dichloropropene	0.3433	0.3570	12.50	13.00	ug/L	4	30	0.0500	u
Carbon Tetrachloride	0.2739	0.3366	12.50	15.36	ug/L	23	30	0.0500	u
1,2-Dichloroethane	0.3622	0.4298	12.50	14.83	ug/L	19	30	0.0500	u
Benzene	0.9679	1.0679	12.50	13.79	ug/L	10	30	0.0500	u
Trichloroethene	0.2739	0.2914	12.50	13.30	ug/L	6	30	0.0500	u
1,2-Dichloropropane	0.3074	0.3279	12.50	13.33	ug/L	7	20	0.0500	u
Bromodichloromethane	0.3767	0.4172	12.50	13.85	ug/L	11	30	0.0500	u
Dibromomethane	0.2205	0.2348	12.50	13.31	ug/L	6	30	0.0500	u
4-Methyl-2-Pentanone	0.3791	0.3399	12.50	11.21	ug/L	-10	40	0.0500	u
cis-1,3-Dichloropropene	0.4320	0.5047	12.50	14.60	ug/L	17	30	0.0500	u
Toluene	0.6077	0.7302	12.50	15.02	ug/L	20	20	0.0500	u
trans-1,3-Dichloropropene	0.3965	0.4775	12.50	15.06	ug/L	20	30	0.0500	u
1,1,2-Trichloroethane	0.1597	0.1758	12.50	13.76	ug/L	10	30	0.0500	u
2-Hexanone	0.2891	0.2724	12.50	11.78	ug/L	-6	40	0.0500	u
1,3-Dichloropropane	0.4743	0.5599	12.50	14.76	ug/L	18	30	0.0500	u
Tetrachloroethene	0.2550	0.2933	12.50	14.37	ug/L	15	30	0.0500	u
Dibromochloromethane	0.3371	0.3644	12.50	13.51	ug/L	8	30	0.0500	u
1,2-Dibromoethane	0.3278	0.3397	12.50	12.96	ug/L	4	30	0.0500	u
Chlorobenzene	0.7376	0.8437	12.50	14.30	ug/L	14	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.2685	0.2992	12.50	13.93	ug/L	11	30	0.0500	u
Ethylbenzene	1.1292	1.3589	12.50	15.04	ug/L	20	20	0.0500	u
m,p-Xylenes	0.4153	0.4854	25.00	29.22	ug/L	17	30	0.0500	u
o-Xylene	0.4263	0.4744	12.50	13.91	ug/L	11	30	0.0500	u
Styrene	0.7560	0.8561	12.50	14.16	ug/L	13	30	0.0500	u
Bromoform	0.2207	0.2150	12.50	12.18	ug/L	-3	30	0.1000	u
Isopropylbenzene	2.0519	2.4980	12.50	15.22	ug/L	22	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.8133	0.8819	12.50	13.56	ug/L	8	30	0.3000	u
1,2,3-Trichloropropane	0.6314	0.7756	12.50	15.36	ug/L	23	30	0.0500	u
Propylbenzene	2.4531	3.1677	12.50	16.14	ug/L	29	30	0.0500	u
Bromobenzene	0.6172	0.7138	12.50	14.46	ug/L	16	30	0.0500	u
1,3,5-Trimethylbenzene	1.6440	2.0874	12.50	15.87	ug/L	27	30	0.0500	u
2-Chlorotoluene	1.6778	2.1418	12.50	15.96	ug/L	28	30	0.0500	u
4-Chlorotoluene	1.6176	2.0629	12.50	15.94	ug/L	28	30	0.0500	u
tert-Butylbenzene	1.3736	1.6428	12.50	14.95	ug/L	20	30	0.0500	u
1,2,4-Trimethylbenzene	1.7376	2.0831	12.50	14.99	ug/L	20	30	0.0500	u
sec-Butylbenzene	2.0973	2.5243	12.50	15.04	ug/L	20	30	0.0500	u
para-Isopropyl Toluene	1.6611	2.0435	12.50	15.38	ug/L	23	30	0.0500	u
1,3-Dichlorobenzene	1.0815	1.2395	12.50	14.33	ug/L	15	30	0.0500	u
1,4-Dichlorobenzene	1.1244	1.2798	12.50	14.23	ug/L	14	30	0.0500	u
n-Butylbenzene	1.4813	1.9140	12.50	16.15	ug/L	29	30	0.0500	u
1,2-Dichlorobenzene	1.0687	1.1772	12.50	13.77	ug/L	10	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1307	0.1201	12.50	11.49	ug/L	-8	30	0.0500	u
1,2,4-Trichlorobenzene	0.5685	0.6293	12.50	13.84	ug/L	11	30	0.0500	u
Hexachlorobutadiene	0.1797	0.2387	12.50	16.60	ug/L	33	30	0.0500	c+ u ***
Naphthalene	1.5742	1.3249	12.50	10.52	ug/L	-16	30	0.0500	u
1,2,3-Trichlorobenzene	0.5470	0.5641	12.50	12.89	ug/L	3	30	0.0500	u
Dibromofluoromethane	0.6951	0.7540	50.00	54.24	ug/L	8	30	0.0500	u
1,2-Dichloroethane-d4	0.3657	0.4221	50.00	57.71	ug/L	15	30	0.0500	u
Toluene-d8	1.1356	1.2607	50.00	55.51	ug/L	11	30	0.0500	u
Bromofluorobenzene	0.9511	1.0753	50.00	56.53	ug/L	13	30	0.0500	u

ISTD (ICAL cin24)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	497393	609710	22.58	10.36	10.37	0.01
1,4-Difluorobenzene	895161	1132694	26.54	11.53	11.52	-0.01
Chlorobenzene-d5	871710	1003763	15.15	15.60	15.60	0.00
1,4-Dichlorobenzene-d4	449342	474045	5.50	18.37	18.35	-0.02

5% spike rule CCV CCC failure

Analyst: KKM Date: 11/10/15 Reviewer: LW Date: 11/11/15

!=warning +=high bias -=low bias ?LOD=no LOD c=CCV u=use v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA09                      Run Name : QC811536                      IDF : 1.0  
 Seqnum : 485445681011.1          File : ik511                      Time : 05-NOV-2015 19:49  
 Cal : 485399877001                  Caldate : 04-OCT-2015          Caltype : WATER  
 Standards: S28219 (10000X), S28220 (10000X), S28167 (10000X), S27267 (10000X),  
 S28450 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.2840	0.3051	20.00	21.49	ug/L	7	30	0.0500	?LOD u
Chloromethane	0.3344	0.3207	20.00	19.18	ug/L	-4	30	0.1000	?LOD u
Vinyl Chloride	0.2798	0.2650	20.00	18.95	ug/L	-5	20	0.0500	?LOD u
Bromomethane	0.2401	0.2106	20.00	17.54	ug/L	-12	30	0.0500	!v- ?LOD u
Chloroethane	0.1931	0.2091	20.00	21.66	ug/L	8	30	0.0500	?LOD u
Trichlorofluoromethane	0.3791	0.3823	20.00	20.17	ug/L	1	30	0.0500	?LOD u
Acetone	0.0573	0.0476	25.00	20.74	ug/L	-17	40	0.0500	?LOD crf u ***
Freon 113	0.2182	0.1938	25.00	22.21	ug/L	-11	30	0.0500	?LOD u
1,1-Dichloroethene	0.2268	0.2142	25.00	23.62	ug/L	-6	20	0.0500	?LOD u
Methylene Chloride	0.2672	0.2763	25.00	25.86	ug/L	3	30	0.0500	?LOD u
Carbon Disulfide	0.9122	0.8049	25.00	22.06	ug/L	-12	30	0.0500	?LOD u
MTBE	0.4729	0.4672	25.00	24.70	ug/L	-1	30	0.0500	?LOD u
trans-1,2-Dichloroethene	0.2525	0.2388	25.00	23.64	ug/L	-5	30	0.0500	!v- ?LOD u
Vinyl Acetate	0.3410	0.4588	25.00	33.64	ug/L	35	40	0.0500	!v+ ?LOD u
1,1-Dichloroethane	0.4832	0.4720	25.00	24.42	ug/L	-2	30	0.1000	?LOD u
2-Butanone	0.0782	0.0769	25.00	24.58	ug/L	-2	40	0.0500	?LOD u
cis-1,2-Dichloroethene	0.2740	0.3020	25.00	27.56	ug/L	10	30	0.0500	?LOD u
2,2-Dichloropropane	0.3094	0.3580	25.00	28.93	ug/L	16	30	0.0500	?LOD u
Chloroform	0.4545	0.4790	25.00	26.35	ug/L	5	20	0.0500	?LOD u
Bromochloromethane	0.1296	0.1446	25.00	27.89	ug/L	12	30	0.0500	?LOD u
1,1,1-Trichloroethane	0.3386	0.3459	25.00	25.53	ug/L	2	30	0.0500	?LOD u
1,1-Dichloropropene	0.2812	0.2561	25.00	22.77	ug/L	-9	30	0.0500	?LOD u
Carbon Tetrachloride	0.2576	0.2662	25.00	25.83	ug/L	3	30	0.0500	?LOD u
1,2-Dichloroethane	0.2210	0.2198	25.00	24.87	ug/L	-1	30	0.0500	?LOD u
Benzene	0.7237	0.7757	25.00	26.80	ug/L	7	30	0.0500	?LOD u
Trichloroethene	0.2104	0.2236	25.00	26.56	ug/L	6	30	0.0500	?LOD u
1,2-Dichloropropane	0.2285	0.2300	25.00	25.17	ug/L	1	20	0.0500	?LOD u
Bromodichloromethane	0.2525	0.2727	25.00	27.01	ug/L	8	30	0.0500	?LOD u
Dibromomethane	0.1165	0.1285	25.00	27.57	ug/L	10	30	0.0500	?LOD u
4-Methyl-2-Pentanone	0.1380	0.1411	25.00	25.57	ug/L	2	40	0.0500	?LOD u
cis-1,3-Dichloropropene	0.2916	0.3371	25.00	28.90	ug/L	16	30	0.0500	?LOD u
Toluene	0.6986	0.6988	25.00	25.01	ug/L	0	20	0.0500	?LOD u
trans-1,3-Dichloropropene	0.3938	0.3573	25.00	22.68	ug/L	-9	30	0.0500	?LOD u
1,1,2-Trichloroethane	0.1289	0.1238	25.00	24.01	ug/L	-4	30	0.0500	?LOD u
2-Hexanone	0.1683	0.1512	25.00	22.46	ug/L	-10	40	0.0500	?LOD u
1,3-Dichloropropane	0.3871	0.3855	25.00	24.90	ug/L	0	30	0.0500	?LOD u
Tetrachloroethene	0.3342	0.3418	25.00	25.56	ug/L	2	30	0.0500	?LOD u
Dibromochloromethane	0.3211	0.3105	25.00	24.18	ug/L	-3	30	0.0500	?LOD u
1,2-Dibromoethane	0.2411	0.2386	25.00	24.74	ug/L	-1	30	0.0500	?LOD u
Chlorobenzene	0.8350	0.8516	25.00	25.50	ug/L	2	30	0.3000	?LOD u
1,1,1,2-Tetrachloroethane	0.2999	0.3124	25.00	26.04	ug/L	4	30	0.0500	?LOD u
Ethylbenzene	1.3646	1.3948	25.00	25.55	ug/L	2	20	0.0500	?LOD u
m,p-Xylenes	0.4865	0.5064	50.00	52.05	ug/L	4	30	0.0500	?LOD u
o-Xylene	0.5027	0.5094	25.00	25.33	ug/L	1	30	0.0500	?LOD u
Styrene	0.7744	0.8684	25.00	28.04	ug/L	12	30	0.0500	?LOD u
Bromoform	0.1868	0.1874	25.00	25.08	ug/L	0	30	0.1000	?LOD u
Isopropylbenzene	2.5648	2.4585	25.00	23.96	ug/L	-4	30	0.0500	?LOD u



Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.5007	0.4737	25.00	23.65	ug/L	-5	30	0.3000	?LOD u
1,2,3-Trichloropropane	0.1186	0.1091	25.00	23.01	ug/L	-8	30	0.0500	?LOD u
Propylbenzene	3.0165	2.8632	25.00	23.73	ug/L	-5	30	0.0500	?LOD u
Bromobenzene	0.7237	0.7340	25.00	25.36	ug/L	1	30	0.0500	?LOD u
1,3,5-Trimethylbenzene	1.9852	1.9867	25.00	25.02	ug/L	0	30	0.0500	?LOD u
2-Chlorotoluene	1.9852	1.9169	25.00	24.14	ug/L	-3	30	0.0500	?LOD u
4-Chlorotoluene	1.8809	1.7729	25.00	23.56	ug/L	-6	30	0.0500	?LOD u
tert-Butylbenzene	1.8257	1.7735	25.00	24.29	ug/L	-3	30	0.0500	?LOD u
1,2,4-Trimethylbenzene	1.9324	1.7860	25.00	23.11	ug/L	-8	30	0.0500	?LOD u
sec-Butylbenzene	2.6340	2.5122	25.00	23.84	ug/L	-5	30	0.0500	?LOD u
para-Isopropyl Toluene	2.0342	1.9256	25.00	23.67	ug/L	-5	30	0.0500	?LOD u
1,3-Dichlorobenzene	1.2879	1.2013	25.00	23.32	ug/L	-7	30	0.0500	?LOD u
1,4-Dichlorobenzene	1.3131	1.2435	25.00	23.67	ug/L	-5	30	0.0500	?LOD u
n-Butylbenzene	1.7685	1.5779	25.00	22.31	ug/L	-11	30	0.0500	?LOD u
1,2-Dichlorobenzene	1.2046	1.1314	25.00	23.48	ug/L	-6	30	0.0500	?LOD u
1,2-Dibromo-3-Chloropropane	0.0791	0.0665	25.00	21.02	ug/L	-16	30	0.0500	?LOD u
1,2,4-Trichlorobenzene	0.6330	0.5808	25.00	22.94	ug/L	-8	30	0.0500	?LOD u
Hexachlorobutadiene	0.3262	0.3438	25.00	26.35	ug/L	5	30	0.0500	?LOD u
Naphthalene	0.8976	0.7059	25.00	19.66	ug/L	-21	30	0.0500	?LOD u
1,2,3-Trichlorobenzene	0.5584	0.5150	25.00	23.04	ug/L	-8	30	0.0500	?LOD calc u
Dibromofluoromethane	0.4788	0.4503	50.00	47.02	ug/L	-6	30	0.0500	u
1,2-Dichloroethane-d4	0.2243	0.2255	50.00	50.27	ug/L	1	30	0.0500	u
Toluene-d8	1.6572	1.4751	50.00	44.51	ug/L	-11	30	0.0500	u
Bromofluorobenzene	0.9113	0.8657	50.00	47.50	ug/L	-5	30	0.0500	u

ISTD (ICAL ij415)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2083098	2096644	0.65	11.04	10.99	-0.05
1,4-Difluorobenzene	2647248	2623756	-0.89	12.30	12.26	-0.04
Chlorobenzene-d5	1580001	1760953	11.45	16.67	16.63	-0.04
1,4-Dichlorobenzene-d4	844594	933352	10.51	19.11	19.07	-0.04

Analyst: MCT Date: 11/10/15 Reviewer: TEW Date: 11/11/15

!=warning +=high bias -=low bias ?LOD=no LOD calc=check quantitation crf=CCV min RF failure u=use v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA09      Run Name : QC811912      IDF : 1.0  
 Seqnum : 485451358010.5      File : ik910      Time : 09-NOV-2015 17:36  
 Cal : 485399877001      Caldate : 04-OCT-2015      Caltype : WATER  
 Standards: S28219 (8333X), S28220 (8333X), S28167 (8333X), S27267 (8333X),  
 S28450 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.2840	0.2540	24.00	21.47	ug/L	-11	30	0.0500	?LOD u
Chloromethane	0.3344	0.3504	24.00	25.15	ug/L	5	30	0.1000	?LOD u
Vinyl Chloride	0.2798	0.3053	24.00	26.19	ug/L	9	20	0.0500	?LOD u
Bromomethane	0.2401	0.2540	24.00	25.39	ug/L	6	30	0.0500	!v- ?LOD u
Chloroethane	0.1931	0.2129	24.00	26.47	ug/L	10	30	0.0500	?LOD u
Trichlorofluoromethane	0.3791	0.4004	24.00	25.35	ug/L	6	30	0.0500	?LOD u
Acetone	0.0573	0.0461	30.00	24.14	ug/L	-20	40	0.0500	?LOD crf u ***
Freon 113	0.2182	0.2340	30.00	32.18	ug/L	7	30	0.0500	?LOD u
1,1-Dichloroethene	0.2268	0.2538	30.00	33.58	ug/L	12	20	0.0500	?LOD u
Methylene Chloride	0.2672	0.3071	30.00	34.49	ug/L	15	30	0.0500	?LOD u
Carbon Disulfide	0.9122	1.0033	30.00	33.00	ug/L	10	30	0.0500	?LOD u
MTBE	0.4729	0.4452	30.00	28.24	ug/L	-6	30	0.0500	?LOD u
trans-1,2-Dichloroethene	0.2525	0.2737	30.00	32.52	ug/L	8	30	0.0500	!v- ?LOD u
Vinyl Acetate	0.3410	0.4288	30.00	37.72	ug/L	26	40	0.0500	!v+ ?LOD u
1,1-Dichloroethane	0.4832	0.5093	30.00	31.62	ug/L	5	30	0.1000	?LOD u
2-Butanone	0.0782	0.0645	30.00	24.76	ug/L	-17	40	0.0500	?LOD u
cis-1,2-Dichloroethene	0.2740	0.3227	30.00	35.34	ug/L	18	30	0.0500	?LOD u
2,2-Dichloropropane	0.3094	0.3948	30.00	38.28	ug/L	28	30	0.0500	?LOD u
Chloroform	0.4545	0.5088	30.00	33.59	ug/L	12	20	0.0500	?LOD u
Bromochloromethane	0.1296	0.1493	30.00	34.54	ug/L	15	30	0.0500	?LOD u
1,1,1-Trichloroethane	0.3386	0.3719	30.00	32.95	ug/L	10	30	0.0500	?LOD u
1,1-Dichloropropene	0.2812	0.2655	30.00	28.33	ug/L	-6	30	0.0500	?LOD u
Carbon Tetrachloride	0.2576	0.2728	30.00	31.77	ug/L	6	30	0.0500	?LOD u
1,2-Dichloroethane	0.2210	0.2072	30.00	28.14	ug/L	-6	30	0.0500	?LOD u
Benzene	0.7237	0.8102	30.00	33.59	ug/L	12	30	0.0500	?LOD u
Trichloroethene	0.2104	0.2337	30.00	33.32	ug/L	11	30	0.0500	?LOD u
1,2-Dichloropropane	0.2285	0.2255	30.00	29.61	ug/L	-1	20	0.0500	?LOD u
Bromodichloromethane	0.2525	0.2666	30.00	31.67	ug/L	6	30	0.0500	?LOD u
Dibromomethane	0.1165	0.1177	30.00	30.32	ug/L	1	30	0.0500	?LOD u
4-Methyl-2-Pentanone	0.1380	0.1139	30.00	24.77	ug/L	-17	40	0.0500	?LOD u
cis-1,3-Dichloropropene	0.2916	0.3259	30.00	33.53	ug/L	12	30	0.0500	?LOD u
Toluene	0.6986	0.7216	30.00	30.99	ug/L	3	20	0.0500	?LOD u
trans-1,3-Dichloropropene	0.3938	0.3376	30.00	25.72	ug/L	-14	30	0.0500	?LOD u
1,1,2-Trichloroethane	0.1289	0.1157	30.00	26.92	ug/L	-10	30	0.0500	?LOD u
2-Hexanone	0.1683	0.1282	30.00	22.85	ug/L	-24	40	0.0500	?LOD u
1,3-Dichloropropane	0.3871	0.3502	30.00	27.14	ug/L	-10	30	0.0500	?LOD u
Tetrachloroethene	0.3342	0.3581	30.00	32.14	ug/L	7	30	0.0500	?LOD u
Dibromochloromethane	0.3211	0.2909	30.00	27.18	ug/L	-9	30	0.0500	?LOD u
1,2-Dibromoethane	0.2411	0.2175	30.00	27.07	ug/L	-10	30	0.0500	?LOD u
Chlorobenzene	0.8350	0.8441	30.00	30.33	ug/L	1	30	0.3000	?LOD u
1,1,1,2-Tetrachloroethane	0.2999	0.3093	30.00	30.93	ug/L	3	30	0.0500	?LOD u
Ethylbenzene	1.3646	1.4334	30.00	31.51	ug/L	5	20	0.0500	?LOD u
m,p-Xylenes	0.4865	0.5078	60.00	62.62	ug/L	4	30	0.0500	?LOD u
o-Xylene	0.5027	0.5159	30.00	30.79	ug/L	3	30	0.0500	?LOD u
Styrene	0.7744	0.8574	30.00	33.22	ug/L	11	30	0.0500	?LOD u
Bromoform	0.1868	0.1641	30.00	26.35	ug/L	-12	30	0.1000	?LOD u
Isopropylbenzene	2.5648	2.5068	30.00	29.32	ug/L	-2	30	0.0500	?LOD u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.5007	0.4327	30.00	25.93	ug/L	-14	30	0.3000	?LOD u
1,2,3-Trichloropropane	0.1186	0.0980	30.00	24.79	ug/L	-17	30	0.0500	?LOD u
Propylbenzene	3.0165	3.0048	30.00	29.88	ug/L	0	30	0.0500	?LOD u
Bromobenzene	0.7237	0.7059	30.00	29.26	ug/L	-2	30	0.0500	?LOD u
1,3,5-Trimethylbenzene	1.9852	2.0236	30.00	30.58	ug/L	2	30	0.0500	?LOD u
2-Chlorotoluene	1.9852	2.0329	30.00	30.72	ug/L	2	30	0.0500	?LOD u
4-Chlorotoluene	1.8809	1.8562	30.00	29.61	ug/L	-1	30	0.0500	?LOD u
tert-Butylbenzene	1.8257	1.7800	30.00	29.25	ug/L	-3	30	0.0500	?LOD u
1,2,4-Trimethylbenzene	1.9324	1.8142	30.00	28.16	ug/L	-6	30	0.0500	?LOD u
sec-Butylbenzene	2.6340	2.5846	30.00	29.44	ug/L	-2	30	0.0500	?LOD u
para-Isopropyl Toluene	2.0342	1.9660	30.00	28.99	ug/L	-3	30	0.0500	?LOD u
1,3-Dichlorobenzene	1.2879	1.2533	30.00	29.19	ug/L	-3	30	0.0500	?LOD u
1,4-Dichlorobenzene	1.3131	1.2381	30.00	28.29	ug/L	-6	30	0.0500	?LOD u
n-Butylbenzene	1.7685	1.6520	30.00	28.02	ug/L	-7	30	0.0500	?LOD u
1,2-Dichlorobenzene	1.2046	1.1147	30.00	27.76	ug/L	-7	30	0.0500	?LOD u
1,2-Dibromo-3-Chloropropane	0.0791	0.0575	30.00	21.79	ug/L	-27	30	0.0500	?LOD u
1,2,4-Trichlorobenzene	0.6330	0.5335	30.00	25.28	ug/L	-16	30	0.0500	?LOD u
Hexachlorobutadiene	0.3262	0.3362	30.00	30.92	ug/L	3	30	0.0500	?LOD u
Naphthalene	0.8976	0.5955	30.00	19.90	ug/L	-34	30	0.0500	?LOD c- u ***
1,2,3-Trichlorobenzene	0.5584	0.4504	30.00	24.18	ug/L	-19	30	0.0500	?LOD calc u
Dibromofluoromethane	0.4788	0.4281	50.00	44.70	ug/L	-11	30	0.0500	u
1,2-Dichloroethane-d4	0.2243	0.1804	50.00	40.20	ug/L	-20	30	0.0500	u
Toluene-d8	1.6572	1.4487	50.00	43.71	ug/L	-13	30	0.0500	u
Bromofluorobenzene	0.9113	0.8679	50.00	47.62	ug/L	-5	30	0.0500	u

ISTD (ICAL ij415)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2083098	3316187	59.19	11.04	11.02	-0.02
1,4-Difluorobenzene	2647248	4362206	64.78	12.30	12.28	-0.02
Chlorobenzene-d5	1580001	2925504	85.16	16.67	16.65	-0.02
1,4-Dichlorobenzene-d4	844594	1564944	85.29	19.11	19.09	-0.02

Analyst: KKM Date: 11/10/15 Reviewer: TEW Date: 11/11/15

!=warning +=high bias -=low bias ?LOD=no LOD c=CCV calc=check quantitation crf=CCV min RF failure u=use v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA10                      Run Name : QC811523                      IDF : 1.0  
 Seqnum : 495445756006.3          File : jk506                      Time : 05-NOV-2015 16:02  
 Cal : 495321824001                Caldate : 11-AUG-2015          Caltype : WATER  
 Standards: S28219 (20000X), S28220 (20000X), S28167 (20000X), S28123 (20000X),  
 S28022 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.9621	0.9759	10.00	10.72	ug/L	7	30	0.0500	u v+ ***
Chloromethane	1.3727	1.1315	10.00	8.746	ug/L	-13	30	0.1000	u
Vinyl Chloride	1.1084	0.9664	10.00	8.719	ug/L	-13	20	0.0500	u
Bromomethane	0.5666	0.4987	10.00	8.801	ug/L	-12	30	0.0500	u
Chloroethane	0.6180	0.6116	10.00	9.897	ug/L	-1	30	0.0500	u
Trichlorofluoromethane	1.1382	1.0311	10.00	9.059	ug/L	-9	30	0.0500	u
Acetone	0.4174	0.2819	12.50	8.441	ug/L	-32	40	0.0500	u
Freon 113	0.5296	0.5217	12.50	12.31	ug/L	-1	30	0.0500	u
1,1-Dichloroethene	0.4716	0.5107	12.50	13.54	ug/L	8	20	0.0500	u
Methylene Chloride	0.6641	0.7173	12.50	13.50	ug/L	8	30	0.0500	u
Carbon Disulfide	1.8964	2.0786	12.50	13.70	ug/L	10	30	0.0500	u
MTBE	2.0676	2.0185	12.50	12.20	ug/L	-2	30	0.0500	u
trans-1,2-Dichloroethene	0.5669	0.5645	12.50	12.45	ug/L	0	30	0.0500	u
Vinyl Acetate	2.4438	2.2137	12.50	11.32	ug/L	-9	40	0.0500	u
1,1-Dichloroethane	1.3321	1.3259	12.50	12.44	ug/L	0	30	0.1000	u
2-Butanone	0.5833	0.4300	12.50	9.215	ug/L	-26	40	0.0500	u
cis-1,2-Dichloroethene	0.6426	0.7203	12.50	14.01	ug/L	12	30	0.0500	u
2,2-Dichloropropane	0.8758	0.9482	12.50	13.53	ug/L	8	30	0.0500	u
Chloroform	1.2065	1.1840	12.50	12.27	ug/L	-2	20	0.0500	u
Bromochloromethane	0.3194	0.3442	12.50	13.47	ug/L	8	30	0.0500	u
1,1,1-Trichloroethane	0.9117	0.8675	12.50	11.89	ug/L	-5	30	0.0500	u
1,1-Dichloropropene	0.5664	0.5143	12.50	11.35	ug/L	-9	30	0.0500	u
Carbon Tetrachloride	0.4765	0.4357	12.50	11.43	ug/L	-9	30	0.0500	u
1,2-Dichloroethane	0.6556	0.5888	12.50	11.23	ug/L	-10	30	0.0500	u
Benzene	1.4624	1.5842	12.50	13.54	ug/L	8	30	0.0500	u
Trichloroethene	0.3849	0.3918	12.50	12.73	ug/L	2	30	0.0500	u
1,2-Dichloropropane	0.4787	0.4921	12.50	12.85	ug/L	3	20	0.0500	u
Bromodichloromethane	0.5757	0.5509	12.50	11.96	ug/L	-4	30	0.0500	u
Dibromomethane	0.3006	0.2842	12.50	11.82	ug/L	-5	30	0.0500	u
4-Methyl-2-Pentanone	0.7385	0.5506	12.50	9.320	ug/L	-25	40	0.0500	u
cis-1,3-Dichloropropene	0.6946	0.7280	12.50	13.10	ug/L	5	30	0.0500	u
Toluene	1.0395	1.0946	12.50	13.16	ug/L	5	20	0.0500	u
trans-1,3-Dichloropropene	0.7601	0.7176	12.50	11.80	ug/L	-6	30	0.0500	u
1,1,2-Trichloroethane	0.2455	0.2511	12.50	12.79	ug/L	2	30	0.0500	u
2-Hexanone	0.6208	0.4442	12.50	8.944	ug/L	-28	40	0.0500	u
1,3-Dichloropropane	0.7925	0.8332	12.50	13.14	ug/L	5	30	0.0500	u
Tetrachloroethene	0.3860	0.4322	12.50	13.99	ug/L	12	30	0.0500	u
Dibromochloromethane	0.4727	0.4785	12.50	12.65	ug/L	1	30	0.0500	u
1,2-Dibromoethane	0.4602	0.4554	12.50	12.37	ug/L	-1	30	0.0500	u
Chlorobenzene	1.0690	1.1695	12.50	13.67	ug/L	9	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.3931	0.3984	12.50	12.67	ug/L	1	30	0.0500	u
Ethylbenzene	1.9457	1.9823	12.50	12.74	ug/L	2	20	0.0500	u
m,p-Xylenes	0.6733	0.6762	25.00	25.11	ug/L	0	30	0.0500	u
o-Xylene	0.6528	0.6660	12.50	12.75	ug/L	2	30	0.0500	u
Styrene	1.1586	1.1278	12.50	12.17	ug/L	-3	30	0.0500	u
Bromoform	0.3102	0.2960	12.50	11.93	ug/L	-5	30	0.1000	!v+ u
Isopropylbenzene	3.8773	4.6542	12.50	15.00	ug/L	20	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	1.3821	1.4920	12.50	13.49	ug/L	8	30	0.3000	u
1,2,3-Trichloropropane	1.2879	1.3194	12.50	12.81	ug/L	2	30	0.0500	u
Propylbenzene	4.7677	5.0990	12.50	13.37	ug/L	7	30	0.0500	u
Bromobenzene	1.0049	1.2713	12.50	15.81	ug/L	27	30	0.0500	?LOD u
1,3,5-Trimethylbenzene	2.7332	2.7879	12.50	12.75	ug/L	2	30	0.0500	u
2-Chlorotoluene	3.2398	3.5984	12.50	13.88	ug/L	11	30	0.0500	u
4-Chlorotoluene	2.9353	3.2584	12.50	13.88	ug/L	11	30	0.0500	u
tert-Butylbenzene	2.5427	2.7586	12.50	13.56	ug/L	8	30	0.0500	u
1,2,4-Trimethylbenzene	2.5483	2.3605	12.50	11.58	ug/L	-7	30	0.0500	u
sec-Butylbenzene	3.9778	4.0997	12.50	12.88	ug/L	3	30	0.0500	u
para-Isopropyl Toluene	2.7872	2.6822	12.50	12.03	ug/L	-4	30	0.0500	u
1,3-Dichlorobenzene	1.6675	1.9684	12.50	14.76	ug/L	18	30	0.0500	u
1,4-Dichlorobenzene	1.6828	1.8758	12.50	13.93	ug/L	11	30	0.0500	u
n-Butylbenzene	2.4972	2.0855	12.50	10.44	ug/L	-16	30	0.0500	u
1,2-Dichlorobenzene	1.6134	1.8636	12.50	14.44	ug/L	16	30	0.0500	!v+ u
1,2-Dibromo-3-Chloropropane	0.2405	0.1876	12.50	9.748	ug/L	-22	30	0.0500	u
1,2,4-Trichlorobenzene	0.5060	0.4708	12.50	10.91	ug/L	-13	30	0.0500	!v+ ?LOD u
Hexachlorobutadiene	0.3994	0.4115	12.50	12.88	ug/L	3	30	0.0500	!v+ u
Naphthalene	1.1937	1.0634	12.50	11.41	ug/L	-9	30	0.0500	?LOD u
1,2,3-Trichlorobenzene	0.4319	0.3931	12.50	10.03	ug/L	-20	30	0.0500	!v+ ?LOD u
Dibromofluoromethane	0.6321	0.5980	50.00	47.30	ug/L	-5	30	0.0500	u
1,2-Dichloroethane-d4	0.5095	0.4014	50.00	39.39	ug/L	-21	30	0.0500	u
Toluene-d8	1.3750	1.3085	50.00	47.58	ug/L	-5	30	0.0500	u
Bromofluorobenzene	1.2427	1.3163	50.00	52.96	ug/L	6	30	0.0500	u

ISTD (ICAL jhb14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	1188695	1536435	29.25	11.06	11.03	-0.03
1,4-Difluorobenzene	1898539	2505836	31.99	12.23	12.21	-0.02
Chlorobenzene-d5	1613921	2041222	26.48	16.17	16.13	-0.04
1,4-Dichlorobenzene-d4	777833	759538	-2.35	18.88	18.86	-0.02

Analyst: MCT Date: 11/10/15 Reviewer: TEW Date: 11/11/15

!=warning +=high bias ?LOD=no LOD u=use v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA10      Run Name : QC811768      IDF : 1.0  
 Seqnum : 495448497005.4      File : jk705      Time : 07-NOV-2015 13:22  
 Cal : 495321824001      Caldate : 11-AUG-2015      Caltype : WATER  
 Standards: S28219 (20000X), S28220 (20000X), S28167 (20000X), S28123 (20000X),  
 S28022 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.9621	0.9030	10.00	9.869	ug/L	-1	30	0.0500	u v+ ***
Chloromethane	1.3727	1.1544	10.00	8.931	ug/L	-11	30	0.1000	u
Vinyl Chloride	1.1084	0.9598	10.00	8.660	ug/L	-13	20	0.0500	u
Bromomethane	0.5666	0.5497	10.00	9.701	ug/L	-3	30	0.0500	u
Chloroethane	0.6180	0.6323	10.00	10.23	ug/L	2	30	0.0500	u
Trichlorofluoromethane	1.1382	1.0267	10.00	9.020	ug/L	-10	30	0.0500	u
Acetone	0.4174	0.2693	12.50	8.063	ug/L	-35	40	0.0500	u
Freon 113	0.5296	0.4722	12.50	11.14	ug/L	-11	30	0.0500	u
1,1-Dichloroethene	0.4716	0.4602	12.50	12.20	ug/L	-2	20	0.0500	u
Methylene Chloride	0.6641	0.6766	12.50	12.73	ug/L	2	30	0.0500	u
Carbon Disulfide	1.8964	1.8782	12.50	12.38	ug/L	-1	30	0.0500	u
MTBE	2.0676	1.8785	12.50	11.36	ug/L	-9	30	0.0500	u
trans-1,2-Dichloroethene	0.5669	0.5274	12.50	11.63	ug/L	-7	30	0.0500	u
Vinyl Acetate	2.4438	2.0903	12.50	10.69	ug/L	-14	40	0.0500	u
1,1-Dichloroethane	1.3321	1.2516	12.50	11.74	ug/L	-6	30	0.1000	u
2-Butanone	0.5833	0.4141	12.50	8.874	ug/L	-29	40	0.0500	u
cis-1,2-Dichloroethene	0.6426	0.6858	12.50	13.34	ug/L	7	30	0.0500	u
2,2-Dichloropropane	0.8758	0.9228	12.50	13.17	ug/L	5	30	0.0500	u
Chloroform	1.2065	1.1408	12.50	11.82	ug/L	-5	20	0.0500	u
Bromochloromethane	0.3194	0.3340	12.50	13.07	ug/L	5	30	0.0500	u
1,1,1-Trichloroethane	0.9117	0.8512	12.50	11.67	ug/L	-7	30	0.0500	u
1,1-Dichloropropene	0.5664	0.4868	12.50	10.74	ug/L	-14	30	0.0500	u
Carbon Tetrachloride	0.4765	0.4006	12.50	10.51	ug/L	-16	30	0.0500	u
1,2-Dichloroethane	0.6556	0.5707	12.50	10.88	ug/L	-13	30	0.0500	u
Benzene	1.4624	1.4967	12.50	12.79	ug/L	2	30	0.0500	u
Trichloroethene	0.3849	0.3701	12.50	12.02	ug/L	-4	30	0.0500	u
1,2-Dichloropropane	0.4787	0.4718	12.50	12.32	ug/L	-1	20	0.0500	u
Bromodichloromethane	0.5757	0.5232	12.50	11.36	ug/L	-9	30	0.0500	u
Dibromomethane	0.3006	0.2691	12.50	11.19	ug/L	-10	30	0.0500	u
4-Methyl-2-Pentanone	0.7385	0.5151	12.50	8.719	ug/L	-30	40	0.0500	u
cis-1,3-Dichloropropene	0.6946	0.6986	12.50	12.57	ug/L	1	30	0.0500	u
Toluene	1.0395	1.0342	12.50	12.44	ug/L	-1	20	0.0500	u
trans-1,3-Dichloropropene	0.7601	0.6887	12.50	11.33	ug/L	-9	30	0.0500	u
1,1,2-Trichloroethane	0.2455	0.2380	12.50	12.12	ug/L	-3	30	0.0500	u
2-Hexanone	0.6208	0.4207	12.50	8.470	ug/L	-32	40	0.0500	u
1,3-Dichloropropane	0.7925	0.7720	12.50	12.18	ug/L	-3	30	0.0500	u
Tetrachloroethene	0.3860	0.4065	12.50	13.16	ug/L	5	30	0.0500	u
Dibromochloromethane	0.4727	0.4528	12.50	11.97	ug/L	-4	30	0.0500	u
1,2-Dibromoethane	0.4602	0.4264	12.50	11.58	ug/L	-7	30	0.0500	u
Chlorobenzene	1.0690	1.0988	12.50	12.85	ug/L	3	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.3931	0.3797	12.50	12.07	ug/L	-3	30	0.0500	u
Ethylbenzene	1.9457	1.8715	12.50	12.02	ug/L	-4	20	0.0500	u
m,p-Xylenes	0.6733	0.6250	25.00	23.21	ug/L	-7	30	0.0500	u
o-Xylene	0.6528	0.6183	12.50	11.84	ug/L	-5	30	0.0500	u
Styrene	1.1586	1.0297	12.50	11.11	ug/L	-11	30	0.0500	u
Bromoform	0.3102	0.2748	12.50	11.07	ug/L	-11	30	0.1000	!v+ u
Isopropylbenzene	3.8773	4.4360	12.50	14.30	ug/L	14	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	1.3821	1.4421	12.50	13.04	ug/L	4	30	0.3000	u
1,2,3-Trichloropropane	1.2879	1.3092	12.50	12.71	ug/L	2	30	0.0500	u
Propylbenzene	4.7677	4.6934	12.50	12.31	ug/L	-2	30	0.0500	u
Bromobenzene	1.0049	1.2309	12.50	15.31	ug/L	22	30	0.0500	?LOD u
1,3,5-Trimethylbenzene	2.7332	2.5152	12.50	11.50	ug/L	-8	30	0.0500	u
2-Chlorotoluene	3.2398	3.4099	12.50	13.16	ug/L	5	30	0.0500	u
4-Chlorotoluene	2.9353	3.0717	12.50	13.08	ug/L	5	30	0.0500	u
tert-Butylbenzene	2.5427	2.5423	12.50	12.50	ug/L	0	30	0.0500	u
1,2,4-Trimethylbenzene	2.5483	2.1092	12.50	10.35	ug/L	-17	30	0.0500	u
sec-Butylbenzene	3.9778	3.7562	12.50	11.80	ug/L	-6	30	0.0500	u
para-Isopropyl Toluene	2.7872	2.3880	12.50	10.71	ug/L	-14	30	0.0500	u
1,3-Dichlorobenzene	1.6675	1.8440	12.50	13.82	ug/L	11	30	0.0500	u
1,4-Dichlorobenzene	1.6828	1.7374	12.50	12.91	ug/L	3	30	0.0500	u
n-Butylbenzene	2.4972	1.7809	12.50	8.914	ug/L	-29	30	0.0500	u
1,2-Dichlorobenzene	1.6134	1.7181	12.50	13.31	ug/L	6	30	0.0500	!v+ u
1,2-Dibromo-3-Chloropropane	0.2405	0.1799	12.50	9.352	ug/L	-25	30	0.0500	u
1,2,4-Trichlorobenzene	0.5060	0.4287	12.50	10.00	ug/L	-20	30	0.0500	!v+ ?LOD u
Hexachlorobutadiene	0.3994	0.3961	12.50	12.40	ug/L	-1	30	0.0500	!v+ u
Naphthalene	1.1937	1.0006	12.50	10.83	ug/L	-13	30	0.0500	?LOD u
1,2,3-Trichlorobenzene	0.4319	0.3478	12.50	8.981	ug/L	-28	30	0.0500	!v+ ?LOD u
Dibromofluoromethane	0.6321	0.5835	50.00	46.16	ug/L	-8	30	0.0500	u
1,2-Dichloroethane-d4	0.5095	0.4032	50.00	39.56	ug/L	-21	30	0.0500	u
Toluene-d8	1.3750	1.2949	50.00	47.09	ug/L	-6	30	0.0500	u
Bromofluorobenzene	1.2427	1.3647	50.00	54.91	ug/L	10	30	0.0500	u

ISTD (ICAL jhb14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	1188695	1509346	26.98	11.06	11.05	-0.01
1,4-Difluorobenzene	1898539	2488598	31.08	12.23	12.21	-0.02
Chlorobenzene-d5	1613921	2024482	25.44	16.17	16.14	-0.03
1,4-Dichlorobenzene-d4	777833	736375	-5.33	18.88	18.87	-0.01

Analyst: KKM Date: 11/10/15 Reviewer: TEW Date: 11/11/15

!=warning +=high bias ?LOD=no LOD u=use v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA10                      Run Name : QC811771                      IDF : 1.0  
 Seqnum : 495448497006.4          File : jk706                      Time : 07-NOV-2015 13:53  
 Cal : 495321824001                Caldate : 11-AUG-2015          Caltype : WATER  
 Standards: S27677 (10000X), S28022 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Dibromofluoromethane	0.6321	0.5807	50.00	45.94	ug/L	-8	30	0.0500	u
1,2-Dichloroethane-d4	0.5095	0.4191	50.00	41.12	ug/L	-18	30	0.0500	u
Toluene-d8	1.3750	1.2972	50.00	47.17	ug/L	-6	30	0.0500	u
Bromofluorobenzene	1.2427	1.3741	50.00	55.28	ug/L	11	30	0.0500	u

ISTD (ICAL jhb14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	1188695	1415323	19.07	11.06	11.05	-0.01
1,4-Difluorobenzene	1898539	2288795	20.56	12.23	12.22	-0.01
Chlorobenzene-d5	1613921	1902279	17.87	16.17	16.14	-0.03
1,4-Dichlorobenzene-d4	777833	680333	-12.53	18.88	18.86	-0.02

ISTD (ICAL jhg06)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Chlorobenzene-d5 TIC	6955694	6318610	-9.16	16.16	16.14	-0.02

Analyst: KKM                      Date: 11/10/15                      Reviewer: TEW                      Date: 11/11/15

u=use



CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 MSVOA Water  
EPA 8260B

Inst : MSVOA14                      Run Name : QC811845                      IDF : 1.0  
 Seqnum : 955451069012.5              File : nk912                      Time : 09-NOV-2015 15:26  
 Cal : 955422499001                      Caldate : 20-OCT-2015  
 Standards: S28219 (20000X), S28220 (20000X), S28167 (20000X), S27267 (20000X),  
 S28449 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.6415	0.6863	10.00	10.70	ug/L	7	30	0.0500	u
Chloromethane	0.9510	1.0650	10.00	11.20	ug/L	12	30	0.1000	u
Vinyl Chloride	0.9707	0.9234	10.00	9.513	ug/L	-5	20	0.0500	u
Bromomethane	0.2242	0.3462	10.00	15.45	ug/L	54	30	0.0500	c+ u ***
Chloroethane	0.5345	0.4754	10.00	8.894	ug/L	-11	30	0.0500	u
Trichlorofluoromethane	0.8274	1.0059	10.00	12.16	ug/L	22	30	0.0500	u
Acetone	0.4156	0.3470	12.50	10.44	ug/L	-16	40	0.0500	m u
Freon 113	0.4347	0.3767	12.50	10.83	ug/L	-13	30	0.0500	u
1,1-Dichloroethene	0.4198	0.3351	12.50	9.979	ug/L	-20	20	0.0500	u
Methylene Chloride	0.4994	0.4118	12.50	10.31	ug/L	-18	30	0.0500	u
Carbon Disulfide	1.4737	1.2119	12.50	10.28	ug/L	-18	30	0.0500	u
MTBE	1.6773	1.2651	12.50	9.429	ug/L	-25	30	0.0500	u
trans-1,2-Dichloroethene	0.4787	0.3729	12.50	9.738	ug/L	-22	30	0.0500	u
Vinyl Acetate	1.7132	1.7344	12.50	12.65	ug/L	1	40	0.0500	u
1,1-Dichloroethane	1.3336	1.2014	12.50	11.26	ug/L	-10	30	0.1000	u
2-Butanone	0.4886	0.3815	12.50	9.760	ug/L	-22	40	0.0500	u
cis-1,2-Dichloroethene	0.5624	0.4487	12.50	9.971	ug/L	-20	30	0.0500	u
2,2-Dichloropropane	0.6571	0.7965	12.50	15.15	ug/L	21	30	0.0500	u
Chloroform	0.8921	0.8714	12.50	12.21	ug/L	-2	20	0.0500	u
Bromochloromethane	0.2490	0.2291	12.50	11.50	ug/L	-8	30	0.0500	u
1,1,1-Trichloroethane	0.7861	0.8804	12.50	14.00	ug/L	12	30	0.0500	u
1,1-Dichloropropene	0.4813	0.4183	12.50	10.86	ug/L	-13	30	0.0500	u
Carbon Tetrachloride	0.4089	0.6207	12.50	18.98	ug/L	52	30	0.0500	c+ u ***
1,2-Dichloroethane	0.6367	0.8457	12.50	16.60	ug/L	33	30	0.0500	c+ u ***
Benzene	1.4017	1.2912	12.50	11.51	ug/L	-8	30	0.0500	u
Trichloroethene	0.3628	0.3671	12.50	12.65	ug/L	1	30	0.0500	u
1,2-Dichloropropane	0.5064	0.4937	12.50	12.19	ug/L	-3	20	0.0500	u
Bromodichloromethane	0.4448	0.5167	12.50	14.52	ug/L	16	30	0.0500	u
Dibromomethane	0.2211	0.2313	12.50	13.07	ug/L	5	30	0.0500	u
4-Methyl-2-Pentanone	0.6446	0.6054	12.50	11.74	ug/L	-6	40	0.0500	u
cis-1,3-Dichloropropene	0.5532	0.5980	12.50	13.51	ug/L	8	30	0.0500	u
Toluene	1.6718	1.5746	12.50	11.77	ug/L	-6	20	0.0500	u
trans-1,3-Dichloropropene	0.5523	0.5534	12.50	12.52	ug/L	0	30	0.0500	u
1,1,2-Trichloroethane	0.1862	0.1751	12.50	11.75	ug/L	-6	30	0.0500	u
2-Hexanone	0.4951	0.4214	12.50	10.64	ug/L	-15	40	0.0500	u
1,3-Dichloropropane	0.6320	0.5930	12.50	11.73	ug/L	-6	30	0.0500	u
Tetrachloroethene	0.3610	0.4624	12.50	16.01	ug/L	28	30	0.0500	u
Dibromochloromethane	0.3820	0.4398	12.50	14.39	ug/L	15	30	0.0500	u
1,2-Dibromoethane	0.3672	0.3491	12.50	11.89	ug/L	-5	30	0.0500	u
Chlorobenzene	1.0480	1.0888	12.50	12.99	ug/L	4	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.3617	0.4289	12.50	14.82	ug/L	19	30	0.0500	u
Ethylbenzene	1.9396	1.9054	12.50	12.28	ug/L	-2	20	0.0500	u
m,p-Xylenes	0.7353	0.7366	25.00	25.04	ug/L	0	30	0.0500	u
o-Xylene	0.7307	0.6870	12.50	11.75	ug/L	-6	30	0.0500	u
Styrene	1.2609	1.2273	12.50	12.17	ug/L	-3	30	0.0500	u
Bromoform	0.2701	0.3571	12.50	16.52	ug/L	32	30	0.1000	c+ u ***
Isopropylbenzene	3.5784	2.9461	12.50	10.29	ug/L	-18	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.8496	0.6695	12.50	9.851	ug/L	-21	30	0.3000	u
1,2,3-Trichloropropane	0.9817	0.7920	12.50	10.09	ug/L	-19	30	0.0500	u
Propylbenzene	4.3463	3.5588	12.50	10.24	ug/L	-18	30	0.0500	u
Bromobenzene	0.8426	0.8536	12.50	12.66	ug/L	1	30	0.0500	u
1,3,5-Trimethylbenzene	3.0929	2.8159	12.50	11.38	ug/L	-9	30	0.0500	u
2-Chlorotoluene	2.9127	2.5923	12.50	11.12	ug/L	-11	30	0.0500	u
4-Chlorotoluene	2.7062	2.3490	12.50	10.85	ug/L	-13	30	0.0500	u
tert-Butylbenzene	2.6588	2.3662	12.50	11.12	ug/L	-11	30	0.0500	u
1,2,4-Trimethylbenzene	3.1235	2.8260	12.50	11.31	ug/L	-10	30	0.0500	u
sec-Butylbenzene	4.0353	3.4828	12.50	10.79	ug/L	-14	30	0.0500	u
para-Isopropyl Toluene	3.3656	3.0589	12.50	11.36	ug/L	-9	30	0.0500	u
1,3-Dichlorobenzene	1.5874	1.6583	12.50	13.06	ug/L	4	30	0.0500	u
1,4-Dichlorobenzene	1.6381	1.7033	12.50	13.00	ug/L	4	30	0.0500	u
n-Butylbenzene	3.2103	2.9027	12.50	11.30	ug/L	-10	30	0.0500	u
1,2-Dichlorobenzene	1.5518	1.5835	12.50	12.76	ug/L	2	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.2296	0.1713	12.50	9.326	ug/L	-25	30	0.0500	u
1,2,4-Trichlorobenzene	1.1989	1.2425	12.50	12.96	ug/L	4	30	0.0500	u
Hexachlorobutadiene	0.5656	0.7878	12.50	17.41	ug/L	39	30	0.0500	c+ u ***
Naphthalene	3.4680	2.4982	12.50	9.005	ug/L	-28	30	0.0500	m u
1,2,3-Trichlorobenzene	1.1848	1.2540	12.50	13.23	ug/L	6	30	0.0500	u
Dibromofluoromethane	0.4527	0.4327	50.00	47.78	ug/L	-4	30	0.0500	u
1,2-Dichloroethane-d4	0.4650	0.5961	50.00	64.10	ug/L	28	30	0.0500	u
Toluene-d8	1.3404	1.3015	50.00	48.55	ug/L	-3	30	0.0500	u
Bromofluorobenzene	1.0165	0.8519	50.00	41.91	ug/L	-16	30	0.0500	u

ISTD (ICAL njk23)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	742664	743853	0.16	9.49	9.48	-0.01
1,4-Difluorobenzene	1178583	974731	-17.30	10.56	10.55	-0.01
Chlorobenzene-d5	1092554	949146	-13.13	14.13	14.12	-0.01
1,4-Dichlorobenzene-d4	591395	617880	4.48	16.56	16.55	-0.01

MCT 11/10/15 [Acetone]: Separated from coeluting peak. [general version]

MCT 11/10/15 [Naphthalene]: Picked or reassigned peak. [general version]

Analyst: KKM Date: 11/10/15 Reviewer: TEW Date: 11/11/15

+ = high bias c = CCV m = manual integration u = use

## Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 425447153

Date : 11/06/15  
 Sequence : MSVOA03 ck6

Reference : cin24  
 Analyzed : 09/24/15 02:58

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	497393	10.36	895161	11.53	871710	15.60	449342	18.37
		LOWER LIMIT	248697	9.86	447581	11.03	435855	15.10	224671	17.87
		UPPER LIMIT	994786	10.86	1790322	12.03	1743420	16.10	898684	18.87
001	IB		705626	10.36	1310316	11.52	1156991	15.60	520434	18.35
003	CCV		662017	10.37	1225295	11.53	1095270	15.61	527823	18.35
004	CCV/BS	QC811624	609710	10.37	1132694	11.52	1003763	15.60	474045	18.35
005	BSD	QC811625	615360	10.36	1140316	11.52	1016502	15.60	488844	18.35
007	BLANK	QC811626	691584	10.37	1284701	11.53	1147108	15.60	531397	18.35
008	SAMPLE	271203-001	737521	10.37	1385212	11.54	1224029	15.60	553130	18.36
009	SAMPLE	271203-002	732522	10.38	1364098	11.54	1224356	15.61	555401	18.36
010	SAMPLE	271203-003	693689	10.38	1302181	11.53	1150474	15.60	523286	18.36
011	SAMPLE	271203-004	622337	10.36	1161443	11.52	1027588	15.60	477794	18.35
012	SAMPLE	271203-005	547255	10.36	1016238	11.52	926641	15.59	437953	18.36
013	SAMPLE	271203-006	462015	10.34	880872	11.50	787924	15.60	366086	18.35
014	SAMPLE	271203-007	579439	10.37	1102422	11.52	979367	15.59	458523	18.35
015	SAMPLE	271203-008	552204	10.36	1043090	11.52	941139	15.60	438032	18.35
016	SAMPLE	271203-009	519149	10.35	979116	11.51	890474	15.60	423167	18.35
017	SAMPLE	271203-010	506806	10.35	948798	11.51	871885	15.60	405994	18.35
018	SAMPLE	271203-011	496902	10.35	938896	11.51	860196	15.59	404815	18.36
019	SAMPLE	271203-012	472041	10.35	893662	11.51	821109	15.60	388515	18.35
020	SAMPLE	271203-013	485693	10.35	911647	11.51	841288	15.60	397750	18.35
021	SAMPLE	271203-014	461110	10.35	870786	11.51	809596	15.59	386739	18.36

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 485445681

Date : 11/05/15  
 Sequence : MSVOA09 ik5

Reference : ij415  
 Analyzed : 10/05/15 01:59

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	2083098	11.04	2647248	12.30	1580001	16.67	844594	19.11
		LOWER LIMIT	1041549	10.54	1323624	11.80	790001	16.17	422297	18.61
		UPPER LIMIT	4166196	11.54	5294496	12.80	3160002	17.17	1689188	19.61
001	IB		1899108	11.00	2527050	12.27	1995618	16.64	1015452	19.08
003	CCV		1794650	10.98	2543872	12.25	1927176	16.63	935564	19.07
004	CCV		2097759	11.00	2869627	12.26	1960523	16.63	956252	19.08
007	CCV		1631197	10.98	2416017	12.25	1744054	16.63	603739	19.07
008	CCV		1939003	11.01	2676745	12.27	1847336	16.64	882586	19.08
010	CCV/LCS	QC811536	1979503	10.98	2564736	12.24	1866725	16.62	989238	19.07
011	CCV/LCS	QC811536	2096644	10.99	2623756	12.26	1760953	16.63	933352	19.07
012	IB	A/A	2139105	10.98	2646972	12.25	1718582	16.63	941739	19.07
013	BLANK	QC811405	2150016	10.99	2600441	12.25	1717288	16.63	889069	19.08
014	MSS	271236-009	1884539	10.99	2429899	12.26	1730450	16.64	906162	19.07
015	SAMPLE	271203-001	1994211	10.99	2540889	12.26	1684661	16.63	893017	19.08
016	SAMPLE	271203-003	2023778	10.99	2617028	12.25	1687062	16.64	895152	19.08
017	SAMPLE	271203-004	2031801	10.99	2506374	12.25	1657375	16.63	873337	19.08
018	SAMPLE	271203-007	1801877	10.99	2307859	12.25	1657481	16.64	898811	19.08
019	SAMPLE	271203-006	1964160	10.99	2512411	12.26	1671144	16.63	866468	19.07
020	SAMPLE	271203-012	2005673	10.99	2506942	12.25	1635614	16.64	874044	19.08
021	SAMPLE	271203-002	2019154	10.99	2613955	12.26	1694258	16.63	895235	19.08
022	SAMPLE	271203-008	1948623	10.99	2466672	12.26	1668916	16.63	883700	19.07
023	SAMPLE	271203-009	1817028	10.99	2424668	12.25	1653684	16.63	883815	19.08
024	SAMPLE	271203-011	1968490	11.00	2549109	12.26	1670254	16.63	909013	19.07
025	SAMPLE	271203-005	2006441	10.99	2583622	12.26	1699002	16.63	858757	19.08
026	SAMPLE	271203-010	1917128	10.99	2493367	12.26	1684120	16.64	878348	19.08
027	SAMPLE	271203-014	1873341	10.99	2433034	12.26	1708429	16.64	898003	19.07
028	SAMPLE	271203-013	2058919	10.99	2744321	12.26	1775669	16.64	884543	19.08
029	MS	QC811403	1990560	11.00	2650931	12.26	1745856	16.64	909342	19.07
030	MSD	QC811404	2087047	11.00	2788360	12.26	1749653	16.64	903736	19.08
031	IB		1345859	11.00	2045787	12.26	1839357	16.63	1021324	19.07
032	IB		1905338	11.00	2619683	12.26	1813255	16.64	1005093	19.08
033	IB		1909778	11.00	2534689	12.26	1851285	16.63	1038977	19.08

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 485451358

Date : 11/09/15  
 Sequence : MSVOA09 ik9

Reference : ij415  
 Analyzed : 10/05/15 01:59

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	2083098	11.04	2647248	12.30	1580001	16.67	844594	19.11
		LOWER LIMIT	1041549	10.54	1323624	11.80	790001	16.17	422297	18.61
		UPPER LIMIT	4166196	11.54	5294496	12.80	3160002	17.17	1689188	19.61
001	IB		914517 *	11.02	1192459 *	12.28	945073	16.66	502211	19.09
004	CCV		827827 *	11.02	1212994 *	12.28	895101	16.66	479296	19.09
005	CCV	QC811912	1079277	11.03	1508113	12.29	966110	16.66	502441	19.10
007	CCV	QC811912	3175222	11.00	4802752	12.26	3783794 *	16.64	1971985 *	19.08
009	CCV	QC811912	2479802	11.01	3602730	12.27	2883501	16.64	1507719	19.09
010	CCV/LCS	QC811912	3316187	11.02	4362206	12.28	2925504	16.65	1564944	19.09
011	MS	QC811403	2522326	11.03	3615815	12.29	2649915	16.66	1469164	19.09
012	MSD	QC811404	3233452	11.02	4186118	12.28	2629375	16.66	1417490	19.09
013	IB	A/A	2917429	11.02	3718832	12.29	2655812	16.66	1441906	19.10
014	IB	A/A	3153863	11.02	4000401	12.28	2629153	16.66	1393419	19.09
015	BLANK	QC811914	2876719	11.02	3551512	12.28	2573327	16.66	1358100	19.09
016	SAMPLE	271252-004	3118867	11.01	3937603	12.28	2526691	16.65	1413895	19.09
017	SAMPLE	271314-001	2771434	11.02	3590180	12.28	2552195	16.65	1386230	19.09
018	SAMPLE	271252-001	2838130	11.02	3689149	12.28	2582903	16.65	1337864	19.09
019	SAMPLE	271252-002	3074371	11.02	3865101	12.28	2382039	16.66	1333315	19.09
020	SAMPLE	271252-003	2976273	11.01	3888225	12.28	2504558	16.64	1386393	19.09
021	SAMPLE	271350-002	2985961	11.01	3737798	12.28	2456270	16.65	1370428	19.09
022	SAMPLE	271350-003	2968932	11.01	3794411	12.27	2489101	16.65	1343390	19.08
023	MSS	271350-004	2683593	11.01	3513172	12.27	2494944	16.65	1363316	19.09
024	MS	QC812021	2864469	11.01	3724261	12.27	2440057	16.65	1260736	19.09
025	MSD	QC812022	2924884	11.01	3820055	12.27	2402545	16.65	1299495	19.09

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 495445756

Date : 11/05/15  
 Sequence : MSVOA10 jk5

Reference : jhb14  
 Analyzed : 08/11/15 19:01

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	1188695	11.06	1898539	12.23	1613921	16.17	777833	18.88
		LOWER LIMIT	594348	10.56	949270	11.73	806961	15.67	388917	18.38
		UPPER LIMIT	2377390	11.56	3797078	12.73	3227842	16.67	1555666	19.38
004	CCV		1362981	11.04	2240743	12.20	1852757	16.13	688779	18.86
005	CCV		1336844	11.04	2175598	12.21	1761450	16.14	677817	18.85
006	CCV/LCS	QC811523	1536435	11.03	2505836	12.21	2041222	16.13	759538	18.86
007	IB	A/A	1418318	11.04	2374859	12.20	1950214	16.14	611859	18.85
008	IB	A/A	1339552	11.04	2216738	12.20	1825486	16.13	575415	18.86
009	BLANK	QC811474	1274939	11.03	2105520	12.20	1758947	16.13	572119	18.85
010	MSS	271203-024	1444476	11.03	2369875	12.20	1939674	16.13	659936	18.86
011	SAMPLE	271203-025	1364432	11.03	2216987	12.20	1846891	16.13	638395	18.86
012	SAMPLE	271203-023	1351359	11.03	2221888	12.19	1828927	16.14	643917	18.85
013	SAMPLE	271331-001	1328978	11.02	2147746	12.19	1774230	16.13	625944	18.86
014	SAMPLE	271256-010	1264383	11.03	2067716	12.20	1717081	16.13	566860	18.85
015	SAMPLE	271256-011	1324007	11.02	2182408	12.19	1803099	16.13	643382	18.86
016	SAMPLE	271256-012	1312602	11.02	2180557	12.19	1780126	16.13	657690	18.86
017	SAMPLE	271256-013	1300907	11.02	2097755	12.19	1705843	16.13	589715	18.86
018	SAMPLE	271256-015	1264434	11.03	2061135	12.20	1711857	16.13	612121	18.85
019	SAMPLE	271256-016	1255351	11.03	2067641	12.19	1682096	16.14	589555	18.85
020	SAMPLE	271256-017	1236588	11.02	2019982	12.19	1688767	16.13	575355	18.85
021	SAMPLE	271256-021	1253760	11.02	2065585	12.19	1714487	16.13	611132	18.85
022	SAMPLE	271256-023	1231511	11.02	2042486	12.19	1706378	16.13	598689	18.86
023	MS	QC811472	1286518	11.02	2099870	12.19	1738674	16.13	727256	18.86
024	MSD	QC811473	1300440	11.02	2140155	12.19	1760210	16.13	726722	18.86
025	IB		1324360	11.03	2184344	12.19	1796553	16.13	639586	18.86
026	IB		1328634	11.03	2199210	12.20	1802386	16.14	627638	18.85
027	IB		1320375	11.02	2181339	12.19	1789656	16.13	629345	18.86

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 495448497

Date : 11/07/15  
 Sequence : MSVOA10 jk7

Reference : jhb14  
 Analyzed : 08/11/15 19:01

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	1188695	11.06	1898539	12.23	1613921	16.17	777833	18.88
		LOWER LIMIT	594348	10.56	949270	11.73	806961	15.67	388917	18.38
		UPPER LIMIT	2377390	11.56	3797078	12.73	3227842	16.67	1555666	19.38
005	CCV/LCS	QC811768	1509346	11.05	2488598	12.21	2024482	16.14	736375	18.87
006	CCV/BS	QC811771	1415323	11.05	2288795	12.22	1902279	16.14	680333	18.86
007	BSD	QC811772	1353226	11.05	2188207	12.22	1839474	16.14	668643	18.87
009	BLANK	QC811770	1318483	11.06	2164534	12.22	1759507	16.15	569104	18.86
010	SAMPLE	271203-019	1290219	11.05	2125345	12.22	1737450	16.15	524727	18.86
011	SAMPLE	271238-005	1286380	11.05	2110904	12.21	1750120	16.15	530560	18.87
012	SAMPLE	271371-001	1301101	11.06	2134697	12.22	1779950	16.15	551019	18.86
013	SAMPLE	271371-002	1455591	11.05	2381168	12.22	1984198	16.15	627180	18.87
014	SAMPLE	271225-005	1446682	11.06	2378465	12.22	1966683	16.15	644188	18.87
015	SAMPLE	271248-004	1385207	11.04	2254678	12.21	1871912	16.15	632622	18.87
016	SAMPLE	271248-005	1317268	11.04	2131227	12.21	1791393	16.15	626835	18.87
017	SAMPLE	271248-007	1297698	11.05	2122367	12.22	1750340	16.15	603357	18.87
018	SAMPLE	271248-008	1244338	11.05	2013930	12.21	1656484	16.14	589537	18.87
019	SAMPLE	271225-003	1212685	11.05	1976925	12.22	1657739	16.15	610757	18.87
020	SAMPLE	271248-001	1203144	11.04	1988805	12.21	1649746	16.15	593921	18.87
021	MSS	271248-002	1233610	11.05	1987957	12.21	1670225	16.15	577648	18.87
022	SAMPLE	271248-003	1193732	11.05	1960185	12.22	1633813	16.15	582416	18.87
023	SAMPLE	271238-003	1247388	11.04	2030797	12.22	1674396	16.15	697913	18.87
024	MS	QC811785	1248747	11.04	2016320	12.21	1687427	16.15	702525	18.87
025	MSD	QC811786	1335153	11.05	2152435	12.22	1807696	16.15	726035	18.87



CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 495448497

Date : 11/07/15  
 Sequence : MSVOA10 jk7

Reference : jhg06  
 Analyzed : 08/17/15 01:56

#	Type	Sample ID	CLBZD5-TIC	RT
		ICAL STD	6955694	16.16
		LOWER LIMIT	3477847	15.66
		UPPER LIMIT	13911388	16.66
006	CCV/BS	QC811771	6318610	16.14
011	SAMPLE	271238-005	5638266	16.14
012	SAMPLE	271371-001	5812348	16.15
013	SAMPLE	271371-002	6536203	16.15
023	SAMPLE	271238-003	5517424	16.15

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 955451069

Date : 11/09/15  
 Sequence : MSVOA14 nk9

Reference : njk23  
 Analyzed : 10/20/15 18:26

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	742664	9.49	1178583	10.56	1092554	14.13	591395	16.56
		LOWER LIMIT	371332	8.99	589292	10.06	546277	13.63	295698	16.06
		UPPER LIMIT	1485328	9.99	2357166	11.06	2185108	14.63	1182790	17.06
007	CCV/BS	QC811845	570122	9.48	819096	10.55	792598	14.12	493866	16.55
012	CCV/BS	QC811845	743853	9.48	974731	10.55	949146	14.12	617880	16.55
013	BSD	QC811846	747343	9.48	990877	10.55	974426	14.12	622921	16.55
015	BLANK	QC811847	675925	9.48	938139	10.56	896105	14.13	548134	16.55
016	SAMPLE	271248-009	697757	9.48	960638	10.55	914077	14.12	564788	16.55
017	SAMPLE	271212-013	685115	9.48	940265	10.56	904841	14.13	553842	16.55
018	SAMPLE	271141-006	682908	9.48	935178	10.56	898026	14.13	546575	16.56
019	SAMPLE	271203-015	658909	9.48	914071	10.56	889628	14.13	547477	16.55
020	SAMPLE	271203-016	657672	9.48	904674	10.56	880916	14.13	537553	16.55
021	SAMPLE	271423-001	666125	9.48	928048	10.56	884055	14.13	544252	16.56
022	SAMPLE	271203-017	655943	9.48	923198	10.56	880972	14.13	540581	16.56
023	SAMPLE	271203-018	661740	9.48	923804	10.56	898994	14.13	558665	16.55
024	SAMPLE	271203-020	661605	9.48	918702	10.56	883247	14.13	537689	16.55
025	SAMPLE	271203-021	667427	9.48	923459	10.56	879202	14.13	543466	16.56
026	SAMPLE	271203-022	668278	9.48	917499	10.56	889448	14.13	545061	16.55
027	SAMPLE	271225-004	663844	9.48	915123	10.56	885791	14.13	545415	16.55
028	SAMPLE	271225-001	643649	9.48	903491	10.56	864232	14.13	534900	16.56
029	SAMPLE	271225-002	661282	9.48	921985	10.56	885615	14.13	547441	16.55
030	SAMPLE	271112-005	662604	9.48	914380	10.56	883349	14.13	543281	16.56
031	SAMPLE	271212-010	666009	9.48	918183	10.56	893151	14.13	546207	16.56
032	SAMPLE	271212-012	666345	9.48	932373	10.56	896802	14.13	548898	16.56
033	SAMPLE	271215-001	652937	9.48	895321	10.56	852477	14.13	523822	16.56
034	SAMPLE	271212-011	671668	9.48	909007	10.56	871608	14.13	535219	16.56
035	SAMPLE	271248-006	667955	9.48	912089	10.56	879797	14.13	545807	16.55
036	IB		666398	9.48	915765	10.55	881403	14.13	543580	16.56

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425383715

Instrument : MSVOA03 Begun : 09/23/15 11:15  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
003	cin03	IB	15PPB			09/23/15 11:15	1.0	1 2 3 4	?t
004	cin04	TUN	BFB			09/23/15 12:19	1.0	5	
005	cin05	ICV	GAS			09/23/15 12:40	1.0	6 4	
006	cin06	ICV	GAS			09/23/15 13:23	1.0	6 4	
007	cin07	TUN	BFB			09/23/15 14:28	1.0	5	
008	cin08	CCV	15PPB			09/23/15 14:49	1.0	1 2 3 4	cc-
009	cin09	IB				09/23/15 16:15	1.0	4	
010	cin10	IB				09/23/15 16:58	1.0	4	
011	cin11	X	LOWPT			09/23/15 17:19	1.0	4	
012	cin12	X	LOWPT			09/23/15 19:06	1.0	4	
013	cin13	TUN	BFB			09/23/15 20:54	1.0	5	
014	cin14	IB				09/23/15 21:15	1.0	4	
015	cin15	IB				09/23/15 21:58	1.0	4	
016	cin16	IB				09/23/15 22:41	1.0	4	
017	cin17	IB	CALIB			09/23/15 23:02	1.0	4	
018	cin18	ICAL	.25/.5PPB			09/23/15 23:45	1.0	7 1 2 3 4	
019	cin19	ICAL	.5/1PPB			09/24/15 00:07	1.0	4 7 1 2 3	
020	cin20	ICAL	2PPB			09/24/15 00:50	1.0	7 1 2 3 4	
021	cin21	ICAL	5PPB			09/24/15 01:11	1.0	4 7 1 2 3	
022	cin22	ICAL	10PPB			09/24/15 01:54	1.0	4 7 1 2 3	
023	cin23	ICAL	20PPB			09/24/15 02:37	1.0	4 7 1 2 3	
024	cin24	ICAL	50PPB			09/24/15 02:58	1.0	4 7 1 2 3	
025	cin25	ICAL	75PPB			09/24/15 03:41	1.0	4 7 1 2 3	
026	cin26	ICAL	100PPB			09/24/15 04:24	1.0	4 7 1 2 3	
027	cin27	ICV	MIX			09/24/15 04:46	1.0	8 4 9 10	
028	cin28	ICV	GAS			09/24/15 05:29	1.0	6 4	
029	cin29	IB				09/24/15 06:11	1.0	4	

DAR 09/23/15 : started on the wrong file, no data associated with files 1,2

DAR 09/24/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 3 through 29.

LW 09/25/15 : Reviewed through file 6

Analyst: DAR Date: 09/23/15 Reviewer: LW Date: 09/29/15

Standards used: 1=S27823 2=S27893 3=S26571 4=S27973 5=S27180 6=S27007 7=S27005 8=S27858 9=S27929 10=S27930

Flags used: --low bias ?t=missing tune cc=CCV CCC failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425447153

Instrument : MSVOA03 Begun : 11/06/15 12:33  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ck601	IB				11/06/15 12:33	1.0	1	?t
002	ck602	TUN	BFB			11/06/15 13:16	1.0	2	
003	ck603	CCV				11/06/15 13:59	1.0	3 4 5 6 1	cc+
004	ck604	CCV/BS	QC811624	Water	229155	11/06/15 14:20	1.0	7 8 9 10 1	spk cc+
005	ck605	BSD	QC811625	Water	229155	11/06/15 14:42	1.0	7 8 9 10 1	spk cc+
006	ck606	X	IB			11/06/15 15:25	1.0	1	
007	ck607	BLANK	QC811626	Water	229155	11/06/15 15:46	1.0	1	cc+
008	ck608	SAMPLE	271203-001	Water	229155	11/06/15 17:12	1.0	1	spk cc+
009	ck609	SAMPLE	271203-002	Water	229155	11/06/15 17:33	1.0	1	spk cc+
010	ck610	SAMPLE	271203-003	Water	229155	11/06/15 18:16	1.0	1	spk cc+
011	ck611	SAMPLE	271203-004	Water	229155	11/06/15 18:38	1.0	1	spk cc+
012	ck612	SAMPLE	271203-005	Water	229155	11/06/15 19:21	1.0	1	spk cc+
013	ck613	SAMPLE	271203-006	Water	229155	11/06/15 19:42	1.0	1	spk cc+
014	ck614	SAMPLE	271203-007	Water	229155	11/06/15 20:25	1.0	1	spk cc+
015	ck615	SAMPLE	271203-008	Water	229155	11/06/15 20:46	1.0	1	spk cc+
016	ck616	SAMPLE	271203-009	Water	229155	11/06/15 21:29	1.0	1	spk cc+ , headspace <= 1 mL
017	ck617	SAMPLE	271203-010	Water	229155	11/06/15 21:51	1.0	1	spk cc+ , headspace <= 1 mL
018	ck618	SAMPLE	271203-011	Water	229155	11/06/15 22:34	1.0	1	spk cc+
019	ck619	SAMPLE	271203-012	Water	229155	11/06/15 22:55	1.0	1	spk cc+
020	ck620	SAMPLE	271203-013	Water	229155	11/06/15 23:38	1.0	1	spk cc+ , headspace <= 1 mL
021	ck621	SAMPLE	271203-014	Water	229155	11/06/15 23:59	1.0	1	spk cc+ , headspace <= 1 mL
022	ck622	X	IB			11/07/15 00:42	1.0	1	

TEW 11/09/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

TEW 11/09/15 : Matrix spikes were not performed for this analysis in batch 229155 due to insufficient sample amount.

KKM 11/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: KKM Date: 11/10/15 Reviewer: LW Date: 11/10/15

Standards used: 1=S28450 2=S27825 3=S27004 4=S28295 5=S28087 6=S27081 7=S28219 8=S28220 9=S28167 10=S28123

Flags used: +=high bias ?t=missing tune cc=CCV CCC failure spk=5% spike rule

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 485399877

Instrument : MSVOA09 Begun : 10/04/15 16:37  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	ij401	TUN	BFB			10/04/15 16:37	1.0	1
002	ij402	TUN	BFB			10/04/15 16:47	1.0	1
003	ij403	TUN	BFB			10/04/15 18:52	1.0	1
004	ij404	X	IB			10/04/15 19:37	1.0	2
005	ij405	IB				10/04/15 20:11	1.0	2
006	ij406	IB				10/04/15 20:46	1.0	2
007	ij407	IB				10/04/15 21:21	1.0	2
008	ij408	IB	CALIB			10/04/15 21:56	1.0	2
009	ij409	ICAL	.25/.5PPB			10/04/15 22:30	1.0	3 4 5 6 2
010	ij410	ICAL	.5/1PPB			10/04/15 23:05	1.0	2 3 4 5 6
011	ij411	ICAL	2PPB			10/04/15 23:40	1.0	3 4 5 6 2
012	ij412	ICAL	5PPB			10/05/15 00:15	1.0	2 3 4 5 6
013	ij413	ICAL	10PPB			10/05/15 00:50	1.0	2 3 4 5 6
014	ij414	ICAL	20PPB			10/05/15 01:25	1.0	2 3 4 5 6
015	ij415	ICAL	50PPB			10/05/15 01:59	1.0	2 3 4 5 6
016	ij416	ICAL	75PPB			10/05/15 02:34	1.0	2 3 4 5 6
017	ij417	ICAL	100PPB			10/05/15 03:10	1.0	2 3 4 5 6
018	ij418	ICV	GAS			10/05/15 03:45	1.0	7 2
019	ij419	ICV	MIX			10/05/15 04:20	1.0	8 9 10 2

DAR 10/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Analyst: DAR Date: 10/06/15 Reviewer: LW Date: 10/07/15

Standards used: 1=S27180 2=S28060 3=S27004 4=S28008 5=S28087 6=S27081 7=S27267 8=S28219 9=S28220 10=S27929

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 485401479

Instrument : MSVOA09                    Begun                 : 10/05/15 19:19  
Method      : EPA 8260B                 SOP Version       : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ij501	X	IB			10/05/15 19:19	1.0	1	
002	ij502	TUN	BFB			10/05/15 19:52	1.0	2	
003	ij503	ICV	MIX			10/05/15 20:22	1.0	3 1	

DAR 10/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 3.

Analyst: DAR                    Date: 10/06/15           Reviewer: LW                    Date: 10/07/15

Standards used: 1=S28060 2=S27180 3=S27929

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 485402532

Instrument : MSVOA09                      Begun                : 10/06/15 12:52  
 Method     : EPA 8260B                    SOP Version     : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ij601	X	IB			10/06/15 12:52	1.0	1	
002	ij602	TUN	BFB			10/06/15 13:23	1.0	2	
003	ij603	ICV	2CLEVE			10/06/15 13:53	1.0	3 1	
004	ij604	ICV	IODO			10/06/15 15:37	1.0	4 1	

DAR 10/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 4.

Analyst: DAR                      Date: 10/06/15                      Reviewer: LW                      Date: 10/07/15

Standards used: 1=S28060 2=S27180 3=S18173 4=S23487

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 485445681

Instrument : MSVOA09 Begun : 11/05/15 12:01  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ik501	IB				11/05/15 12:01	1.0	1	?t
002	ik502	TUN	BFB			11/05/15 12:48	1.0	2	
003	ik503	CCV				11/05/15 13:17	1.0	3 4 5 6 1	cc+ cc-
004	ik504	CCV		Water	229102	11/05/15 13:51	1.0	7 8 9 10 1	cc+
005	ik505	X		Water	229102	11/05/15 14:25	1.0	7 8 9 10 1	spk cc+
006	ik506	TUN	BFB			11/05/15 16:11	1.0	2	
007	ik507	CCV		Water	229102	11/05/15 16:41	1.0	7 8 9 10 1	cc+
008	ik508	CCV		Water	229103	11/05/15 17:15	1.0	7 8 9 10 1	cc+
009	ik509	TUN	BFB			11/05/15 18:46	1.0	2	
010	ik510	CCV/LCS	QC811536	Water	229102	11/05/15 19:14	1.0	7 8 9 10 1	cc+
011	ik511	CCV/LCS	QC811536	Water	229102	11/05/15 19:49	1.0	7 8 9 10 1	
012	ik512	IB	A/A			11/05/15 20:23	1.0	11 1	
013	ik513	BLANK	QC811405	Water	229102	11/05/15 20:58	1.0	1	
014	ik514	MSS	271236-009	Water	229102	11/05/15 21:33	1.0	1	
015	ik515	SAMPLE	271203-001	Water	229102	11/05/15 22:08	1.0	1	
016	ik516	SAMPLE	271203-003	Water	229102	11/05/15 22:43	1.0	1	
017	ik517	SAMPLE	271203-004	Water	229102	11/05/15 23:18	1.0	1	
018	ik518	SAMPLE	271203-007	Water	229102	11/05/15 23:53	1.0	1	
019	ik519	SAMPLE	271203-006	Water	229102	11/06/15 00:28	1.0	1	
020	ik520	SAMPLE	271203-012	Water	229102	11/06/15 01:03	1.0	1	
021	ik521	SAMPLE	271203-002	Water	229102	11/06/15 01:38	1.0	1	
022	ik522	SAMPLE	271203-008	Water	229102	11/06/15 02:13	1.0	1	
023	ik523	SAMPLE	271203-009	Water	229102	11/06/15 02:47	1.0	1	headspace <= 1 mL
024	ik524	SAMPLE	271203-011	Water	229102	11/06/15 03:22	1.0	1	headspace <= 1 mL
025	ik525	SAMPLE	271203-005	Water	229102	11/06/15 03:57	1.0	1	
026	ik526	SAMPLE	271203-010	Water	229102	11/06/15 04:31	1.0	1	headspace <= 1 mL
027	ik527	SAMPLE	271203-014	Water	229102	11/06/15 05:06	1.0	1	headspace <= 1 mL
028	ik528	SAMPLE	271203-013	Water	229102	11/06/15 05:40	1.0	1	headspace <= 1 mL
029	ik529	MS	QC811403	Water	229102	11/06/15 06:15	1.0	7 8 9 10 1	
030	ik530	MSD	QC811404	Water	229102	11/06/15 06:49	1.0	7 8 9 10 1	<<t
031	ik531	IB				11/06/15 07:23	1.0	1	<<t
032	ik532	IB				11/06/15 07:57	1.0	1	<<t
033	ik533	IB				11/06/15 08:32	1.0	1	<<t

DAR 11/05/15 : retuned after file 5 and 8

NJT 11/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 33.

Analyst: NJT Date: 11/06/15 Reviewer: LW Date: 11/06/15

Standards used: 1=S28450 2=S27825 3=S27004 4=S28295 5=S28355 6=S27081 7=S28219 8=S28220 9=S28167 10=S27267 11=S28214

Flags used: +=high bias -=low bias <<t=out of clock ?t=missing tune cc=CCV CCC failure spk=5% spike rule



CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 485451358

Instrument : MSVOA09 Begun : 11/09/15 10:38  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ik901	IB				11/09/15 10:38	1.0	1	?t
002	ik902	TUN	BFB			11/09/15 11:12	1.0	2	t
003	ik903	TUN	BFB			11/09/15 11:47	1.0	2	
004	ik904	CCV				11/09/15 12:52	1.0	3 4 5 6 1	cc+
005	ik905	CCV	QC811912	Water	229226	11/09/15 13:26	1.0	7 8 9 10 1	cc+
006	ik906	TUN	BFB			11/09/15 15:08	1.0	2	
007	ik907	CCV	QC811912	Water	229226	11/09/15 15:38	1.0	7 8 9 10 1	cc+
008	ik908	TUN	BFB			11/09/15 16:25	1.0	2	
009	ik909	CCV	QC811912	Water	229226	11/09/15 17:02	1.0	7 8 9 10 1	cc+
010	ik910	CCV/LCS	QC811912	Water	229226	11/09/15 17:36	1.0	7 8 9 10 1	
011	ik911	MS	QC811403	Water	229102	11/09/15 18:26	1.0	7 8 9 10 1	
012	ik912	MSD	QC811404	Water	229102	11/09/15 19:01	1.0	7 8 9 10 1	
013	ik913	IB	A/A			11/09/15 19:36	1.0	11 1	
014	ik914	IB	A/A			11/09/15 20:10	1.0	11 1	
015	ik915	BLANK	QC811914	Water	229226	11/09/15 20:45	1.0	1	
016	ik916	SAMPLE	271252-004	Water	229226	11/09/15 21:20	1.0	1	
017	ik917	SAMPLE	271314-001	Water	229226	11/09/15 21:55	1.0	1	
018	ik918	SAMPLE	271252-001	Water	229226	11/09/15 22:30	1.0	1	
019	ik919	SAMPLE	271252-002	Water	229226	11/09/15 23:05	1.0	1	
020	ik920	SAMPLE	271252-003	Water	229226	11/09/15 23:40	1.0	1	
021	ik921	SAMPLE	271350-002	Water	229226	11/10/15 00:15	1.0	1	
022	ik922	SAMPLE	271350-003	Water	229226	11/10/15 00:50	1.0	1	
023	ik923	MSS	271350-004	Water	229226	11/10/15 01:25	1.0	1	
024	ik924	MS	QC812021	Water	229226	11/10/15 02:00	1.0	7 8 9 10 1	
025	ik925	MSD	QC812022	Water	229226	11/10/15 02:35	1.0	7 8 9 10 1	

NJT 11/10/15 : DAR adjusted tune after file 5 and 7.

NJT 11/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst:  NJT  Date:  11/10/15  Reviewer:  LW  Date:  11/10/15

Standards used: 1=S28450 2=S27825 3=S27004 4=S28295 5=S28355 6=S27081 7=S28219 8=S28220 9=S28167 10=S27267 11=S28214

Flags used: +=high bias ?t=missing tune cc=CCV CCC failure t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 495321824

Instrument : MSVOA10 Begun : 08/11/15 11:44  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used		
001	jhb01	TUN	BFB			08/11/15 11:44	1.0	1		
002	jhb02	TUN	BFB			08/11/15 11:55	1.0	1		
003	jhb03	TUN	BFB			08/11/15 13:21	1.0	1		
004	jhb04	X	IB			08/11/15 13:49	1.0	2		
005	jhb05	X	IB			08/11/15 14:20	1.0	2		
006	jhb06	X	IB			08/11/15 14:51	1.0	2		
007	jhb07	IB	CALIB			08/11/15 15:22	1.0	2		
008	jhb08	ICAL	0.25/.5PPB			08/11/15 15:53	1.0	3	4	2 5 6
009	jhb09	ICAL	0.5/1PPB			08/11/15 16:24	1.0	5	6	3 4 2
010	jhb10	ICAL	2PPB			08/11/15 16:56	1.0	5	6	3 4 2
011	jhb11	ICAL	5PPB			08/11/15 17:27	1.0	5	6	3 4 2
012	jhb12	ICAL	10PPB			08/11/15 17:59	1.0	5	6	3 4 2
013	jhb13	ICAL	20PPB			08/11/15 18:30	1.0	5	6	3 4 2
014	jhb14	ICAL	50PPB			08/11/15 19:01	1.0	5	6	3 4 2
015	jhb15	ICAL	75PPB			08/11/15 19:32	1.0	5	6	3 4 2
016	jhb16	ICAL	100PPB			08/11/15 20:04	1.0	5	6	3 4 2
017	jhb17	ICV	GAS			08/11/15 20:35	1.0	7	2	
018	jhb18	ICV	MIX			08/11/15 21:07	1.0	8	2	9 10

KKM 08/12/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Analyst: KKM Date: 08/12/15 Reviewer: LW Date: 08/12/15

Standards used: 1=S27180 2=S27697 3=S27699 4=S26220 5=S26360 6=S27823 7=S27007 8=S27558 9=S27556 10=S27533

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 495445756

Instrument : MSVOA10  
 Method : EPA 8260B

Begun : 11/05/15 13:16  
 SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	jk501	X	HG			11/05/15 13:16	1.0	1	
002	jk502	X	IB			11/05/15 13:46	1.0	1	
003	jk503	TUN	BFB			11/05/15 14:23	1.0	2	
004	jk504	CCV				11/05/15 14:49	1.0	3 4 5 6 1	cc+
005	jk505	CCV				11/05/15 15:31	1.0	3 4 5 6 1	cc+
006	jk506	CCV/LCS	QC811523	Water	229118	11/05/15 16:02	1.0	7 8 9 10 1	
007	jk507	IB	A/A			11/05/15 16:48	1.0	11 1	
008	jk508	IB	A/A			11/05/15 17:19	1.0	11 1	
009	jk509	BLANK	QC811474	Water	229118	11/05/15 17:50	1.0	1	
010	jk510	MSS	271203-024	Water	229118	11/05/15 18:21	1.0	1	
011	jk511	SAMPLE	271203-025	Water	229118	11/05/15 18:52	1.0	1	combined (sediment), headspace <= 1 mL
012	jk512	SAMPLE	271203-023	Water	229118	11/05/15 19:23	1.0	1	
013	jk513	SAMPLE	271331-001	Water	229118	11/05/15 19:54	1.0	1	
014	jk514	SAMPLE	271256-010	Water	229118	11/05/15 20:26	1.0	1	
015	jk515	SAMPLE	271256-011	Water	229118	11/05/15 20:57	1.0	1	
016	jk516	SAMPLE	271256-012	Water	229118	11/05/15 21:28	1.0	1	
017	jk517	SAMPLE	271256-013	Water	229118	11/05/15 22:00	1.0	1	
018	jk518	SAMPLE	271256-015	Water	229118	11/05/15 22:31	1.0	1	
019	jk519	SAMPLE	271256-016	Water	229118	11/05/15 23:02	1.0	1	
020	jk520	SAMPLE	271256-017	Water	229118	11/05/15 23:34	1.0	1	
021	jk521	SAMPLE	271256-021	Water	229118	11/06/15 00:05	1.0	1	
022	jk522	SAMPLE	271256-023	Water	229118	11/06/15 00:36	1.0	1	1:TCE=100
023	jk523	MS	QC811472	Water	229118	11/06/15 01:07	1.0	7 8 9 10 1	
024	jk524	MSD	QC811473	Water	229118	11/06/15 01:39	1.0	7 8 9 10 1	headspace <= 1 mL
025	jk525	IB				11/06/15 02:10	1.0	1	
026	jk526	IB				11/06/15 02:41	1.0	1	<<t
027	jk527	IB				11/06/15 03:12	1.0	1	<<t

KKM 11/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

Analyst: KKM Date: 11/06/15 Reviewer: LW Date: 11/06/15

Standards used: 1=S28022 2=S27825 3=S27004 4=S28295 5=S28355 6=S27081 7=S28219 8=S28220 9=S28167 10=S28123 11=S28214

Flags used: +=high bias <<t=out of clock cc=CCV CCC failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 495448497

Instrument : MSVOA10 Begun : 11/07/15 10:57  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	jk701	X	HG			11/07/15 10:57	1.0	1	
002	jk702	X	IB			11/07/15 11:27	1.0	1	
003	jk703	TUN	BFB			11/07/15 12:10	1.0	2	
004	jk704	X	QC811768	Water	229193	11/07/15 12:35	1.0	3 4 5 6 1	spk
005	jk705	CCV/LCS	QC811768	Water	229193	11/07/15 13:22	1.0	3 4 5 6 1	
006	jk706	CCV/BS	QC811771	Water	229193	11/07/15 13:53	1.0	7 1	
007	jk707	BSD	QC811772	Water	229193	11/07/15 14:24	1.0	7 1	
008	jk708	X	IB			11/07/15 14:55	1.0	1	
009	jk709	BLANK	QC811770	Water	229193	11/07/15 15:25	1.0	1	
010	jk710	SAMPLE	271203-019	Water	229193	11/07/15 15:56	1.0	1	
011	jk711	SAMPLE	271238-005	Water	229193	11/07/15 16:27	1.0	1	headspace <= 1 mL
012	jk712	SAMPLE	271371-001	Water	229193	11/07/15 16:58	1.0	1	
013	jk713	SAMPLE	271371-002	Water	229193	11/07/15 17:29	1.0	1	
014	jk714	SAMPLE	271225-005	Water	229193	11/07/15 17:59	1.0	1	
015	jk715	SAMPLE	271248-004	Water	229193	11/07/15 18:30	1.0	1	
016	jk716	SAMPLE	271248-005	Water	229193	11/07/15 19:02	1.0	1	
017	jk717	SAMPLE	271248-007	Water	229193	11/07/15 19:33	1.0	1	
018	jk718	SAMPLE	271248-008	Water	229193	11/07/15 20:04	1.0	1	
019	jk719	SAMPLE	271225-003	Water	229193	11/07/15 20:36	3.333	1	
020	jk720	SAMPLE	271248-001	Water	229193	11/07/15 21:07	2.0	1	
021	jk721	MSS	271248-002	Water	229193	11/07/15 21:39	3.333	1	
022	jk722	SAMPLE	271248-003	Water	229193	11/07/15 22:10	2.500	1	
023	jk723	SAMPLE	271238-003	Water	229193	11/07/15 22:42	20.0	1	headspace <= 1 mL
024	jk724	MS	QC811785	Water	229193	11/07/15 23:13	3.333	3 4 5 6 1	
025	jk725	MSD	QC811786	Water	229193	11/07/15 23:44	3.333	3 4 5 6 1	
026	jk726	X	IB			11/08/15 00:16	1.0	1	

KER 11/09/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

Analyst: KER Date: 11/09/15 Reviewer: LW Date: 11/09/15  
 Standards used: 1=S28022 2=S27825 3=S28219 4=S28220 5=S28167 6=S28123 7=S27677  
 Flags used: spk=5% spike rule  
 Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 955422499

Instrument : MSVOA14 Begun : 10/20/15 09:39  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used							
001	njk01	TUN	BFB			10/20/15 09:39	1.0	1							t
002	njk02	TUN	BFB			10/20/15 09:51	1.0	1							t
003	njk03	TUN	BFB			10/20/15 10:48	1.0	1							
004	njk04	TUN	BFB			10/20/15 10:57	1.0	1							t
005	njk05	TUN	BFB			10/20/15 11:08	1.0	1							t
006	njk06	TUN	BFB			10/20/15 11:16	1.0	1							
007	njk07	TUN	BFB			10/20/15 11:26	1.0	1							t
008	njk08	TUN	BFB			10/20/15 11:36	1.0	1							
009	njk09	TUN	BFB			10/20/15 11:45	1.0	1							t
010	njk10	TUN	BFB			10/20/15 12:54	1.0	1							
011	njk11	TUN	BFB			10/20/15 13:20	1.0	1							
012	njk12	TUN	BFB			10/20/15 13:29	1.0	1							
013	njk13	X	LOW POINT			10/20/15 13:55	1.0	2							
014	njk14	X	IB			10/20/15 14:30	1.0	2							
015	njk15	X	IB			10/20/15 14:57	1.0	2							
016	njk16	IB	CALIBRATION			10/20/15 15:23	1.0	2							
017	njk17	ICAL				10/20/15 15:49	1.0	3	4	5	6	2			
018	njk18	ICAL				10/20/15 16:15	1.0	3	4	5	6	2			
019	njk19	ICAL				10/20/15 16:41	1.0	3	4	5	6	2			
020	njk20	ICAL				10/20/15 17:08	1.0	3	4	5	6	2			
021	njk21	ICAL				10/20/15 17:34	1.0	3	4	5	6	2			
022	njk22	ICAL				10/20/15 18:00	1.0	3	4	5	6	2			
023	njk23	ICAL				10/20/15 18:26	1.0	3	4	5	6	2			
024	njk24	ICAL				10/20/15 18:53	1.0	3	4	5	6	2			
025	njk25	ICAL				10/20/15 19:19	1.0	3	4	5	6	2			
026	njk26	ICV				10/20/15 19:45	1.0	7	2						
027	njk27	ICV				10/20/15 20:11	1.0	8	2						
028	njk28	ICV				10/20/15 20:38	1.0	9	10	11	2				
029	njk29	X	IB			10/20/15 21:04	1.0	2							
030	njk30	X	IB			10/20/15 21:30	1.0	2							

MCT 10/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Analyst: MCT Date: 10/21/15 Reviewer: LW Date: 10/22/15

Standards used: 1=S27180 2=S28246 3=S27004 4=S28008 5=S28355 6=S27081 7=S27267 8=S18173 9=S28219 10=S28220 11=S28167

Flags used: t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 955423728

Instrument : MSVOA14 Begun : 10/21/15 06:08  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	njl01	X	IB			10/21/15 06:08	1.0	1	
002	njl02	X	IB			10/21/15 06:34	1.0	1	
003	njl03	X	HIGH GASES			10/21/15 09:53	1.0	1	
004	njl04	X	IB			10/21/15 10:19	1.0	1	
005	njl05	TUN	BFB			10/21/15 10:43	1.0	2	
006	njl06	ICV				10/21/15 11:07	1.0	3 1	
007	njl07	TUN	BFB			10/21/15 12:16	1.0	2	
008	njl08	CCV				10/21/15 12:39	1.0	4 5 6 7 1	
009	njl09	BS	QC809187	Water	228541	10/21/15 13:28	1.0	8 9 10 11 1	
010	njl10	BSD	QC809188	Water	228541	10/21/15 13:54	1.0	8 9 10 11 1	
011	njl11	X	IB			10/21/15 14:20	1.0	1	
012	njl12	BLANK	QC809189	Water	228541	10/21/15 14:46	1.0	1	
013	njl13	SAMPLE	270754-020	Water	228541	10/21/15 15:12	1.0	1	
014	njl14	SAMPLE	270759-004	Water	228541	10/21/15 15:38	1.0	1	
015	njl15	SAMPLE	270747-005	Water	228541	10/21/15 16:05	1.0	1	
016	njl16	SAMPLE	270759-001	Water	228541	10/21/15 16:31	1.0	1	
017	njl17	SAMPLE	270759-003	Water	228541	10/21/15 16:57	1.0	1	
018	njl18	SAMPLE	270819-025	Water	228541	10/21/15 17:23	1.0	1	
019	njl19	SAMPLE	270819-026	Water	228541	10/21/15 17:49	1.0	1	
020	njl20	SAMPLE	270819-027	Water	228541	10/21/15 18:16	1.0	1	
021	njl21	SAMPLE	270819-028	Water	228541	10/21/15 18:42	1.0	1	
022	njl22	SAMPLE	270819-029	Water	228541	10/21/15 19:08	1.0	1	
023	njl23	SAMPLE	270819-030	Water	228541	10/21/15 19:34	1.0	1	
024	njl24	SAMPLE	270819-031	Water	228541	10/21/15 20:01	1.0	1	
025	njl25	SAMPLE	270819-032	Water	228541	10/21/15 20:27	1.0	1	
026	njl26	SAMPLE	270819-033	Water	228541	10/21/15 20:53	1.0	1	
027	njl27	SAMPLE	270819-034	Water	228541	10/21/15 21:20	1.0	1	
028	njl28	SAMPLE	270747-001	Water	228541	10/21/15 21:46	1.0	1	
029	njl29	SAMPLE	270747-002	Water	228541	10/21/15 22:12	1.0	1	
030	njl30	SAMPLE	270747-003	Water	228541	10/21/15 22:39	1.0	1	high SO2
031	njl31	SAMPLE	270747-004	Water	228541	10/21/15 23:05	1.0	1	
032	njl32	SAMPLE	270759-002	Water	228541	10/21/15 23:31	25.0	1	
033	njl33	X	IB			10/21/15 23:58	1.0	1	
034	njl34	X	IB			10/22/15 00:24	1.0	1	
035	njl35	X	IB			10/22/15 00:51	1.0	1	
036	njl36	X	IB			10/22/15 01:17	1.0	1	

MCT 10/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 6.

DJA 10/22/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 7 through 36.

DJA 10/22/15 : Matrix spikes were not performed for this analysis in batch 228541 due to insufficient sample amount.

Analyst: MCT Date: 10/21/15 Reviewer: LW Date: 10/23/15

Standards used: 1=S28246 2=S27180 3=S27267 4=S27004 5=S28008 6=S28355 7=S27081 8=S28219 9=S28220 10=S28167 11=S28123

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 955451069

Instrument : MSVOA14  
 Method : EPA 8260B

Begun : 11/09/15 05:49  
 SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	nk901	X	IB			11/09/15 05:49	1.0	1	
002	nk902	X	IB			11/09/15 06:15	1.0	1	
003	nk903	TUN	BFB			11/09/15 07:21	1.0	2	t
004	nk904	TUN	BFB			11/09/15 07:37	1.0	2	t
005	nk905	TUN	BFB			11/09/15 07:55	1.0	2	t
006	nk906	TUN	BFB			11/09/15 08:12	1.0	2	
007	nk907	CCV/BS	QC811845	Water	229211	11/09/15 08:45	1.0	3 4 5 6 1	spk
008	nk908	TUN	BFB			11/09/15 14:22	1.0	2	t
009	nk909	TUN	BFB			11/09/15 14:35	1.0	2	t
010	nk910	TUN	BFB			11/09/15 14:46	1.0	2	t
011	nk911	TUN	BFB			11/09/15 14:58	1.0	2	
012	nk912	CCV/BS	QC811845	Water	229211	11/09/15 15:26	1.0	3 4 5 6 1	
013	nk913	BSD	QC811846	Water	229211	11/09/15 16:11	1.0	3 4 5 6 1	
014	nk914	X	IB			11/09/15 16:37	1.0	1	
015	nk915	BLANK	QC811847	Water	229211	11/09/15 17:03	1.0	1	
016	nk916	SAMPLE	271248-009	Water	229211	11/09/15 17:55	1.0	1	
017	nk917	SAMPLE	271212-013	Water	229211	11/09/15 18:21	1.0	1	headspace > 1 mL
018	nk918	SAMPLE	271141-006	Water	229211	11/09/15 18:47	1.0	1	
019	nk919	SAMPLE	271203-015	Water	229211	11/09/15 19:14	1.0	1	
020	nk920	SAMPLE	271203-016	Water	229211	11/09/15 19:40	1.0	1	
021	nk921	SAMPLE	271423-001	Water	229211	11/09/15 20:06	2.0	1	pH > 2
022	nk922	SAMPLE	271203-017	Water	229211	11/09/15 20:33	1.0	1	
023	nk923	SAMPLE	271203-018	Water	229211	11/09/15 20:59	1.0	1	
024	nk924	SAMPLE	271203-020	Water	229211	11/09/15 21:26	1.0	1	headspace <= 1 mL
025	nk925	SAMPLE	271203-021	Water	229211	11/09/15 21:52	1.0	1	
026	nk926	SAMPLE	271203-022	Water	229211	11/09/15 22:19	1.0	1	
027	nk927	SAMPLE	271225-004	Water	229211	11/09/15 22:45	1.0	1	foamer, pH > 2
028	nk928	SAMPLE	271225-001	Water	229211	11/09/15 23:11	4.0	1	foamer
029	nk929	SAMPLE	271225-002	Water	229211	11/09/15 23:38	4.0	1	foamer
030	nk930	SAMPLE	271112-005	Water	229211	11/10/15 00:04	10.0	1	foamer
031	nk931	SAMPLE	271212-010	Water	229211	11/10/15 00:31	1.0	1	
032	nk932	SAMPLE	271212-012	Water	229211	11/10/15 00:57	1.0	1	
033	nk933	SAMPLE	271215-001	Water	229211	11/10/15 01:23	1.0	1	
034	nk934	SAMPLE	271212-011	Water	229211	11/10/15 01:50	7.143	1	
035	nk935	SAMPLE	271248-006	Water	229211	11/10/15 02:16	5.0	1	
036	nk936	IB				11/10/15 02:43	1.0	1	

MCT 11/10/15 : Adjusted tune before file : nk905,nk908,nk910,nk911.

MCT 11/10/15 : Matrix spikes were not performed for this analysis in batch 229211 due to insufficient sample amount.

MCT 11/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 36.

Analyst: MCT Date: 11/10/15 Reviewer: LW Date: 11/10/15

Standards used: 1=S28449 2=S27825 3=S28219 4=S28220 5=S28167 6=S27267

Flags used: spk=5% spike rule t=tune failure

# MSVOA WATER Prepsheet

Batch #: 229102  
 Prep Date: 11/5  
 Instrument: 9

Dilutions prepared & pH of dilutions checked (initials/date):  
 For Undiluted samples, pH checked (initials/date): ZR 11/6/15

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	\$Rush
51 271296-d	F	✓										
2	9 GH	✓			VA							
3	9 I	✓			VA							
4	271202-1	✓										
5	2	✓										
6	3	✓										
7	4	✓						4 B				
8	5	✓										
9	6	✓										
10	7	✓										
11	8	✓										
12	9	✓						Vial <del>9</del> Vial B				
13	10	✓										
14	11	✓										
15	12	✓										
16	13	✓										
17	14	✓										
18												
19												
20												
21												
22												



**MSVOA WATER Prepsheet**

Dilutions prepared & pH of dilutions checked (initials/date): WLT/1/15  
 For Undiluted samples, pH checked (initials/date): Zoe/1/15

Batch #: 220118  
 Prep Date: 1/5/15  
 Instrument: 10

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	\$Rush
9-1271256-9	A							put up for dil on 2/1/15			1/1/15	
	10	✓										
	11	✓										
	12	✓										
	13	✓										
	15	✓										
	16	✓										
	17											
	18	✓										
	19											
	20											
	21											
	22											

# MSVOA WATER Prepsheet

Batch #: 229153  
 Prep Date: 11/6/15  
 Instrument: MS59 MS3  
 NPT 11/6/15

Dilutions prepared & pH of dilutions checked (initials/date): ND/1/7  
 For Undiluted samples, pH checked (initials/date): ND/1/7

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% CCV?	hold	due	\$ Rush
271203-1	D	✓				1	14	Acetone conf			11/6	
-2	J	✓				1						
-3	J	✓										
-4	B	✓										
-5	F	✓										
-6	J	✓										
-7	C	✓										
-8	F	✓										
-9	E	✓		Bubble								
-10	D	✓		0.5ml								
-11	F	✓										
-12	A	✓										
-13	E	✓		Bubble								
-14	E	✓		Bubble								

# MSVOA WATER Prepsheet

Batch #: 227193  
 Prep Date: 11/7/15  
 Instrument: MS10

Dilutions prepared & pH of dilutions checked (initials/date): NT 11/7/15  
 For Undiluted samples, pH checked (initials/date): JR 11/9/15

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	\$Rush
271225-3	B	✓			77	3X		(lower @ 2x) in vac fridge prep'd by KER 11/6				
271225-19	C	✓				1X		missed BL				
271238-5	A	✓		1ml		1		Need Gas				
271371-1	C	✓				1		↓				
↓ -2	C	✓				1		↓				
271238-3	A	✓		1ml	13	20x		DOC				
271225-5	B	✓				1X						
271248-1	E	✓			12	2x						
-2	B	✓			2	33x						
-2MS	C	✓			1A	↓		Q811785				
-2MS0	C	✓			L	↓		L 6				
-3	E	✓			11	2.5x						
-4	E	✓				1x						
-5	B	✓				1x						
↓ -7	B	✓				↓						
-8	B	✓										

# MSVOA WATER Prepsheet

Batch #: 229211  
 Prep Date: 11/9/15  
 Instrument: MS14

Dilutions prepared & pH of dilutions checked (initials/date): NT/11/15  
 For Undiluted samples, pH checked (initials/date): gca/11/10/15

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	\$P rust
271112-5	C	✓			5	1	10x	Former j raised baseline		11/11	11/16	
271141-6	A	✓				1	1x	FB		11/11	11/11	
271212-10	B	✓				1	1x	No MB associated w/ this run		11/16	11/16	
↓	C	✓			10	1	7.14x	OD				
↓	B	✓				1	1x	No MS				
↓	A	✓		NO		1	↓	Raised baseline TB				
271215-1	B	✓				1	1x	OD		11/11	11/16	
271203-15	E	✓				1	↓	No MB associated w/ this run				
↓	F	✓				1	↓					
↓	D	✓				1	↓					
↓	I	✓				1	↓					
↓	J	✓				1	↓					
↓	K	✓				1	↓					
↓	L	✓				1	↓					
271314-1	C	—				1	↓	Put on TB MS9		11/18	11/11	X
271225-1	C	✓			1	1	4x	Former No MB		11/12	11/16	
↓	A	✓			7	1	↓					
↓	C	4				1	1x					
271248-6	B	✓			4		5x			11/17	11/19	
↓	A	✓					1x	TB				
271423-1	A	7			11		2x			<del>11/17</del>	11/10	X

# MSVOA WATER Prepsheet

Batch #: 229226  
 Prep Date: 11/9/15  
 Instrument: MSA

Dilutions prepared & pH of dilutions checked (initials/date): MSA/11/9/15  
 For Undiluted samples, pH checked (initials/date): MSA/11/9/15

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	SP ush
1 271236-9 MS	ABC ✓	✓				1	1	MS9				
2 ↓ MSD	↓					1	1	Bucket 229102				
3 271423-1 A	A ✓	✓	7		11	2x	2x	Put onto MS14			11/10	X
4 271252-1 A	A ✓	✓				1x	1x					
5 ↓ -2	↓	✓										
6 ↓ -3	↓	✓										
7 ↓ -4	↓	✓										
8 271350-1	---							TS Put off Put off NOT 11/9/15				
9 ↓ -2	A ✓	✓										
10 ↓ -3	↓ ✓	✓										
11 ↓ -4	↓ ✓	✓										
12 -4MS BCD ✓	BCD ✓	✓						QC 812021				
13 -4MSO ↓ ✓	↓ ✓	✓						↓ 2				
14 -5	---							Put off				
15 -6	---											
16 ↓ -7	↓											
17 <del>271314</del> C ✓	C ✓	✓				1x	1x					
18												
19												
20												
21												
22												



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Laboratory Job Number 271668
ANALYTICAL REPORT

URS Corporation
2870 Gateway Oaks Drive
Sacramento, CA 95833

Project : RWQCB PCE LUKIN
Location : RWQCB PCE LUKIN
Level : III

Table with 2 columns: Sample ID and Lab ID. Lists various sample identifiers and their corresponding lab IDs.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Handwritten signature of Will Rice

Signature: \_\_\_\_\_

Date: 11/25/2015

Will Rice
Project Manager
will.rice@ctberk.com

## CASE NARRATIVE

Laboratory number: 271668  
Client: URS Corporation  
Project: RWQCB PCE LUKIN  
Location: RWQCB PCE LUKIN  
Request Date: 11/16/15  
Samples Received: 11/16/15

This data package contains sample and QC results for fourteen water samples and two soil samples, requested for the above referenced project on 11/16/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B) Water:**

PURGE-1-NS (lab # 271668-003) and PURGE-2-NS (lab # 271668-004) were diluted due to foaming.

No other analytical problems were encountered.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B) Soil:**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B) Water:**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B) Soil:**

No analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B) Water:**

Low response was observed for carbon disulfide in the ICV analyzed 09/11/15 03:44.

Low responses were observed for acetone and naphthalene in the CCV analyzed 11/20/15 13:39; these analytes met minimum response criteria. High responses were observed for bromomethane, 2,2-dichloropropane, and tetrachloroethene; these analytes were not detected at or above the RL in the associated samples.

High responses were observed for bromomethane and 2,2-dichloropropane in the CCV analyzed 11/24/15 15:08; these analytes were not detected at or above the RL in the associated samples.

High responses were observed for many analytes in the CCV analyzed 11/21/15 13:16.

Low response was observed for 1,2-dichloropropane in the CCV analyzed 11/24/15 18:21; this analyte met minimum response criteria. High responses were observed for bromomethane, 2,2-dichloropropane, and trichlorofluoromethane.



### CASE NARRATIVE

Laboratory number: 271668  
Client: URS Corporation  
Project: RWQCB PCE LUKIN  
Location: RWQCB PCE LUKIN  
Request Date: 11/16/15  
Samples Received: 11/16/15

#### Volatile Organics by GC/MS (EPA 8260B) Water:

High recoveries were observed for benzene and toluene in the BS for batch 229708; the associated RPDs were within limits, and these high recoveries were not associated with any reported results.

PURGE-1-NS (lab # 271668-003) and PURGE-2-NS (lab # 271668-004) were diluted due to foaming.

SB-02-24-NS (lab # 271668-006) had pH greater than 2.

SB-02-24-NS (lab # 271668-006) had multiple vials combined due to sediment.

SB-21-20-FD (lab # 271668-012) had multiple vials combined due to sediment.

No other analytical problems were encountered.

#### Volatile Organics by GC/MS (EPA 8260B) Soil:

High response was observed for acetone in the CCV analyzed 11/19/15 13:38; this analyte was not detected at or above the RL in the associated samples.

No other analytical problems were encountered.

#### Metals (EPA 6010B) Water:

No analytical problems were encountered.

#### Metals (EPA 6010B) Soil:

No analytical problems were encountered.

#### Moisture (ASTM D2216/CLP):

No analytical problems were encountered.

## Chain of Custody

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
THE INSTRUCTIONS FOR FILLING OUT  
THIS FORM ARE ON THE BACK

TASK OR SUB TASK (one per form):

RWQCB PCE LUKIN

CONTRACT NAME:

CHARGE NUMBER: 60443271.2

LABORATORY NAME AND ADDRESS:

Curtis & Tompkins, Berkeley, CA

271668

2870 GATEWAY OAKS - SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

409766

SAMPLE NUMBER	COLLECTION		SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS
	DATE	TIME						
1 COMP-1-NS	11/13/15	15:00	PMS	100 24	1/2 oz Jar	SO	NONE	SW6010-PB, SW8015D, SW8015G SW8260B
2 COMP-2-NS				100 24	1/2 oz Jar	SO	NONE	SW6010-PB, SW8015D, SW8015G SW8260B
3 PURGE-1-NS				1.00	250 ml Poly	WG	HNO3	SW6010-PB
				2.00	1 L Amber Glass	WG	NONE	SW8015D
				3.00	40 ml VOA	WG	HCL	SW8015G
4 PURGE-2-NS				3.00	40 ml VOA	WG	HCL	SW8260B
				1.00	250 ml Poly	WG	HNO3	SW6010-PB
5 PURGE-2-NS				4 200	Amber Glass	WG	NONE	SW8015D
				3.00	40 ml VOA	WG	HCL	SW8015G

RELEASED BY	DATE	TIME	COOLER ID:
[Signature]	11/13/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
FEDER	11/13/15	16:15	
[Signature]	11/16/15	10:00	
	/ /	:	
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	/ /	:	
	/ /	:	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	/ /	:	
	/ /	:	

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
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2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

TASK OR SUB TASK (one per form):

LUKIN

LABORATORY NAME AND ADDRESS:

Curtis & Tompkins, Berkeley, CA

CONTRACT NAME:

CHARGE NUMBER: 604432712

SAMPLE NUMBER	COLLECTION		SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	GC
	DATE	TIME							
4 PURGE-2-NS	11/13/15	15:00	AWB	3.00	40 ml VOA	WG HCL		SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
<i>[Signature]</i>	11/13/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
FEDEX	11/13/15	16:15	
<i>[Signature]</i>	11/16/15	10:00	
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	/ /	:	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	/ /	:	
	/ /	:	

271668  
409767

C

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
THE INSTRUCTIONS FOR FILLING OUT  
THIS FORM ARE ON THE BACK



2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

409770

TASK OR SUB TASK (one per form): **RWQCB PCE LUKIN**  
LABORATORY NAME AND ADDRESS:  
**Curtis & Tompkins, Berkeley, CA**

CONTRACT NAME:

CHARGE NUMBER: **604432712**

SAMPLE NUMBER	COLLECTION		SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	Q
	DATE	TIME							
SB-02-16-NS	11/13/15	0825	ms	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-02-16-NS				3.00	40 ml VOA	WG	HCL	SW8016G	
SB-02-16-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	//	:	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
	11/16/15	10:00	
	//	:	
	//	:	
	//	:	
	//	:	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	//	:	
	//	:	

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
THE INSTRUCTIONS FOR FILLING OUT  
THIS FORM ARE ON THE BACK



271608

2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

409771

TASK OR SUB TASK (one per form):

RWQCB PCE LUKIN

LABORATORY NAME AND ADDRESS:

Curtis & Tompkins, Berkeley, CA

CONTRACT NAME:

CHARGE NUMBER: 60443271-2

SAMPLE NUMBER	COLLECTION		SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
	DATE	TIME							
SB-02-21 -NS	11/13/15	09:20	pmf	2.00	1 L Amber Glass	WG	NONE	SW8015D	
6 SB-02-24 -NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-02-24 -NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY		DATE	TIME	COOLER ID:		
[Signature]		11/13/15	16:15			
RECEIVED BY		DATE	TIME	RELINQUISHED BY	DATE	TIME
FEDER		11/13/15	16:15		/ /	:
[Signature]		11/16/15	10:00		/ /	:
		/ /	:		/ /	:
		/ /	:		/ /	:
		/ /	:		/ /	:
DISPOSAL CONFIRMED BY		DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY	DATE	TIME
		/ /	:		/ /	:

8 of 351

WHITE - COORDINATOR • PINK - SAMPLE CONTROL • YELLOW - LABORATORY

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
THE INSTRUCTIONS FOR FILLING OUT  
THIS FORM ARE ON THE BACK

271608

2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH: (916) 679-2000  
FAX (916) 679-2900

B  
409774



TASK OR SUB TASK (one per form):

RWQCB PCE LUKIN

LABORATORY NAME AND ADDRESS:

Curtis & Tompkins, Berkeley, CA

CONTRACT NAME:

CHARGE NUMBER: 60443271.2

SAMPLE NUMBER	COLLECTION		SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
	DATE	TIME							

7	SB-04-16-NS	11/12/15	0935	AMS	2.00	1 L Amber Glass	WG	NONE	SW8015D
	SB-04-16-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8015G
	SB-04-16-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8280B

RELEASED BY	DATE	TIME	COOLER ID:
<i>[Signature]</i>	11/13/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
<i>[Signature]</i>	11/13/15	16:15	
	11/16/15	10:00	
	/ /	:	
	/ /	:	
	/ /	:	
	/ /	:	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	/ /	:	
	/ /	:	

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
THE INSTRUCTIONS FOR FILLING OUT  
THIS FORM ARE ON THE BACK



2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

271668

A  
409775

TASK OR SUB TASK (one per form):  
 RWQCB PCE LUKIN  
 LABORATORY NAME AND ADDRESS:  
 Curtis & Tompkins, Berkeley, CA

CONTRACT NAME:  
 CHARGE NUMBER: 604432712

SAMPLE NUMBER	COLLECTION		SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS
	DATE	TIME						
SB-04-28-NS	11/12/15	10:05	PMG	2.00	1 L Amber Glass	WG	NONE	SW8015D
SB-04-28-NS				3.00	40 ml VOA	WG	HCL	SW8015G
SB-04-28-NS				3.00	40 ml VOA	WG	HCL	SW8260B

RELEASED BY	DATE	TIME	COOLER ID:
[Signature]	11/13/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
FEDER	11/12/15	16:15	
[Signature]	11/16/15	10:00	
	/ /	:	
	/ /	:	
	/ /	:	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	/ /	:	
	/ /	:	

WHITE - COORDINATOR • PINK - SAMPLE CONTROL • YELLOW - LABORATORY



# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY THE INSTRUCTIONS FOR FILLING OUT THIS FORM ARE ON THE BACK



2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

271668

A  
409782

TASK OR SUB TASK (one per form): **RWQCB PCE LUKIN**

LABORATORY NAME AND ADDRESS:  
**Curtis & Tompkins, Berkeley, CA**

CONTRACT NAME:

CHARGE NUMBER: **60443271.2**

SAMPLE NUMBER	COLLECTION		SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS
	DATE	TIME						
SB-08-14-NS	11/2/15	1140	PKA	2.00	1 L Amber Glass	WG	NONE	SW8015D
SB-08-14-NS				3.00	40 ml VOA	WG	HCL	SW8015G
SB-08-14-NS				3.00	40 ml VOA	WG	HCL	SW8260B

RELEASED BY	DATE	TIME	COOLER ID:
	11/13/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
FEDEX	11/13/15	16:15	
	11/16/15	10:00	
	/ /	:	
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	/ /	:	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	/ /	:	
	/ /	:	

WHITE - COORDINATOR • PINK - SAMPLE CONTROL • YELLOW - LABORATORY

A  
409783

271668  
2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH: (916) 679-2000  
FAX: (916) 679-2900



**CHAIN OF CUSTODY RECORD**  
USE A BALLPOINT PEN AND PRESS FIRMLY  
THE INSTRUCTIONS FOR FILLING OUT  
THIS FORM ARE ON THE BACK

TASK OR SUB TASK (one per form):  
RWQCB PCE LUKIN  
LABORATORY NAME AND ADDRESS:  
Curtis & Tompkins, Berkeley, CA

CONTRACT NAME:  
CHARGE NUMBER: 604432712

SAMPLE NUMBER	COLLECTION		SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS
	DATE	TIME						
SB-08-28 -NS	11/12/15	12:10	RCF	2.00	1 L Amber Glass	WG	NONE	SW8015D
SB-08-28 -NS	↑	↑	↑	3.00	40 ml VOA	WG	HCL	SW8016G
SB-08-28 -NS	↑	↑	↑	3.00	40 ml VOA	WG	HCL	SW8260B

RELEASED BY	DATE	TIME	COOLER ID:
[Signature]	11/13/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
TERREY	11/12/15	16:15	
[Signature]	11/16/15	10:00	
	11/16/15	10:00	
	11/16/15	10:00	
	11/16/15	10:00	
	11/16/15	10:00	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	11/16/15	10:00	

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
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2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

271668

409807

TASK OR SUB TASK (one per form):		LABORATORY NAME AND ADDRESS: Curtis & Tompkins, Berkeley, CA									
CONTRACT NAME:		RWQCB PCE LUKIN									
CHARGE NUMBER: 60443271.2											
SAMPLE NUMBER	COLLECTION		SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	COOLING		
	DATE	TIME							DATE	TIME	
SB-20-32-NS	6/19/15	1330	AMB	2.00	1 L Amber Glass	WG	NONE	SW8015D			
SB-20-32-NS				3.00	40 ml VOA	WG	HCL	SW8015G			
SB-20-32-NS				3.00	40 ml VOA	WG	HCL	SW8260B			

RELEASED BY	DATE	TIME	COOLER ID:
<i>[Signature]</i>	11/13/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
<i>[Signature]</i>	11/15/15	16:15	
	11/16/15	10:00	
	/ /	:	
	/ /	:	
	/ /	:	

DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY	DATE	TIME
	/ /	:		/ /	:

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
THE INSTRUCTIONS FOR FILLING OUT  
THIS FORM ARE ON THE BACK



2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

271668

B  
409808

TASK OR SUB TASK (one per form):  
RWQCB PCE LUKIN  
LABORATORY NAME AND ADDRESS:  
Curtis & Tompkins, Berkeley, CA

CONTRACT NAME:  
CHARGE NUMBER: 60443271.2

SAMPLE NUMBER	COLLECTION		SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS
	DATE	TIME						
12 { SB-21-20 -FD	11/2/15	1350	AMS	2.00	1 L Amber Glass	WG	NONE	SW8015D
SB-21-20 -FD				3.00	40 ml VOA	WG	HCL	SW8015G
SB-21-20 -FD				3.00	40 ml VOA	WG	HCL	SW8260B
13 { SB-21-20 -NS				2.00	1 L Amber Glass	WG	NONE	SW8015D
SB-21-20 -NS				3.00	40 ml VOA	WG	HCL	SW8015G
SB-21-20 -NS				3.00	40 ml VOA	WG	HCL	SW8260B

RELEASED BY	DATE	TIME	COOLER ID:
Patrick Barber	11/15/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
Fed Ex	11/15/15	16:15	
	11/16/15	10:00	
	/ /	:	
	/ /	:	
	/ /	:	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	/ /	:	
	/ /	:	

# CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY  
THE INSTRUCTIONS FOR FILLING OUT  
THIS FORM ARE ON THE BACK



2870 GATEWAY OAKS, SUITE 300  
SACRAMENTO, CA 95833  
PH. (916) 679-2000  
FAX (916) 679-2900

409809

TASK OR SUB TASK (one per form):

RWQCB PCE LUKIN

LABORATORY NAME AND ADDRESS:

Curtis & Tompkins, Berkeley, CA

CONTRACT NAME:

CHARGE NUMBER: 60443271 2

SAMPLE NUMBER	COLLECTION		SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS
	DATE	TIME						
SB-21-32-NS	11/12/15	1445	AmB	2.00	1 L Amber Glass	WG	NONE	SW8015D
SB-21-32-NS				3.00	40 ml VOA	WG	HCL	SW8015G
SB-21-32-NS				3.00	40 ml VOA	WG	HCL	SW8260B
SB-22-20-NS	11/13/15	1050		2	Special Amber	WG	None	SW 8015D
SB-22-32-NS		1130						
SB-22-20-NS		1050		3	40ml VOA	WG	HCL	SW8015G
SB-22-32-NS		1130						
SB-22-20-NS		1050						SW8260B
SB-22-32-NS		1130						

RELEASED BY	DATE	TIME	COOLER ID:
Patricia	11/13/15	16:15	
RECEIVED BY	DATE	TIME	RELINQUISHED BY
Fed Ex	11/13/15	16:15	
	11/16/15	10:00	
	/ /	:	
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DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY
	/ /	:	
	/ /	:	

**COOLER RECEIPT CHECKLIST**



Login # 271668 Date Received 11/16/15 Number of coolers 3  
 Client URS Project RWQCB PLE LUKIN

Date Opened 11/16 By (print) CN (sign) [Signature]  
 Date Logged in 16 By (print) SL (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) Fed Ex  YES  NO  
 Shipping info 78171380 2772, 78171380 9181, 7817 25196740

2A. Were custody seals present? ....  YES (circle) on cooler on samples  NO  
 How many 2 each Name \_\_\_\_\_ Date 11/13/15

2B. Were custody seals intact upon arrival?  YES  NO  N/A

3. Were custody papers dry and intact when received?  YES  NO

4. Were custody papers filled out properly (ink, signed, etc)?  YES  NO

5. Is the project identifiable from custody papers? (If so fill out top of form)  YES  NO

6. Indicate the packing in cooler: (if other, describe) \_\_\_\_\_

- Bubble Wrap  Foam blocks  Bags  None
- Cloth material  Cardboard  Styrofoam  Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C

Type of ice used:  Wet  Blue/Gel  None Temp(°C) 6.1°, 2.0°, 5.8°

Temperature blank(s) included?  Thermometer  IR Gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? \_\_\_\_\_ YES  NO   
 If YES, what time were they transferred to freezer? \_\_\_\_\_

9. Did all bottles arrive unbroken/unopened?  YES  NO

10. Are there any missing / extra samples? \_\_\_\_\_ YES  NO

11. Are samples in the appropriate containers for indicated tests? \_\_\_\_\_ YES  NO

12. Are sample labels present, in good condition and complete? \_\_\_\_\_ YES  NO

13. Do the sample labels agree with custody papers? \_\_\_\_\_ YES  NO

14. Was sufficient amount of sample sent for tests requested? \_\_\_\_\_ YES  NO

15. Are the samples appropriately preserved? \_\_\_\_\_ YES  NO  N/A

16. Did you check preservatives for all bottles for each sample? \_\_\_\_\_ YES  NO  N/A

17. Did you document your preservative check? \_\_\_\_\_ YES  NO  N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? \_\_\_\_\_ YES  NO  N/A

19. Did you change the hold time in LIMS for preserved terracores? \_\_\_\_\_ YES  NO  N/A

20. Are bubbles > 6mm absent in VOA samples? \_\_\_\_\_ YES  NO  N/A

21. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES  NO

If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

**COMMENTS**

20. 6 of 6 VOAs have bubbles > 6 mm for sample 6, 1 of 6 VOAs have bubbles > 6mm for samples 14, 15, & 16

### Detections Summary for 271668

Results for any subcontracted analyses are not included in this summary.

Client : URS Corporation  
 Project : RWQCB PCE LUKIN  
 Location : RWQCB PCE LUKIN

Client Sample ID : COMP-1-NS                      Laboratory Sample ID :                      271668-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	24	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Lead	1.6		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-2-NS                      Laboratory Sample ID :                      271668-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	31	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Lead	2.1		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : PURGE-1-NS                      Laboratory Sample ID :                      271668-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1,800		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Lead	18		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A

Client Sample ID : PURGE-2-NS                      Laboratory Sample ID :                      271668-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2,700		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Lead	21		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A

Client Sample ID : SB-02-16-NS                      Laboratory Sample ID :                      271668-005

No Detections

Client Sample ID : SB-02-24-NS                      Laboratory Sample ID :                      271668-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	61	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Carbon Disulfide	3.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-04-16-NS                      Laboratory Sample ID :                      271668-007

No Detections

Client Sample ID : SB-04-28-NS

Laboratory Sample ID :

271668-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	52	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-08-14-NS

Laboratory Sample ID :

271668-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Tetrachloroethene	1.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-08-28-NS

Laboratory Sample ID :

271668-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Carbon Disulfide	1.1		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-20-32-NS

Laboratory Sample ID :

271668-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	62	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-21-20-FD

Laboratory Sample ID :

271668-012

No Detections

Client Sample ID : SB-21-20-NS

Laboratory Sample ID :

271668-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	56	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	130	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-21-32-NS

Laboratory Sample ID :

271668-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Tetrachloroethene	3.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-22-20-NS

Laboratory Sample ID :

271668-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	62	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C



Client Sample ID : SB-22-32-NS

Laboratory Sample ID :

271668-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	64	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	190	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 271668

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Water

Total Volatile Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229517
Units:	ug/L	Received:	11/16/15

Field ID: PURGE-1-NS                      Diln Fac: 5.000  
 Type: SAMPLE                                Sampled: 11/13/15  
 Lab ID: 271668-003                        Analyzed: 11/18/15

Analyte	Result	RL
Gasoline C7-C12	ND	250
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	80-132

Field ID: PURGE-2-NS                      Diln Fac: 5.000  
 Type: SAMPLE                                Sampled: 11/13/15  
 Lab ID: 271668-004                        Analyzed: 11/18/15

Analyte	Result	RL
Gasoline C7-C12	ND	250
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	80-132

Field ID: SB-02-16-NS                      Diln Fac: 1.000  
 Type: SAMPLE                                Sampled: 11/13/15  
 Lab ID: 271668-005                        Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	80-132

Field ID: SB-02-24-NS                      Diln Fac: 1.000  
 Type: SAMPLE                                Sampled: 11/13/15  
 Lab ID: 271668-006                        Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229517
Units:	ug/L	Received:	11/16/15

Field ID: SB-04-16-NS Diln Fac: 1.000  
 Type: SAMPLE Sampled: 11/12/15  
 Lab ID: 271668-007 Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	80-132

Field ID: SB-04-28-NS Diln Fac: 1.000  
 Type: SAMPLE Sampled: 11/12/15  
 Lab ID: 271668-008 Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	80-132

Field ID: SB-08-14-NS Diln Fac: 1.000  
 Type: SAMPLE Sampled: 11/12/15  
 Lab ID: 271668-009 Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	80-132

Field ID: SB-08-28-NS Diln Fac: 1.000  
 Type: SAMPLE Sampled: 11/12/15  
 Lab ID: 271668-010 Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229517
Units:	ug/L	Received:	11/16/15

Field ID: SB-20-32-NS Diln Fac: 1.000  
 Type: SAMPLE Sampled: 11/13/15  
 Lab ID: 271668-011 Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	80-132

Field ID: SB-21-20-FD Diln Fac: 1.000  
 Type: SAMPLE Sampled: 11/12/15  
 Lab ID: 271668-012 Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	80-132

Field ID: SB-21-20-NS Diln Fac: 1.000  
 Type: SAMPLE Sampled: 11/12/15  
 Lab ID: 271668-013 Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	56 Y	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	80-132

Field ID: SB-21-32-NS Diln Fac: 1.000  
 Type: SAMPLE Sampled: 11/12/15  
 Lab ID: 271668-014 Analyzed: 11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

**Total Volatile Hydrocarbons**

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229517
Units:	ug/L	Received:	11/16/15

Field ID:	SB-22-20-NS	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	11/13/15
Lab ID:	271668-015	Analyzed:	11/18/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	80-132

Field ID:	SB-22-32-NS	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	11/13/15
Lab ID:	271668-016	Analyzed:	11/18/15

Analyte	Result	RL
Gasoline C7-C12	64 Y	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	80-132

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC813092	Analyzed:	11/17/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC813091	Batch#:	229517
Matrix:	Water	Analyzed:	11/17/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	946.0	95	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	80-132

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Field ID:	SB-22-20-NS	Batch#:	229517
MSS Lab ID:	271668-015	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L	Analyzed:	11/18/15
Diln Fac:	1.000		

Type: MS Lab ID: QC813093

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	22.39	2,000	1,602	79	76-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	80-132

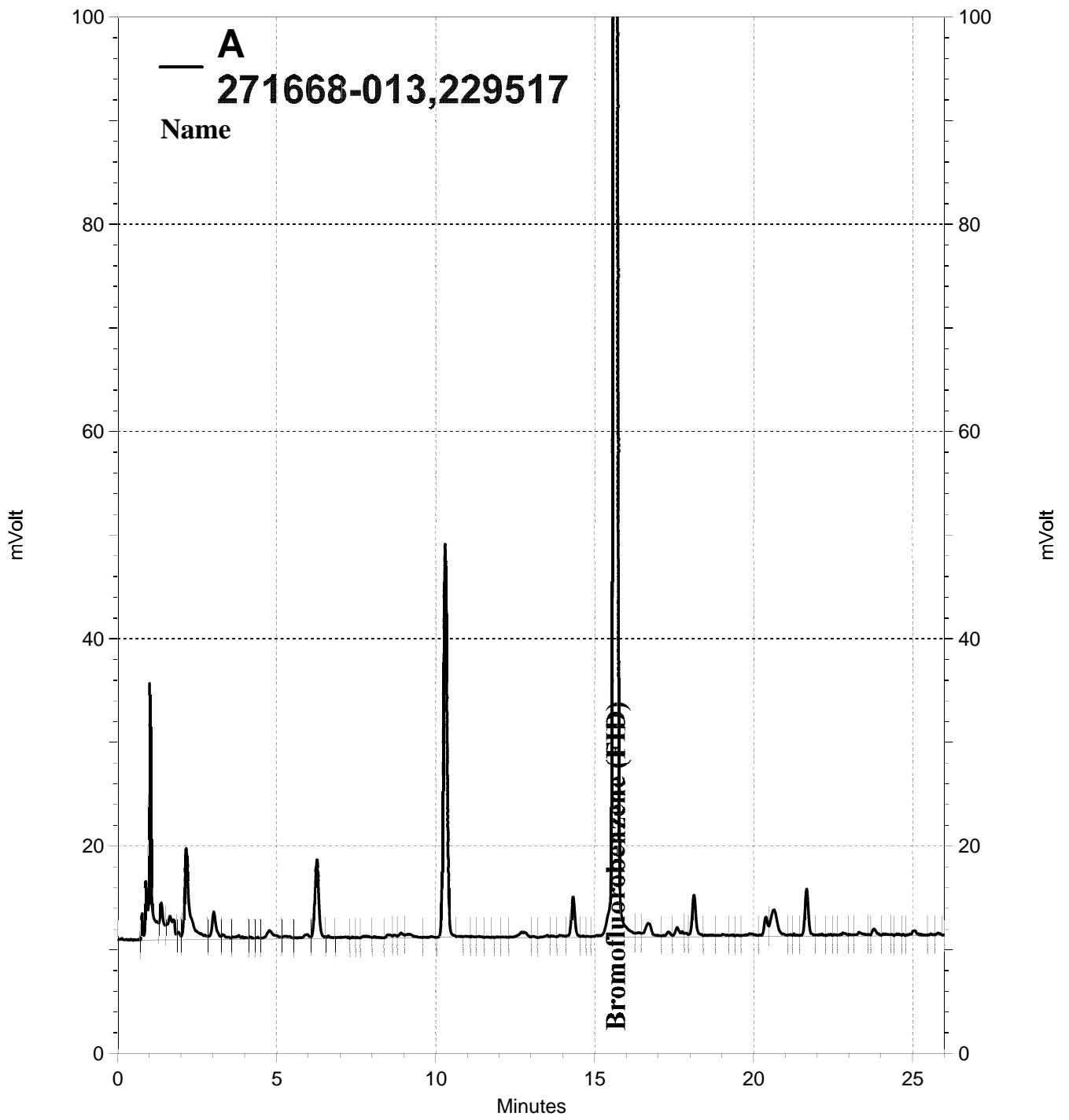
Type: MSD Lab ID: QC813094

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,593	79	76-120	1	20

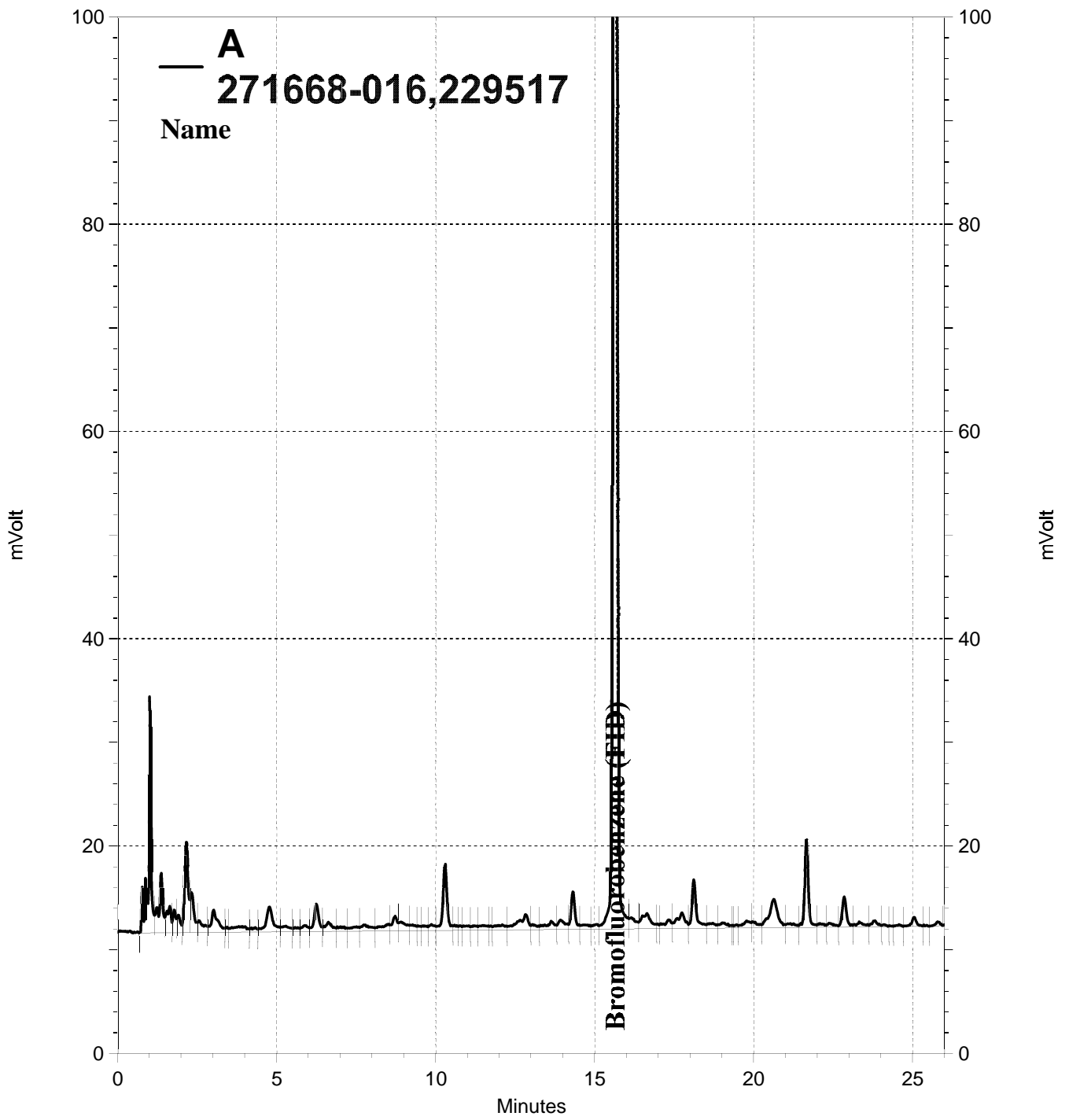
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	80-132

RPD= Relative Percent Difference

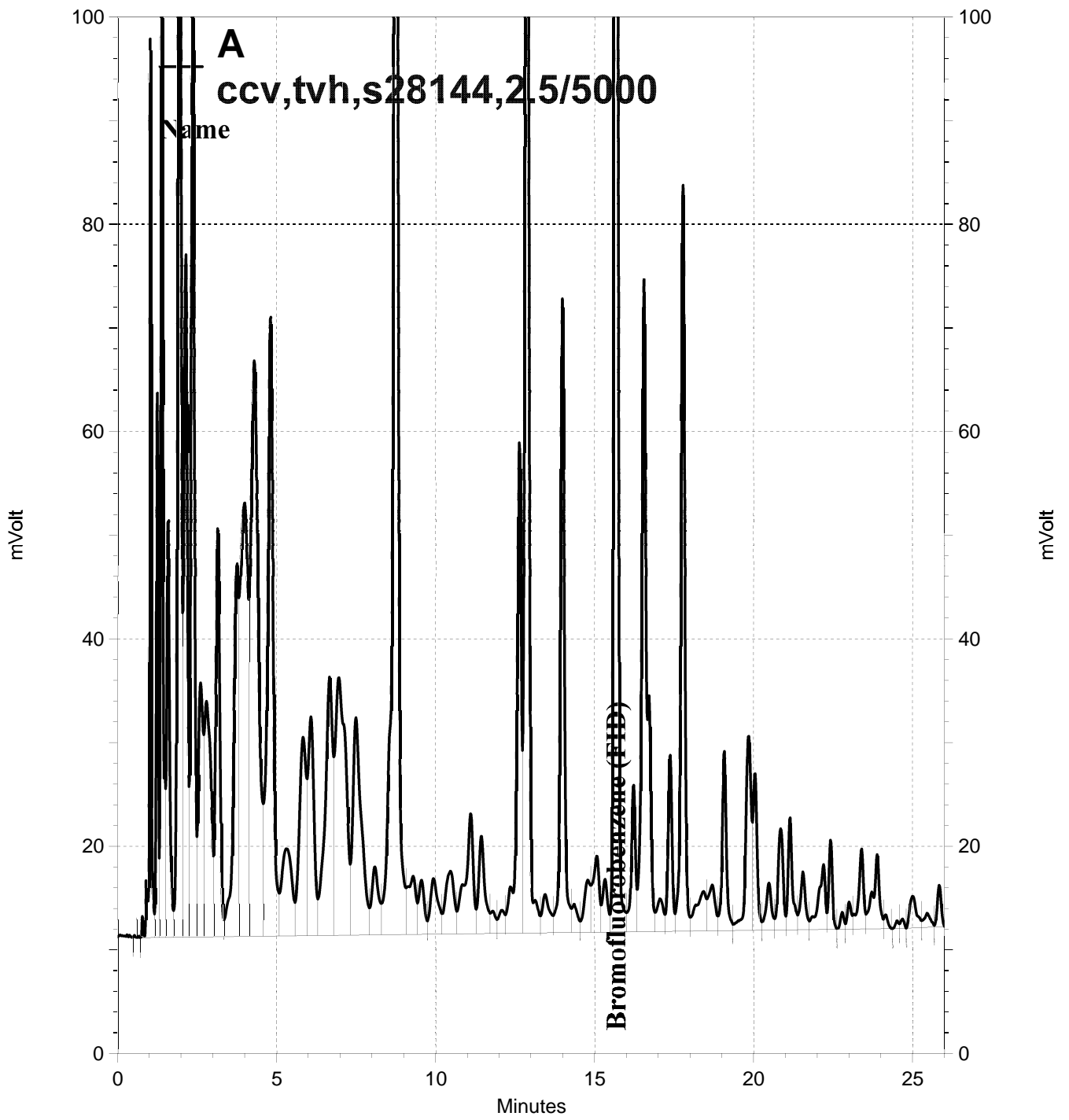




— \\Lims\gdrive\ezchrom\Projects\GC07\Data\321-025, A



— \\Lims\gdrive\ezchrom\Projects\GC07\Data\321-030, A



— \\Lims\gdrive\ezchrom\Projects\GC07\Data\321-012, A

**Initial & Continuing Calibration Data**

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCVOA Water: EPA 8015B

Inst : GC07  
 Calnum : 325099925001  
 Units : ng

Name : tvh/bfb\_069  
 Date : 10-MAR-2015 19:46  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	069_011	325099925011	TVH_14	10-MAR-2015 19:46	S26765 (1000X), S26658 (5000X)
L2	069_012	325099925012	TVH_15	10-MAR-2015 20:22	S26764 (1000X), S26658 (5000X)
L3	069_013	325099925013	TVH_16	10-MAR-2015 20:58	S26763 (1000X), S26658 (5000X)
L4	069_014	325099925014	TVH_17	10-MAR-2015 21:34	S26761 (2000X), S26658 (5000X)
L5	069_015	325099925015	TVH_18	10-MAR-2015 22:11	S26761 (1000X), S26658 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	2900.5	2369.9	2305.6	2167.8	2176.1	AVRG		4.19E-4		2384.0	13	0.995	20	
Bromofluorobenzene (FID)	A	2083.0	2044.6	2051.0	2166.9	2281.1	AVRG		4.71E-4		2125.3	5	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	250.00	22	2500.0	-1	10000	-3	25000	-9	50000	-9
Bromofluorobenzene (FID)	A	900.00	-2	900.00	-4	900.00	-3	900.00	2	900.00	7

Analyst: ERR

Date: 03/11/15

Reviewer: EAH

Date: 03/11/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 GCVOA Water  
EPA 8015B

Inst : GC07  
Calnum : 325099925001

Name : tvh/bfb\_069  
Cal Date : 10-MAR-2015

ICV 325099925017 (069\_017 10-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9097	ng	-9	15	

Analyst: ERR

Date: 03/11/15

Reviewer: EAH

Date: 03/11/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271668 GCVOA Water  
EPA 8015B

Inst : GC07                                      Run Name : QC813091                                      IDF : 1.0  
 Seqnum : 325462676012.1                      File : 321\_012                                      Time : 17-NOV-2015 14:24  
 Cal : 325099925001                              Caldate : 10-MAR-2015  
 Standards: S28144 (2000X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2255.3	5000	4730	ng	-5	15	u
Bromofluorobenzene (FID)	A	2125.3	2202.3	900.0	932.6	ng	4	15	u

CAR 11/18/15 : ccv/lcs, qc813091, 229517 [general version]

Analyst: FBJ                                      Date: 11/19/15                                      Reviewer: EAH                                      Date: 11/20/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCVOA Water  
EPA 8015B

Inst : GC07                      Run Name : TVH                      IDF : 1.0  
 Seqnum : 325462676022      File : 321\_022                      Time : 17-NOV-2015 21:08  
 Cal : 325099925001      Caldate : 10-MAR-2015  
 Standards: S28144 (1000X), S28390 (5000X)

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Gasoline C7-C12	A	2384.0	2060.8	10000	8644	ng	-14	15	
Bromofluorobenzene (FID)	A	2125.3	2209.2	900.0	935.5	ng	4	15	

Analyst: CAR                      Date: 11/18/15                      Reviewer: EAH                      Date: 11/18/15



CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCVOA Water  
EPA 8015B

Inst : GC07                                      Run Name : TVH                                      IDF : 1.0  
 Seqnum : 325462676034                      File : 321\_034                                      Time : 18-NOV-2015 04:20  
 Cal : 325099925001                      Caldate : 10-MAR-2015  
 Standards: S28144 (2000X), S28390 (5000X)

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Gasoline C7-C12	A	2384.0	2071.9	5000	4346	ng	-13	15	
Bromofluorobenzene (FID)	A	2125.3	2132.8	900.0	903.2	ng	0	15	

Analyst: CAR                                      Date: 11/18/15                                      Reviewer: EAH                                      Date: 11/18/15

## Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 325099925

Instrument : GC07  
 Method : EPA 8015B, EPA 8021B

Begun : 03/10/15 09:25  
 SOP Version : TVH\_BTXE\_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	069_001	X	CMARKER			03/10/15 09:25	1.0	1 2
002	069_002	CCV	BTXE			03/10/15 10:02	1.0	3 2
003	069_003	CCV	TVH			03/10/15 10:38	1.0	4 2
004	069_004	CCV	BTXE			03/10/15 11:14	1.0	3 2
005	069_005	X	IB			03/10/15 12:08	1.0	2
006	069_006	CCV	BTXE			03/10/15 13:23	1.0	3 2
007	069_007	CCV	TVH			03/10/15 14:01	1.0	4 2
008	069_008	X	CMARKER			03/10/15 14:37	1.0	1 2
009	069_009	X	IB			03/10/15 18:34	1.0	2
010	069_010	IB	CALIB			03/10/15 19:10	1.0	2
011	069_011	ICAL	TVH_14			03/10/15 19:46	1.0	5 2
012	069_012	ICAL	TVH_15			03/10/15 20:22	1.0	6 2
013	069_013	ICAL	TVH_16			03/10/15 20:58	1.0	7 2
014	069_014	ICAL	TVH_17			03/10/15 21:34	1.0	8 2
015	069_015	ICAL	TVH_18			03/10/15 22:11	1.0	8 2
016	069_016	X	IB			03/10/15 22:47	1.0	2
017	069_017	ICV	TVH			03/10/15 23:23	1.0	9 2
018	069_018	X	ICV			03/10/15 23:59	1.0	9 2
019	069_019	CMARKER	CMARK			03/11/15 00:35	1.0	1 2

ERR 03/11/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Reviewed by: ERR Date: 03/11/15

Standards used: 1=S26730 2=S26658 3=S26505 4=S26582 5=S26765 6=S26764 7=S26763 8=S26761 9=S26760

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 325462676

Instrument : GC07  
 Method : EPA 8015B, EPA 8021B

Begun : 11/17/15 07:16  
 SOP Version : TVH\_BTXE\_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	321_001	X	CMARKER			11/17/15 07:16	1.0	1 2	
002	321_002	CCV	BTXE			11/17/15 07:53	1.0	3 2	
003	321_003	CCV	TVH			11/17/15 08:29	1.0	4 2	
004	321_004	X	IB			11/17/15 09:05	1.0	2	
005	321_005	MSS	271668-003	Water	229517	11/17/15 09:51	1.0	2	
006	321_006	MS	QC813093	Water	229517	11/17/15 10:28	1.0	4 2	
007	321_007	MSD	QC813094	Water	229517	11/17/15 11:04	1.0	4 2	
008	321_008	SAMPLE	271668-004	Water	229517	11/17/15 11:40	1.0	2	
009	321_009	X	IB			11/17/15 12:35	1.0	2	
010	321_010	X	IB			11/17/15 13:12	1.0	2	
011	321_011	X	CMARKER			11/17/15 13:48	1.0	1 2	
012	321_012	CCV/LCS	QC813091	Water	229517	11/17/15 14:24	1.0	4 2	
013	321_013	BLANK	QC813092	Water	229517	11/17/15 15:11	1.0	2	
014	321_014	SAMPLE	271668-005	Water	229517	11/17/15 16:19	1.0	2	
015	321_015	SAMPLE	271668-006	Water	229517	11/17/15 16:55	1.0	2	
016	321_016	SAMPLE	271668-007	Water	229517	11/17/15 17:31	1.0	2	
017	321_017	SAMPLE	271668-008	Water	229517	11/17/15 18:07	1.0	2	
018	321_018	SAMPLE	271668-009	Water	229517	11/17/15 18:44	1.0	2	
019	321_019	SAMPLE	271668-010	Water	229517	11/17/15 19:20	1.0	2	
020	321_020	X	TVH			11/17/15 19:56	1.0	4 2	
021	321_021	X	CMARKER			11/17/15 20:31	1.0	1 2	
022	321_022	CCV	TVH			11/17/15 21:08	1.0	4 2	
023	321_023	SAMPLE	271668-011	Water	229517	11/17/15 21:44	1.0	2	
024	321_024	SAMPLE	271668-012	Water	229517	11/17/15 22:20	1.0	2	
025	321_025	SAMPLE	271668-013	Water	229517	11/17/15 22:56	1.0	2	
026	321_026	SAMPLE	271668-014	Water	229517	11/17/15 23:32	1.0	2	
027	321_027	MSS	271668-015	Water	229517	11/18/15 00:08	1.0	2	
028	321_028	MS	QC813093	Water	229517	11/18/15 00:44	1.0	4 2	
029	321_029	MSD	QC813094	Water	229517	11/18/15 01:20	1.0	4 2	
030	321_030	SAMPLE	271668-016	Water	229517	11/18/15 01:56	1.0	2	
031	321_031	SAMPLE	271668-003	Water	229517	11/18/15 02:32	5.0	2	foamer
032	321_032	SAMPLE	271668-004	Water	229517	11/18/15 03:08	5.0	2	foamer
033	321_033	X	TVH			11/18/15 03:44	1.0	4 2	
034	321_034	CCV	TVH			11/18/15 04:20	1.0	4 2	
035	321_035	X	CMARKER			11/18/15 04:57	1.0	1 2	

CAR 11/18/15 : Foamy sample (run 5) caused FID to go out, affecting runs 5-8. Ran IBs to clean out the instrument and started sequence at CM in run 11.

CAR 11/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 35.

CAR 11/18/15 : X'd out CCVs in runs 20 and 33, failed low for gas analytes. See narration in runs

Reviewed by: CAR Date: 11/18/15

Standards used: 1=S27955 2=S28390 3=S27975 4=S28144

Laboratory Job Number 271668

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Soil

Total Volatile Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	229514
Units:	mg/Kg	Sampled:	11/13/15
Basis:	dry	Received:	11/16/15
Diln Fac:	1.000	Analyzed:	11/17/15

Field ID: COMP-1-NS                      Lab ID: 271668-001  
 Type: SAMPLE                              Moisture: 12%

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	78-138

Field ID: COMP-2-NS                      Lab ID: 271668-002  
 Type: SAMPLE                              Moisture: 12%

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	78-138

Type: BLANK                                      Lab ID: QC813082

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	78-138

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC813081	Batch#:	229514
Matrix:	Soil	Analyzed:	11/17/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.074	107	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	78-138

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	271660-001	Batch#:	229514
Matrix:	Soil	Sampled:	11/13/15
Units:	mg/Kg	Received:	11/16/15
Basis:	as received	Analyzed:	11/17/15

Type: MS Lab ID: QC813083

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.2443	9.901	7.838	77	50-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	78-138

Type: MSD Lab ID: QC813084

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.804	7.828	77	50-120	1	31

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	78-138

RPD= Relative Percent Difference



**Initial & Continuing Calibration Data**

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCVOA Soil: EPA 8015B

Inst : GC04  
 Calnum : 305422905001  
 Units : ng

Name : TVH/BFB  
 Date : 20-OCT-2015 17:03  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	293_003	305422905003	TVH_14	20-OCT-2015 17:03	S27569 (1000X), S27808 (5000X)
L2	293_004	305422905004	TVH_15	20-OCT-2015 17:41	S27568 (1000X), S27808 (5000X)
L3	293_005	305422905005	TVH_16	20-OCT-2015 18:18	S27567 (1000X), S27808 (5000X)
L4	293_006	305422905006	TVH_17	20-OCT-2015 18:56	S27566 (2000X), S27808 (5000X)
L5	293_007	305422905007	TVH_18	20-OCT-2015 19:33	S27566 (1000X), S27808 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	4168.9	2981.9	2906.1	3047.8	2891.9	AVRG		3.13E-4		3199.3	17	0.995	20	
Bromofluorobenzene (FID)	A	2253.8	2257.6	2391.6	2631.2	2735.9	AVRG		4.07E-4		2454.0	9	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	250.00	30	2500.0	-7	10000	-9	25000	-5	50000	-10
Bromofluorobenzene (FID)	A	900.00	-8	900.00	-8	900.00	-3	900.00	7	900.00	11

DAR 10/21/15 : This ical does not pass G6-G10

DAR: 10/21/15 FBJ: 10/23/15 EAH: 10/23/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 GCVOA Soil  
EPA 8015B

Inst : GC04  
Calnum : 305422905001

Name : TVH/BFB  
Cal Date : 20-OCT-2015

ICV 305422905010 (293\_010 20-OCT-2015) stds: S27613 (1000X), S27808 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9200	ng	-8	15	

Analyst: DAR

Date: 10/21/15

Reviewer: EAH

Date: 10/21/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271668 GCVOA Soil  
EPA 8015B

Inst : GC04                                      Run Name : QC813081                                      IDF : 1.0  
 Seqnum : 305462677002.3                      File : 321\_002                                      Time : 17-NOV-2015 07:54  
 Cal : 305422905001                              Caldate : 20-OCT-2015  
 Standards: S28144 (2000X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	3199.3	3435.3	5000	5369	ng	7	15	u
Bromofluorobenzene (FID)	A	2454.0	2596.0	900.0	952.1	ng	6	15	u

CAR 11/18/15 : ccv/lcs, qc813081, 229514 [general version]

Analyst: CAR                                      Date: 11/18/15                                      Reviewer: EAH                                      Date: 11/20/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCVOA Soil  
EPA 8015B

Inst : GC04                      Run Name : TVH                      IDF : 1.0  
 Seqnum : 305462677010        File : 321\_010                Time : 17-NOV-2015 13:15  
 Cal : 305422905001          Caldate : 20-OCT-2015  
 Standards: S28144 (1000X), S28390 (5000X)

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Gasoline C7-C12	A	3199.3	3200.3	10000	10000	ng	0	15	
Bromofluorobenzene (FID)	A	2454.0	2667.1	900.0	978.1	ng	9	15	

Analyst: CAR                      Date: 11/18/15                      Reviewer: EAH                      Date: 11/18/15

## Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 305422905

Instrument : GC04  
 Method : EPA 8015B, EPA 8021B

Begun : 10/20/15 16:25  
 SOP Version : TVH\_BTXE\_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
002	293_002	IB	CALIB			10/20/15 16:25	1.0	1
003	293_003	ICAL	TVH_14			10/20/15 17:03	1.0	2 1
004	293_004	ICAL	TVH_15			10/20/15 17:41	1.0	3 1
005	293_005	ICAL	TVH_16			10/20/15 18:18	1.0	4 1
006	293_006	ICAL	TVH_17			10/20/15 18:56	1.0	5 1
007	293_007	ICAL	TVH_18			10/20/15 19:33	1.0	5 1
008	293_008	X	IB			10/20/15 20:11	1.0	1
009	293_009	X	ICV			10/20/15 20:49	1.0	6 1
010	293_010	ICV	TVH			10/20/15 21:26	1.0	6 1
011	293_011	CMARKER				10/20/15 22:04	1.0	7 1

DAR 10/21/15 : file 1 was an IB that did not run

DAR 10/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 2 through 11.

Reviewed by: DAR Date: 10/21/15

Standards used: 1=S27808 2=S27569 3=S27568 4=S27567 5=S27566 6=S27613 7=S27955

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 305462677

Instrument : GC04  
 Method : EPA 8015B, EPA 8021B

Begun : 11/17/15 07:17  
 SOP Version : TVH\_BTXE\_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	321_001	X	CMARKER			11/17/15 07:17	1.0	1 2
002	321_002	CCV/LCS	QC813081	Soil	229514	11/17/15 07:54	1.0	3 2
003	321_003	BLANK	QC813082	Soil	229514	11/17/15 08:41	1.0	2
004	321_004	MSS	271660-001	Soil	229514	11/17/15 09:30	1.0	2
005	321_005	MS	QC813083	Soil	229514	11/17/15 10:07	1.0	3 2
006	321_006	MSD	QC813084	Soil	229514	11/17/15 10:45	1.0	3 2
007	321_007	SAMPLE	271660-002	Soil	229514	11/17/15 11:22	1.0	2
008	321_008	SAMPLE	271668-001	Soil	229514	11/17/15 12:00	1.0	2
009	321_009	SAMPLE	271668-002	Soil	229514	11/17/15 12:38	1.0	2
010	321_010	CCV	TVH			11/17/15 13:15	1.0	3 2
011	321_011	CCV	TVH			11/17/15 13:53	1.0	3 2
012	321_012	X	CMARKER			11/17/15 14:31	1.0	1 2
013	321_013	SAMPLE	271727-001	Soil	229514	11/17/15 19:29	1.0	2
014	321_014	SAMPLE	271727-002	Soil	229514	11/17/15 20:06	1.0	2
015	321_015	SAMPLE	271724-001	Soil	229514	11/17/15 20:44	1.0	2
016	321_016	SAMPLE	271725-001	Soil	229514	11/17/15 21:21	1.0	2
017	321_017	CCV	TVH			11/17/15 21:59	1.0	3 2
018	321_018	CCV	TVH			11/17/15 22:37	1.0	3 2
019	321_019	X	CMARKER			11/17/15 23:14	1.0	1 2

CAR 11/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Reviewed by: CAR Date: 11/18/15

Standards used: 1=S27955 2=S28390 3=S28144



TITLE Soil Aliquot TVH/BTXE PROJECT

DATE

Continued from page

Sample	ID	Weight (g)	NaSO <sub>4</sub>	Comments
271592-001	A	1.05	NO	CAR 11/13/15
↓ -002	↓	0.98	↓	↓
271593-001		1.08		
271627-012	A	1.06	NO	FB) 11/16/15
↓ -013	↓	1.01	↓	↓
↓ -014	↓	1.02	↓	↓
↓ -014 MS	↓	1.01	↓	↓
↓ -014 MSD	↓	.96	↓	↓
271604-001 (Comp ABCD) E	E	1.00		
↓ -002 (Comp ABCD) E	↓	.97		
271617-001	A	1.00		
271642-001	A	.92	NO	FB) 11/16/15
↓ -002	↓	1.02	↓	↓
↓ -003	↓	1.02	↓	↓
↓ -004	↓	.99	↓	↓
↓ -005	↓	.95	↓	↓
↓ -006	↓	.98	↓	↓
271632-001	B	5.36	NO	CAR 11/16/15
↓ -004	↓	5.81	↓	↓
↓ -007	↓	6.16	↓	↓
↓ -010	↓	5.76	↓	↓
271634-001 <sup>CAR 11/16</sup> 013 Comp 1-4 A	A	0.96		
↓ -014 Comp 5-8	↓	<del>0.94</del> 0.99		
↓ -014 MS	↓	0.99		
↓ -014 MSD	↓	<del>0.99</del> 0.98		
↓ -015 Comp 9-12	↓	0.94		
271641-010 (Comp ABCD) E	E	1.02	NO	FB) 11/16/15
271667-001	A	1.08	NO	CAR 11/16/15
271660-001	A	.99	NO	FB) 11/16/15
↓ -001 MS	↓	1.01	↓	↓
↓ -001 MSD	↓	1.02	↓	↓
↓ -002	↓	.97	↓	↓
271668-001	A	1.06		
↓ -002	↓	1.01	↓	↓
271727-001	A	0.97	NO	CAR 11/17/15
↓ -002	↓	1.02	↓	↓
271724-001		1.02		
271725-001		1.02		
271721-001	A	1.07	NO	CAR 11/17/15
↓ -001 MS	↓	1.01	↓	↓
↓ -001 MSD	↓	1.08	↓	↓
271729-001	A	1.00	NO	FB) 11/18/15
↓ -001 MS	↓	1.01	↓	↓

SIGNATURE

DATE

Continued to page

DISCLOSED TO AND UNDERSTOOD BY

DATE

PROPRIETARY INFORMATION

Laboratory Job Number 271668

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

**Total Extractable Hydrocarbons**

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229591
Units:	ug/L	Received:	11/16/15
Diln Fac:	1.000	Prepared:	11/18/15

Field ID:	PURGE-1-NS	Sampled:	11/13/15
Type:	SAMPLE	Analyzed:	11/19/15
Lab ID:	271668-003		

Analyte	Result	RL
Diesel C10-C24	1,800	50

Surrogate	%REC	Limits
o-Terphenyl	85	67-136

Field ID:	PURGE-2-NS	Sampled:	11/13/15
Type:	SAMPLE	Analyzed:	11/19/15
Lab ID:	271668-004		

Analyte	Result	RL
Diesel C10-C24	2,700	50

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

Field ID:	SB-02-16-NS	Sampled:	11/13/15
Type:	SAMPLE	Analyzed:	11/19/15
Lab ID:	271668-005		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	104	67-136

Field ID:	SB-02-24-NS	Sampled:	11/13/15
Type:	SAMPLE	Analyzed:	11/19/15
Lab ID:	271668-006		

Analyte	Result	RL
Diesel C10-C24	61 Y	50

Surrogate	%REC	Limits
o-Terphenyl	109	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

<b>Total Extractable Hydrocarbons</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229591
Units:	ug/L	Received:	11/16/15
Diln Fac:	1.000	Prepared:	11/18/15

Field ID: SB-04-16-NS      Sampled: 11/12/15  
 Type: SAMPLE              Analyzed: 11/19/15  
 Lab ID: 271668-007

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Diesel C10-C24	ND	50

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
o-Terphenyl	99	67-136

Field ID: SB-04-28-NS      Sampled: 11/12/15  
 Type: SAMPLE              Analyzed: 11/19/15  
 Lab ID: 271668-008

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Diesel C10-C24	52 Y	50

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
o-Terphenyl	98	67-136

Field ID: SB-08-14-NS      Sampled: 11/12/15  
 Type: SAMPLE              Analyzed: 11/19/15  
 Lab ID: 271668-009

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Diesel C10-C24	ND	50

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
o-Terphenyl	105	67-136

Field ID: SB-08-28-NS      Sampled: 11/12/15  
 Type: SAMPLE              Analyzed: 11/19/15  
 Lab ID: 271668-010

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Diesel C10-C24	ND	50

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
o-Terphenyl	116	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

### Total Extractable Hydrocarbons

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229591
Units:	ug/L	Received:	11/16/15
Diln Fac:	1.000	Prepared:	11/18/15

Field ID:	SB-20-32-NS	Sampled:	11/13/15
Type:	SAMPLE	Analyzed:	11/19/15
Lab ID:	271668-011		

Analyte	Result	RL
Diesel C10-C24	62 Y	50

Surrogate	%REC	Limits
o-Terphenyl	110	67-136

Field ID:	SB-21-20-FD	Sampled:	11/12/15
Type:	SAMPLE	Analyzed:	11/19/15
Lab ID:	271668-012		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	108	67-136

Field ID:	SB-21-20-NS	Sampled:	11/12/15
Type:	SAMPLE	Analyzed:	11/19/15
Lab ID:	271668-013		

Analyte	Result	RL
Diesel C10-C24	130 Y	50

Surrogate	%REC	Limits
o-Terphenyl	114	67-136

Field ID:	SB-21-32-NS	Sampled:	11/12/15
Type:	SAMPLE	Analyzed:	11/20/15
Lab ID:	271668-014		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	106	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

**Total Extractable Hydrocarbons**

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229591
Units:	ug/L	Received:	11/16/15
Diln Fac:	1.000	Prepared:	11/18/15

Field ID:	SB-22-20-NS	Sampled:	11/13/15
Type:	SAMPLE	Analyzed:	11/20/15
Lab ID:	271668-015		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Diesel C10-C24	62 Y	50
<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
o-Terphenyl	107	67-136

Field ID:	SB-22-32-NS	Sampled:	11/13/15
Type:	SAMPLE	Analyzed:	11/20/15
Lab ID:	271668-016		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Diesel C10-C24	190 Y	50
<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
o-Terphenyl	73	67-136

Type:	BLANK	Analyzed:	11/19/15
Lab ID:	QC813398		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Diesel C10-C24	ND	50
<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
o-Terphenyl	102	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229591
Units:	ug/L	Prepared:	11/18/15
Diln Fac:	1.000	Analyzed:	11/19/15

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC813399

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,001	80	60-121

Surrogate	%REC	Limits
o-Terphenyl	100	67-136

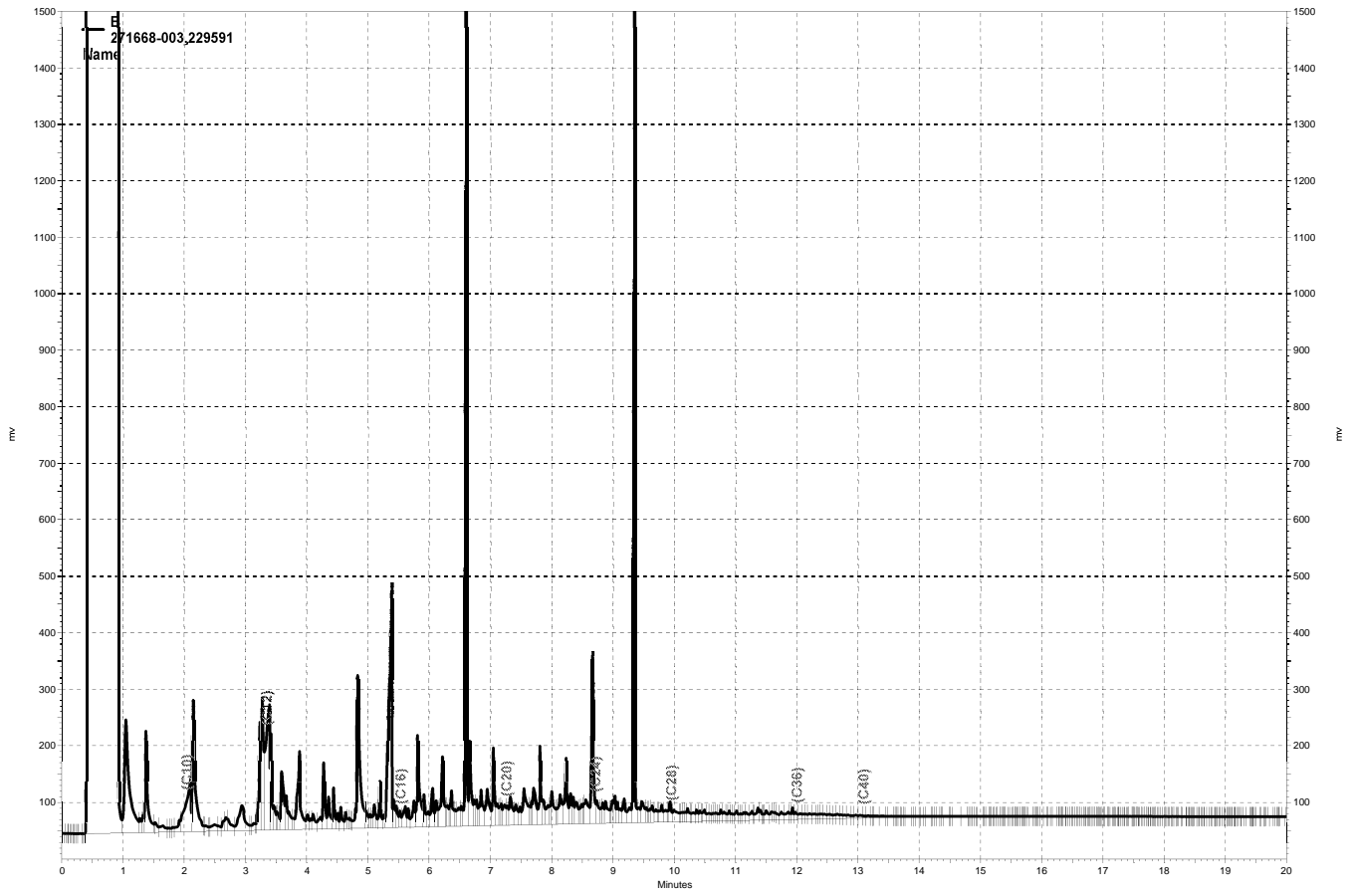
Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC813400

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,029	81	60-121	1	32

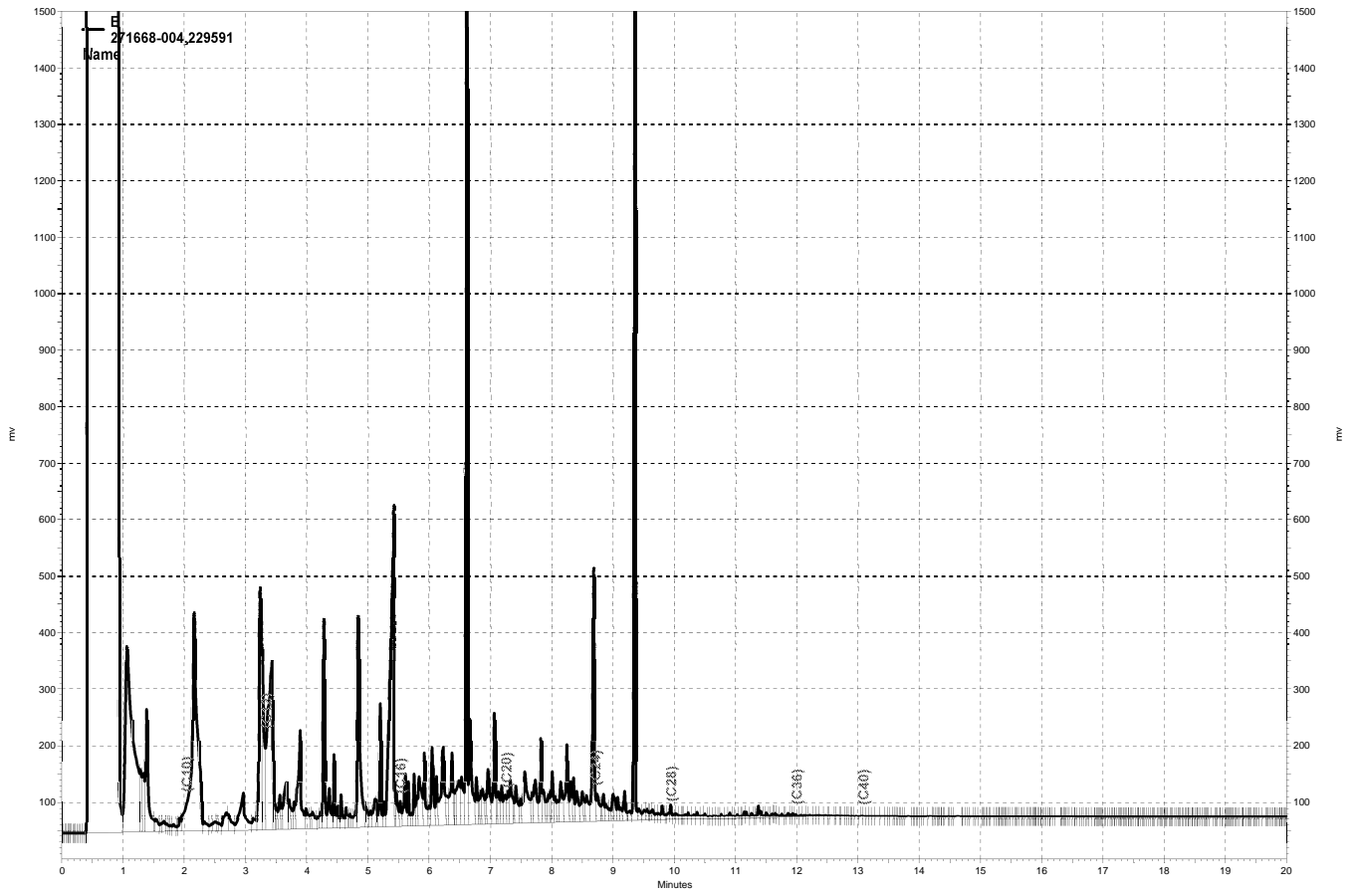
Surrogate	%REC	Limits
o-Terphenyl	97	67-136

RPD= Relative Percent Difference

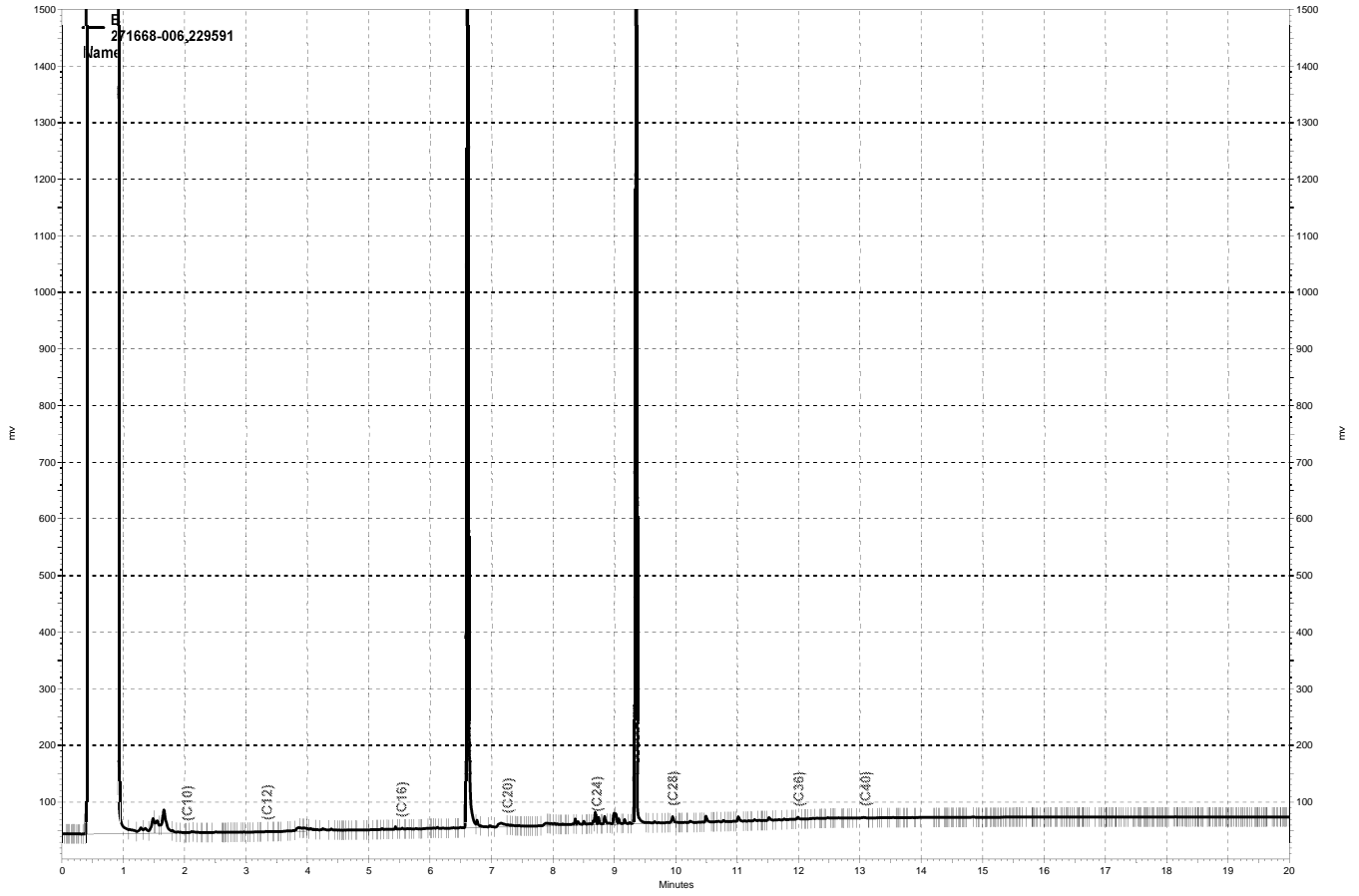


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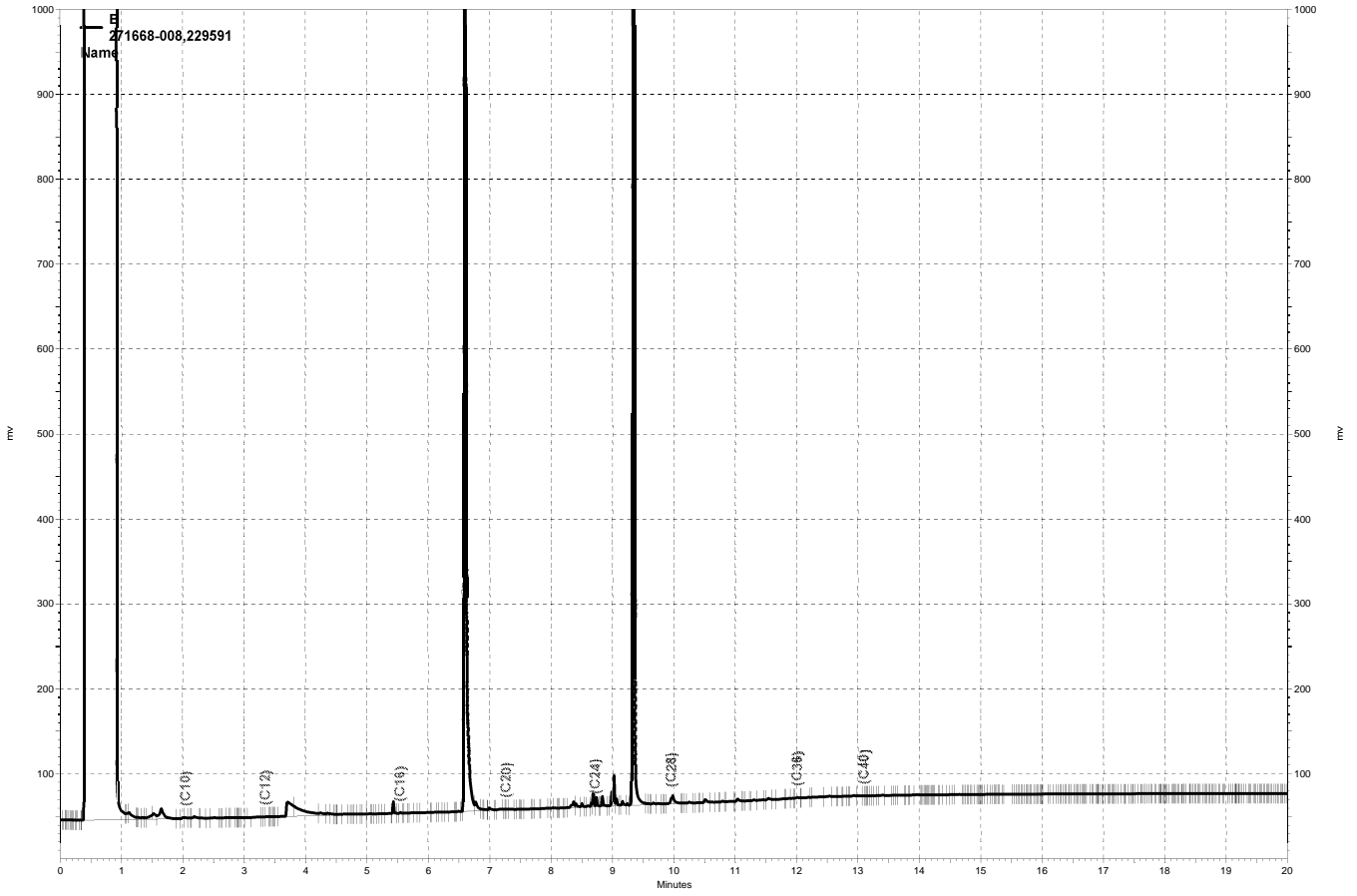




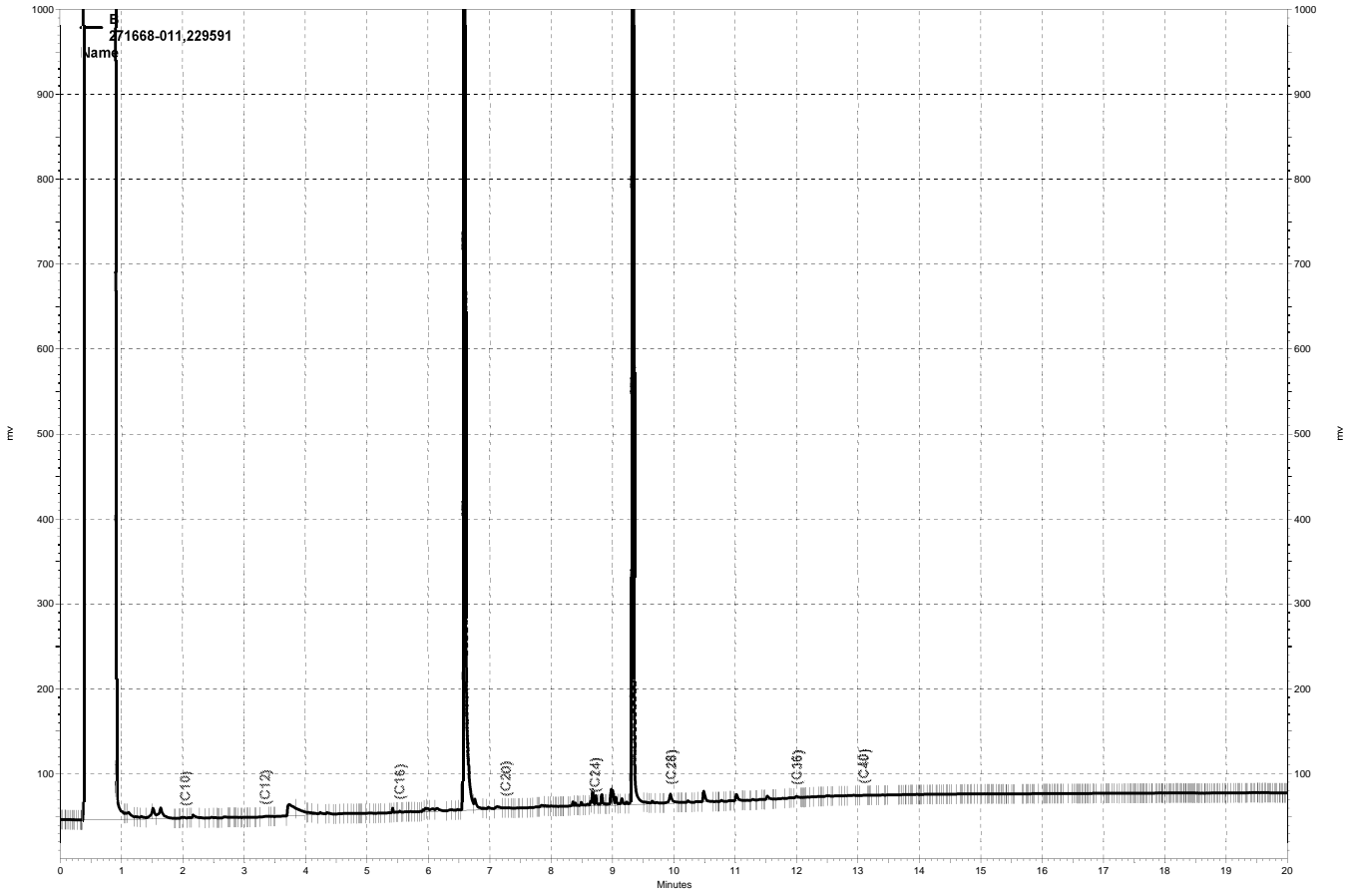
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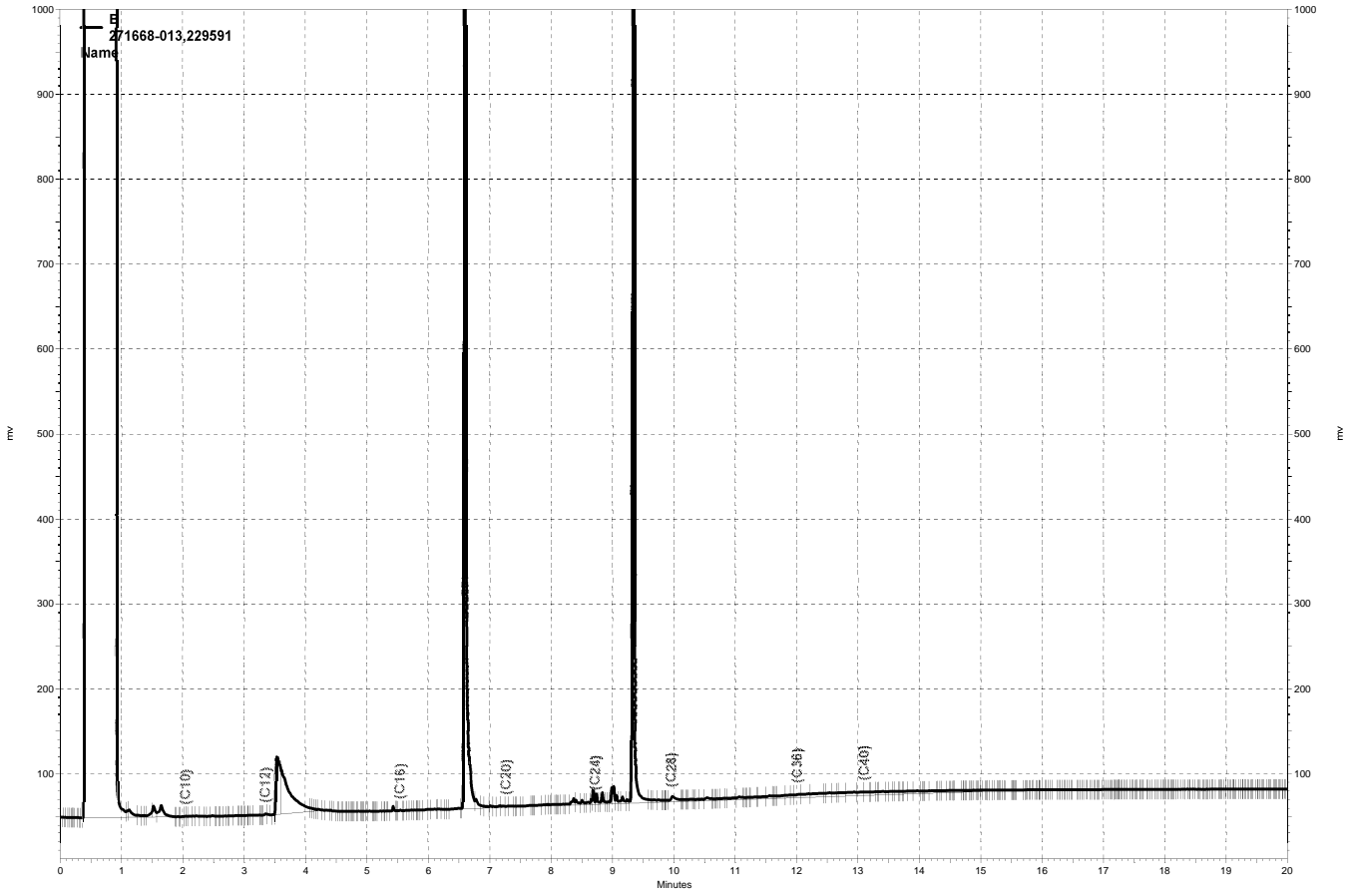
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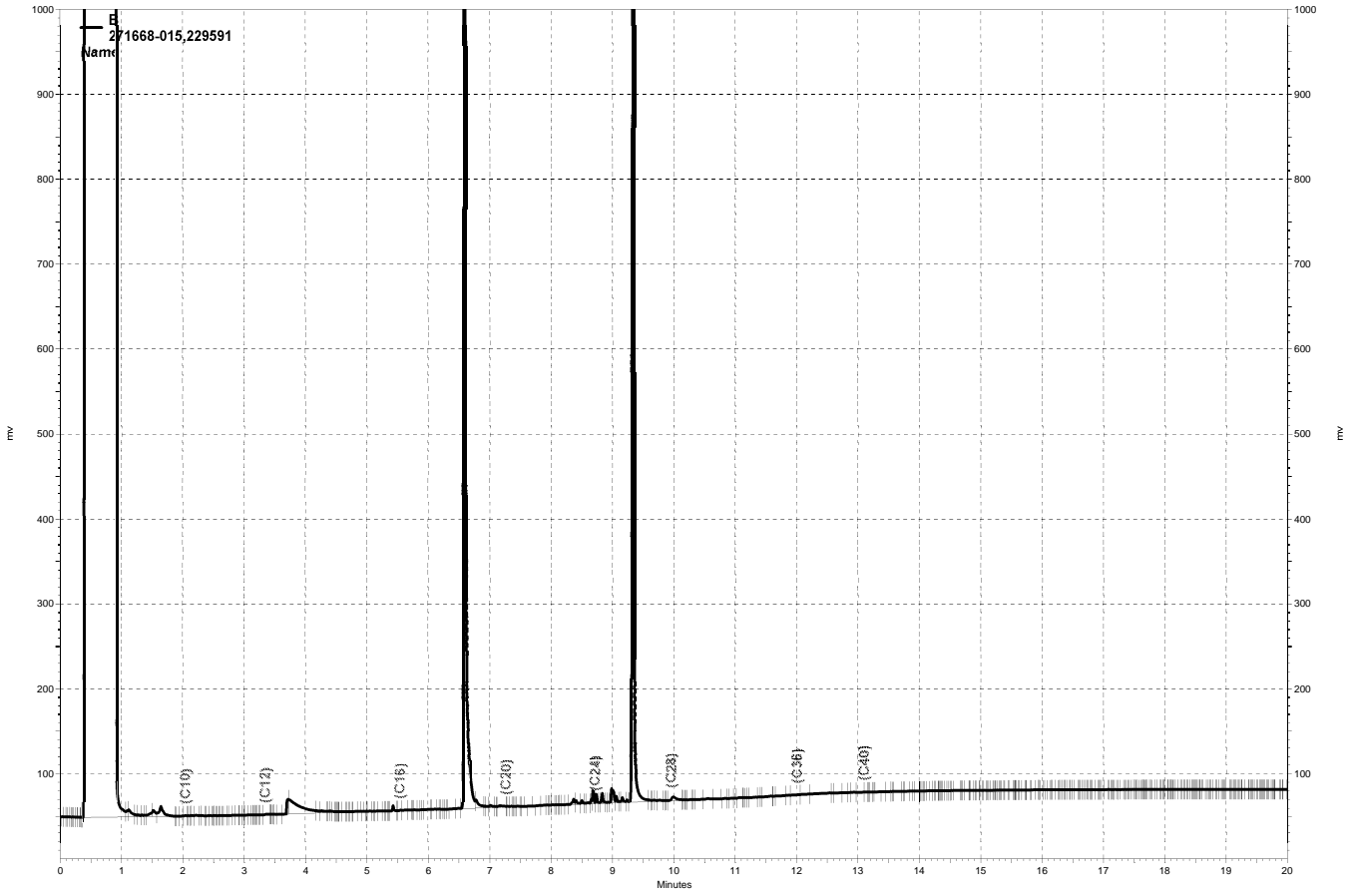
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\323b021, B



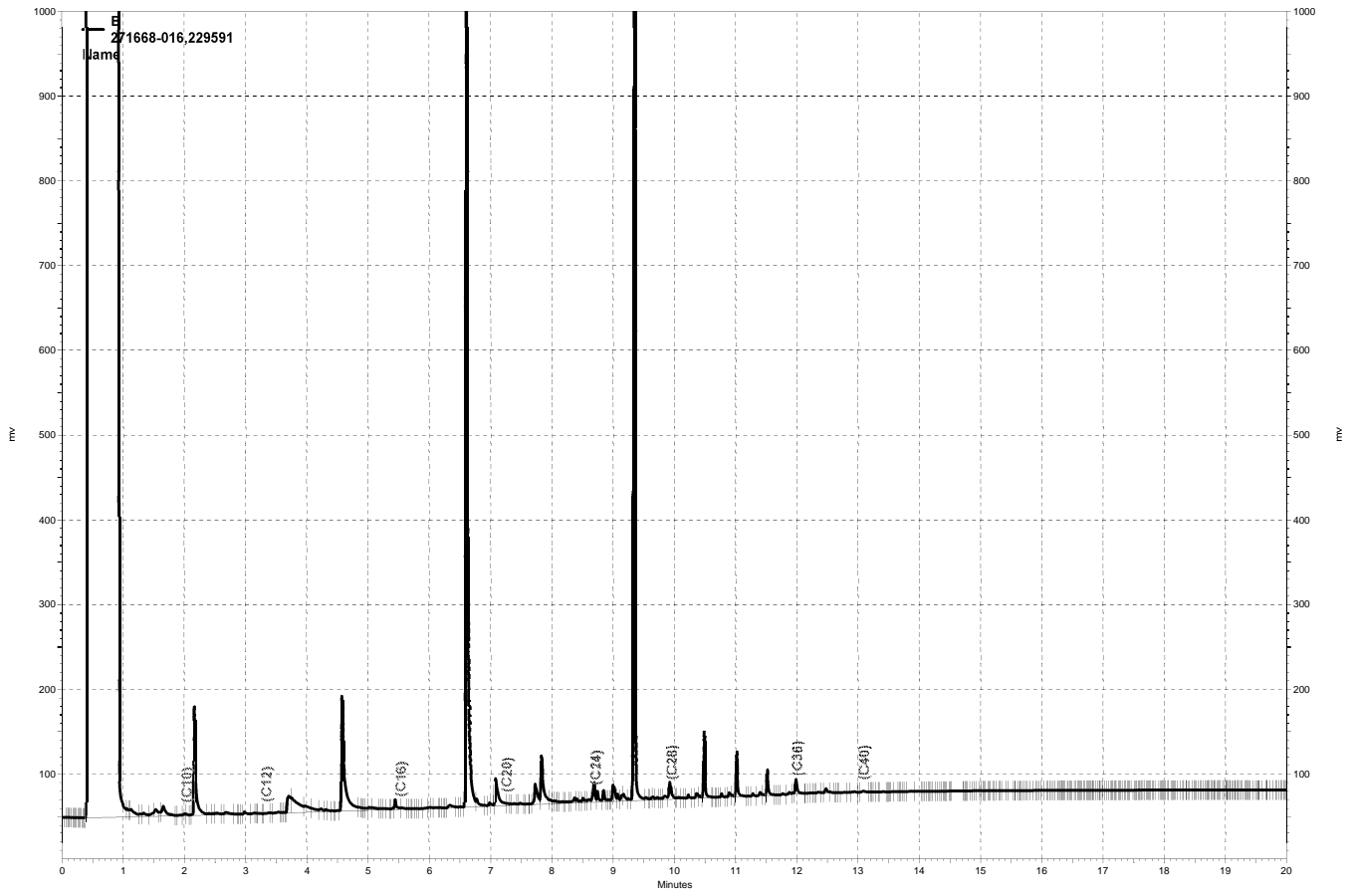
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\323b024, B



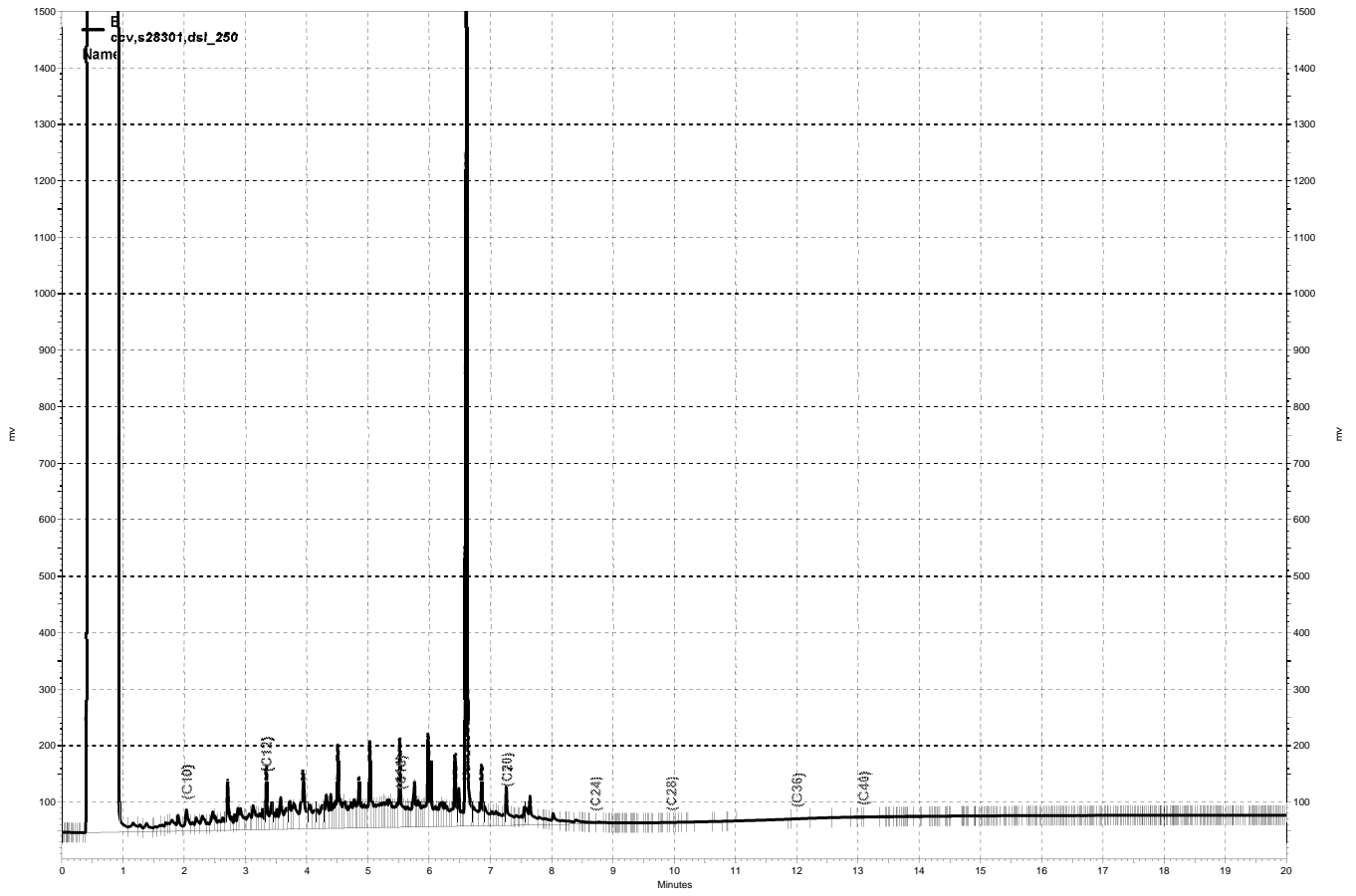
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\323b026, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\323b028, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\323b029, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\323b004, B



**Initial & Continuing Calibration Data**

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCSV Water: EPA 8015B

Inst : GC14B  
 Calnum : 22545430001  
 Units : mg/L

Name : OTPHEX\_315  
 Date : 11-NOV-2015 18:40  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	315_009	225454300009	HEX OTP_5	11-NOV-2015 18:40	S27409
L2	315_010	225454300010	HEX OTP_10	11-NOV-2015 19:10	S27410
L3	315_011	225454300011	HEX OTP_25	11-NOV-2015 19:40	S27411
L4	315_012	225454300012	HEX OTP_50	11-NOV-2015 20:10	S27412
L5	315_013	225454300013	HEX OTP_100	11-NOV-2015 20:40	S27413
L6	315_014	225454300014	HEX OTP_200	11-NOV-2015 21:09	S27414

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	39195	38244	38475	36828	38474	40766	AVRG		2.59E-5		38664	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.0000	1	10.000	-1	25.000	0	50.000	-5	100.00	0	200.00	5

RDG 11/18/15 : Separated from coeluting peak in multiple levels.

RDG 11/18/15 : Corrected automatically drawn baseline in HEX OTP\_200 (315\_014).

Analyst: JDG Date: 11/18/15 Reviewer: EAH Date: 11/18/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCSV Water: EPA 8015B

Inst : GC14B  
 Calnum : 225454300002  
 Units : mg/L

Name : DSL\_315  
 Date : 11-NOV-2015 22:09  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	315_016	225454300016	DSL_10	11-NOV-2015 22:09	S28496
L2	315_017	225454300017	DSL_100	11-NOV-2015 22:39	S28497
L3	315_018	225454300018	DSL_500	11-NOV-2015 23:08	S28498
L4	315_019	225454300019	DSL_1000	11-NOV-2015 23:37	S28499
L5	315_020	225454300020	DSL_5000	12-NOV-2015 00:06	S28495

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	B	40438	35811	33643	33600	33118	AVRG		2.83E-5		35322	9	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	B	10.000	14	100.00	1	500.00	-5	1000.0	-5	5000.0	-6

JDG 11/18/15 : Manually integrated fuel hump in DSL\_10 (315\_016).

JDG: 11/18/15 \* BJP: 11/19/15 EAH: 11/20/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 GCSV Water  
EPA 8015B

Inst : GC14B  
Calnum : 225454300002

Name : DSL\_315  
Cal Date : 11-NOV-2015

ICV 225454300022 (315\_022 12-NOV-2015) stds: S28302

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	B	500.0	481.4	mg/L	-4	15	

JDG: 11/18/15 \*    BJP: 11/19/15    EAH: 11/20/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCSV Water: EPA 8015B

Inst : GC15B  
 Calnum : 165229449002  
 Units : mg/L

Name : DSL\_159  
 Date : 08-JUN-2015 16:06  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	159b011	165229449011	DSL_10	08-JUN-2015 16:06	S27111
L2	159b012	165229449012	DSL_100	08-JUN-2015 16:34	S27112
L3	159b013	165229449013	DSL_500	08-JUN-2015 17:02	S27113
L4	159b014	165229449014	DSL_1000	08-JUN-2015 17:30	S27114
L5	159b015	165229449015	DSL_5000	08-JUN-2015 17:58	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	51297	43811	48117	51433	47837	AVRG		2.06E-5		48499	6	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	6	100.00	-10	500.00	-1	1000.0	6	5000.0	-1

JDG 06/10/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG

Date: 06/10/15

Reviewer: EAH

Date: 06/10/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 GCSV Water  
EPA 8015B

Inst : GC15B  
Calnum : 165229449002

Name : DSL\_159  
Cal Date : 08-JUN-2015

ICV 165229449017 (159b017 08-JUN-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	532.7	mg/L	7	15	

Analyst: JDG

Date: 06/10/15

Reviewer: EAH

Date: 06/10/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCSV Water: EPA 8015B

Inst : GC15B  
 Calnum : 165383482001  
 Units : mg/L

Name : OTPHEX\_266  
 Date : 23-SEP-2015 11:31  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	266b009	165383482009	HEXOTP_5	23-SEP-2015 11:31	S27409
L2	266b010	165383482010	HEXOTP_10	23-SEP-2015 11:59	S27410
L3	266b011	165383482011	HEXOTP_25	23-SEP-2015 12:27	S27411
L4	266b012	165383482012	HEXOTP_50	23-SEP-2015 12:54	S27412
L5	266b013	165383482013	HEXOTP_100	23-SEP-2015 13:22	S27413
L6	266b014	165383482014	HEXOTP_200	23-SEP-2015 13:49	S27414

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	50594	59399	58914	58956	59523	62187	AVRG		1.72E-5		58262	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-13	10.000	2	25.000	1	50.000	1	100.00	2	200.00	7

JDG 09/23/15 [Hexacosane B]: Picked or reassigned peak in HEXOTP\_5 (266b009).

JDG 09/23/15 : Corrected automatically drawn baseline in multiple levels.

JDG 09/23/15 [Hexacosane B]: Samples requiring HEX will not be analyzed on this instrument.

Analyst: JDG

Date: 09/23/15

Reviewer: EAH

Date: 09/23/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC14B                      Run Name : MO\_500                      IDF : 1.0  
 Seqnum : 225464408033              File : 322\_033                      Time : 19-NOV-2015 04:57  
 Cal : 225454300001              Caldate : 11-NOV-2015  
 Standards: S28475

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	B	38664	41409	50.00	53.55	mg/L	7	15	

RDG 11/19/15 : Corrected automatically drawn baseline.

Analyst: RDG                      Date: 11/19/15                      Reviewer: EAH                      Date: 11/19/15



CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC14B                      Run Name : DSL\_1000                      IDF : 1.0  
 Seqnum : 225464408034              File : 322\_034                      Time : 19-NOV-2015 05:27  
 Standards: S28303

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Diesel C10-C24	B	225454300002	11-NOV-2015	35322	34408	1000	974.1	mg/L	-3	15	
o-Terphenyl	B	225454300001	11-NOV-2015	38664	43036	50.00	55.65	mg/L	11	15	

RDG 11/19/15 : Corrected automatically drawn baseline.

Analyst: BJP                      Date: 11/19/15                      Reviewer: EAH                      Date: 11/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC14B                      Run Name : MO\_500                      IDF : 1.0  
 Seqnum : 225464408042              File : 322\_042                      Time : 19-NOV-2015 16:37  
 Cal : 225454300001              Caldate : 11-NOV-2015  
 Standards: S28475

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	B	38664	40823	50.00	52.79	mg/L	6	15	

RDG 11/19/15 : Corrected automatically drawn baseline.

Analyst: RDG                      Date: 11/19/15                      Reviewer: EAH                      Date: 11/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC14B                      Run Name : DSL\_500                      IDF : 1.0  
 Seqnum : 225464408043              File : 322\_043                      Time : 19-NOV-2015 17:06  
 Standards: S28302

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Diesel C10-C24	B	225454300002	11-NOV-2015	35322	33877	500.0	479.6	mg/L	-4	15	
o-Terphenyl	B	225454300001	11-NOV-2015	38664	40542	50.00	52.43	mg/L	5	15	

BJP 11/19/15 : Corrected automatically drawn baseline.

Analyst: BJP                      Date: 11/19/15                      Reviewer: EAH                      Date: 11/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC15B Run Name : MO\_500 IDF : 1.0  
 Seqnum : 165465751003 File : 323b003 Time : 19-NOV-2015 11:26  
 Cal : 165383482001 Caldate : 23-SEP-2015  
 Standards: S28475

Analyte	Avg		Spiked	Quant	Units	%D	Max	%D	Flags
	RF/CF	RF/CF							
o-Terphenyl	58262	61728	50.00	52.97	mg/L	6	15		

RDG 11/19/15 : Corrected automatically drawn baseline.

Analyst: RDG Date: 11/19/15 Reviewer: EAH Date: 11/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC15B                      Run Name : DSL\_250                      IDF : 1.0  
 Seqnum : 165465751004              File : 323b004                      Time : 19-NOV-2015 11:54  
 Standards: S28301

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C24	165229449002	08-JUN-2015	48499	48014	250.0	247.5	mg/L	-1	15	
o-Terphenyl	165383482001	23-SEP-2015	58262	60420	50.00	51.85	mg/L	4	15	

RDG 11/19/15 : Corrected automatically drawn baseline.

Analyst: RDG                      Date: 11/19/15                      Reviewer: EAH                      Date: 11/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC15B                      Run Name : MO\_500                      IDF : 1.0  
 Seqnum : 165465751016          File : 323b016                      Time : 19-NOV-2015 19:19  
 Cal : 165383482001              Caldate : 23-SEP-2015  
 Standards: S28475

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Flags
	RF/CF	RF/CF						
o-Terphenyl	58262	63634	50.00	54.61	mg/L	9	15	

JDG 11/20/15 : Combined split peak.

Analyst: JDG                      Date: 11/20/15                      Reviewer: EAH                      Date: 11/20/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC15B Run Name : DSL\_500 IDF : 1.0  
Seqnum : 165465751017 File : 323b017 Time : 19-NOV-2015 19:47  
Standards: S28302

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C24	165229449002	08-JUN-2015	48499	53155	500.0	548.0	mg/L	10	15	
o-Terphenyl	165383482001	23-SEP-2015	58262	64404	50.00	55.27	mg/L	11	15	

JDG 11/20/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/20/15 Reviewer: EAH Date: 11/20/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Water  
EPA 8015B

Inst : GC15B                      Run Name : DSL\_1000                      IDF : 1.0  
 Seqnum : 165465751032              File : 323b032                      Time : 20-NOV-2015 02:43  
 Standards: S28303

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C24	165229449002	08-JUN-2015	48499	51140	1000	1054	mg/L	5	15	
o-Terphenyl	165383482001	23-SEP-2015	58262	63862	50.00	54.81	mg/L	10	15	

JDG 11/20/15 : Corrected automatically drawn baseline.

Analyst: JDG                      Date: 11/20/15                      Reviewer: EAH                      Date: 11/20/15



## Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165229449

Instrument : GC15B Begun : 06/08/15 08:09  
 Method : EPA 8015B SOP Version : TEH\_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	159b001	X	IB			06/08/15 08:09	1.0	
002	159b002	X	CMARKER			06/08/15 10:43	1.0	1
003	159b003	IB	CALIB			06/08/15 12:21	1.0	
004	159b004	ICAL	HEXOTP_5			06/08/15 12:49	1.0	2
005	159b005	ICAL	HEXOTP_10			06/08/15 13:17	1.0	3
006	159b006	ICAL	HEXOTP_25			06/08/15 13:45	1.0	4
007	159b007	ICAL	HEXOTP_50			06/08/15 14:13	1.0	5
008	159b008	ICAL	HEXOTP_100			06/08/15 14:42	1.0	6
009	159b009	ICAL	HEXOTP_200			06/08/15 15:10	1.0	7
010	159b010	IB	CALIB			06/08/15 15:38	1.0	
011	159b011	ICAL	DSL_10			06/08/15 16:06	1.0	8
012	159b012	ICAL	DSL_100			06/08/15 16:34	1.0	9
013	159b013	ICAL	DSL_500			06/08/15 17:02	1.0	10
014	159b014	ICAL	DSL_1000			06/08/15 17:30	1.0	11
015	159b015	ICAL	DSL_5000			06/08/15 17:58	1.0	12
016	159b016	IB	CALIB			06/08/15 18:26	1.0	
017	159b017	ICV	DSL_500			06/08/15 18:54	1.0	13
018	159b018	X	ICV			06/08/15 19:21	1.0	13
019	159b019	IB	CALIB			06/10/15 08:01	1.0	
020	159b020	CMARKER	C8-C50			06/10/15 08:29	1.0	1
021	159b021	IB	CALIB			06/10/15 08:56	1.0	

JDG 06/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Standards used: 1=S27269 2=S27409 3=S27410 4=S27411 5=S27412 6=S27413 7=S27414 8=S27111 9=S27112 10=S27113 11=S27114  
 12=S27110 13=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165383482

Instrument : GC15B  
 Method : EPA 8015B

Begun : 09/23/15 07:22  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	266b001	X	IB				09/23/15 07:22	1.0	
002	266b002	X	CMARKER				09/23/15 07:49	1.0	1
003	266b003	X	MO_500				09/23/15 08:17	1.0	2
004	266b004	X	DSL_250				09/23/15 08:45	1.0	3
005	266b005	CCV	JET_250				09/23/15 09:13	1.0	4
006	266b006	CCV	MO_500				09/23/15 09:56	1.0	2
007	266b007	CCV	DSL_250				09/23/15 10:24	1.0	3
008	266b008	IB	CALIB				09/23/15 11:03	1.0	
009	266b009	ICAL	HEXOTP_5				09/23/15 11:31	1.0	5
010	266b010	ICAL	HEXOTP_10				09/23/15 11:59	1.0	6
011	266b011	ICAL	HEXOTP_25				09/23/15 12:27	1.0	7
012	266b012	ICAL	HEXOTP_50				09/23/15 12:54	1.0	8
013	266b013	ICAL	HEXOTP_100				09/23/15 13:22	1.0	9
014	266b014	ICAL	HEXOTP_200				09/23/15 13:49	1.0	10
016	266b016	X	CMARKER				09/23/15 14:45	1.0	1
017	266b017	CCV	MO_500				09/23/15 15:12	1.0	2
018	266b018	CCV	DSL_250				09/23/15 15:40	1.0	3
019	266b019	BLANK	QC804745		Water	227441	09/23/15 16:32	1.0	
020	266b020	BLANK	QC804745	S	Water	227441	09/23/15 16:59	1.0	
021	266b021	BS	QC804746		Water	227441	09/23/15 17:27	1.0	
022	266b022	BSD	QC804747		Water	227441	09/23/15 17:54	1.0	
023	266b023	BS	QC804746	S	Water	227441	09/23/15 18:22	1.0	
024	266b024	BSD	QC804747	S	Water	227441	09/23/15 18:49	1.0	
025	266b025	SAMPLE	269947-001	S	Water	227441	09/23/15 19:17	1.0	
026	266b026	SAMPLE	269947-002	S	Water	227441	09/23/15 19:45	1.0	
027	266b027	SAMPLE	269947-006	S	Water	227441	09/23/15 20:13	1.0	
028	266b028	SAMPLE	269947-007	S	Water	227441	09/23/15 20:40	1.0	
029	266b029	SAMPLE	269947-008	S	Water	227441	09/23/15 21:08	1.0	
030	266b030	SAMPLE	269947-009	S	Water	227441	09/23/15 21:36	1.0	
031	266b031	SAMPLE	269947-010	S	Water	227441	09/23/15 22:04	1.0	
032	266b032	SAMPLE	269947-011	S	Water	227441	09/23/15 22:32	1.0	
033	266b033	SAMPLE	269947-012	S	Water	227441	09/23/15 23:00	1.0	
034	266b034	SAMPLE	269947-014	S	Water	227441	09/23/15 23:27	1.0	
035	266b035	X	MO_500				09/23/15 23:55	1.0	2
036	266b036	CCV	DSL_500				09/24/15 00:23	1.0	11
037	266b037	CCV	MO_500				09/24/15 00:50	1.0	2
038	266b038	CCV	DSL_500				09/24/15 01:18	1.0	11
039	266b039	SAMPLE	269947-015	S	Water	227441	09/24/15 01:46	1.0	
040	266b040	SAMPLE	269947-016	S	Water	227441	09/24/15 02:13	1.0	
041	266b041	SAMPLE	269947-017	S	Water	227441	09/24/15 02:41	1.0	
042	266b042	SAMPLE	269947-018	S	Water	227441	09/24/15 03:09	1.0	
043	266b043	SAMPLE	269983-001	S	Water	227441	09/24/15 03:37	1.0	
044	266b044	SAMPLE	269934-001		Water	227441	09/24/15 04:04	1.0	
045	266b045	X	CMARKER				09/24/15 04:32	1.0	1
046	266b046	X	MO_500				09/24/15 05:00	1.0	2
047	266b047	CCV	DSL_1000				09/24/15 05:28	1.0	12
048	266b048	CCV	MO_500				09/24/15 05:56	1.0	2
049	266b049	CCV	DSL_1000				09/24/15 06:23	1.0	12

SFL 09/24/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 49.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165383482

Instrument : GC15B Begun : 09/23/15 07:22  
Method : EPA 8015B SOP Version : TEH\_rv18

Standards used: 1=S27935 2=S27865 3=S27803 4=S28111 5=S27409 6=S27410 7=S27411 8=S27412 9=S27413 10=S27414 11=S27804  
12=S27805

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165465751

Instrument : GC15B Begun : 11/19/15 10:31  
 Method : EPA 8015B SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	323b001	X	IB				11/19/15 10:31	1.0	
002	323b002	X	CMARKER				11/19/15 10:58	1.0	1
003	323b003	CCV	MO_500				11/19/15 11:26	1.0	2
004	323b004	CCV	DSL_250				11/19/15 11:54	1.0	3
005	323b005	BLANK	QC813398		Water	229591	11/19/15 14:14	1.0	
006	323b006	SAMPLE	271750-001		Water	229591	11/19/15 14:41	1.0	
007	323b007	SAMPLE	271302-004	S	Water	229500	11/19/15 15:09	5.0	
008	323b008	SAMPLE	271302-019	S	Water	229500	11/19/15 15:37	5.0	
009	323b009	SAMPLE	271735-004	S	Soil	229575	11/19/15 16:04	1.0	
010	323b010	SAMPLE	271735-009	S	Soil	229575	11/19/15 16:32	1.0	
011	323b011	SAMPLE	271735-010	S	Soil	229575	11/19/15 17:00	1.0	1:HXCS=210
012	323b012	SAMPLE	271668-003		Water	229591	11/19/15 17:28	1.0	
013	323b013	SAMPLE	271668-004		Water	229591	11/19/15 17:55	1.0	
014	323b014	SAMPLE	271668-005		Water	229591	11/19/15 18:23	1.0	
015	323b015	SAMPLE	271668-006		Water	229591	11/19/15 18:51	1.0	
016	323b016	CCV	MO_500				11/19/15 19:19	1.0	2
017	323b017	CCV	DSL_500				11/19/15 19:47	1.0	4
018	323b018	X	CCV				11/19/15 20:15	1.0	2
019	323b019	X	CCV				11/19/15 20:43	1.0	4
020	323b020	SAMPLE	271668-007		Water	229591	11/19/15 21:11	1.0	
021	323b021	SAMPLE	271668-008		Water	229591	11/19/15 21:39	1.0	
022	323b022	SAMPLE	271668-009		Water	229591	11/19/15 22:07	1.0	
023	323b023	SAMPLE	271668-010		Water	229591	11/19/15 22:34	1.0	
024	323b024	SAMPLE	271668-011		Water	229591	11/19/15 23:02	1.0	
025	323b025	SAMPLE	271668-012		Water	229591	11/19/15 23:30	1.0	
026	323b026	SAMPLE	271668-013		Water	229591	11/19/15 23:57	1.0	
027	323b027	SAMPLE	271668-014		Water	229591	11/20/15 00:25	1.0	
028	323b028	SAMPLE	271668-015		Water	229591	11/20/15 00:52	1.0	
029	323b029	SAMPLE	271668-016		Water	229591	11/20/15 01:20	1.0	
030	323b030	X	CMARKER				11/20/15 01:48	1.0	1
031	323b031	X	MO_500				11/20/15 02:15	1.0	2
032	323b032	CCV	DSL_1000				11/20/15 02:43	1.0	5
033	323b033	CCV	MO_500				11/20/15 03:11	1.0	2
034	323b034	X	CCV				11/20/15 03:38	1.0	5

JDG 11/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 34.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225454300

Instrument : GC14B Begun : 11/11/15 10:54  
 Method : EPA 8015B SOP Version : TEH\_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	315_001	X	IB			11/11/15 10:54	1.0		
002	315_002	X	IB			11/11/15 11:40	1.0		
003	315_003	X	IB			11/11/15 12:10	1.0		
004	315_004	X	IB			11/11/15 14:36	1.0		
005	315_005	X	CMARKER			11/11/15 15:06	1.0	1	
006	315_006	X	IB			11/11/15 17:11	1.0		
007	315_007	X	IB			11/11/15 17:41	1.0		
008	315_008	IB	CALIB			11/11/15 18:11	1.0		
009	315_009	ICAL	HEX OTP_5			11/11/15 18:40	1.0	2	
010	315_010	ICAL	HEX OTP_10			11/11/15 19:10	1.0	3	
011	315_011	ICAL	HEX OTP_25			11/11/15 19:40	1.0	4	
012	315_012	ICAL	HEX OTP_50			11/11/15 20:10	1.0	5	
013	315_013	ICAL	HEX OTP_100			11/11/15 20:40	1.0	6	
014	315_014	ICAL	HEX OTP_200			11/11/15 21:09	1.0	7	
015	315_015	IB	CALIB			11/11/15 21:40	1.0		
016	315_016	ICAL	DSL_10			11/11/15 22:09	1.0	8	
017	315_017	ICAL	DSL_100			11/11/15 22:39	1.0	9	
018	315_018	ICAL	DSL_500			11/11/15 23:08	1.0	10	
019	315_019	ICAL	DSL_1000			11/11/15 23:37	1.0	11	
020	315_020	ICAL	DSL_5000			11/12/15 00:06	1.0	12	
021	315_021	IB	CALIB			11/12/15 00:36	1.0		
022	315_022	ICV	DSL_500			11/12/15 01:05	1.0	13	
023	315_023	X	ICV			11/12/15 01:34	1.0	13	
024	315_024	IB	CALIB			11/12/15 02:03	1.0		
025	315_025	ICAL	MO_50			11/12/15 02:32	1.0	14	
026	315_026	ICAL	MO_250			11/12/15 03:00	1.0	15	
027	315_027	ICAL	MO_500			11/12/15 03:30	1.0	16	
028	315_028	ICAL	MO_1000			11/12/15 03:59	1.0	17	
029	315_029	ICAL	MO_2500			11/12/15 04:29	1.0	18	
030	315_030	ICAL	MO_5000			11/12/15 04:59	1.0	18	
031	315_031	IB	CALIB			11/12/15 05:29	1.0		
032	315_032	CMARKER	C8-C50			11/12/15 06:00	1.0	1	5:BUNKC:10-40=19000
033	315_033	IB	CALIB			11/12/15 06:31	1.0		

JDG 11/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 33.

Standards used: 1=S27935 2=S27409 3=S27410 4=S27411 5=S27412 6=S27413 7=S27414 8=S28496 9=S28497 10=S28498 11=S28499  
 12=S28495 13=S28302 14=S27679 15=S27680 16=S27681 17=S27682 18=S27678

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225464408

Instrument : GC14B  
 Method : EPA 8015B

Begun : 11/18/15 12:08  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
002	322_002	X	CMARKER				11/18/15 12:08	1.0	1	
003	322_003	CCV	MO_500				11/18/15 12:38	1.0	2	
004	322_004	CCV	DSL_250				11/18/15 13:08	1.0	3	
005	322_005	BLANK	QC813027	S	Water	229500	11/18/15 15:04	1.0		
006	322_006	BS	QC813028	S	Water	229500	11/18/15 15:33	1.0		
007	322_007	BSD	QC813029	S	Water	229500	11/18/15 16:02	1.0		
008	322_008	SAMPLE	271528-001		Water	229496	11/18/15 16:32	1.0		
009	322_009	SAMPLE	271528-003		Water	229496	11/18/15 17:01	1.0		
010	322_010	SAMPLE	271528-004		Water	229496	11/18/15 17:31	1.0		
011	322_011	MSS	271528-005		Water	229496	11/18/15 18:02	1.0		
012	322_012	SAMPLE	271528-006		Water	229496	11/18/15 18:32	1.0		
013	322_013	SAMPLE	271528-007		Water	229496	11/18/15 19:02	1.0		
014	322_014	SAMPLE	271528-008		Water	229496	11/18/15 19:33	1.0		
015	322_015	SAMPLE	271528-009		Water	229496	11/18/15 20:03	1.0		
016	322_016	SAMPLE	271528-010		Water	229496	11/18/15 20:33	1.0		
017	322_017	MSS	271528-011		Water	229496	11/18/15 21:03	1.0		
018	322_018	CCV	MO_500				11/18/15 21:33	1.0	2	
019	322_019	CCV	DSL_500				11/18/15 22:03	1.0	4	
020	322_020	X	CCV				11/18/15 22:33	1.0	2	
021	322_021	X	CCV				11/18/15 23:02	1.0	4	
022	322_022	MS	QC813014		Water	229496	11/18/15 23:32	1.0		
023	322_023	MSD	QC813015		Water	229496	11/19/15 00:01	1.0		
024	322_024	MS	QC813016		Water	229496	11/19/15 00:30	1.0		
025	322_025	MSD	QC813017		Water	229496	11/19/15 01:00	1.0		
026	322_026	SAMPLE	271499-001		Water	229442	11/19/15 01:29	1.0		
027	322_027	SAMPLE	271634-013		Soil	229547	11/19/15 01:58	1.0		
028	322_028	SAMPLE	271634-014		Soil	229547	11/19/15 02:28	1.0		
029	322_029	SAMPLE	271634-015		Soil	229547	11/19/15 02:57	1.0		
030	322_030	SAMPLE	271302-004	S	Water	229500	11/19/15 03:26	1.0		8:BUNKC:10-40=17000
031	322_031	SAMPLE	271302-019	S	Water	229500	11/19/15 03:57	1.0		8:BUNKC:10-40=24000
032	322_032	X	CMARKER				11/19/15 04:27	1.0	1	
033	322_033	CCV	MO_500				11/19/15 04:57	1.0	2	
034	322_034	CCV	DSL_1000				11/19/15 05:27	1.0	5	
035	322_035	X	CCV				11/19/15 05:57	1.0	2	
036	322_036	X	CCV				11/19/15 06:27	1.0	5	
037	322_037	BLANK	QC813398	S	Water	229591	11/19/15 13:43	1.0		
038	322_038	BS	QC813399	S	Water	229591	11/19/15 14:13	1.0		
039	322_039	BSD	QC813400	S	Water	229591	11/19/15 14:43	1.0		
040	322_040	SAMPLE	271770-001	S	Water	229591	11/19/15 15:12	1.0		
041	322_041	X	CMARKER				11/19/15 16:07	1.0	1	
042	322_042	CCV	MO_500				11/19/15 16:37	1.0	2	
043	322_043	CCV	DSL_500				11/19/15 17:06	1.0	4	
044	322_044	BLANK	QC813435	S	Soil	229599	11/19/15 17:50	1.0		
045	322_045	LCS	QC813436	S	Soil	229599	11/19/15 18:20	1.0		
046	322_046	SAMPLE	271735-011	S	Soil	229575	11/19/15 18:50	1.0		
047	322_047	SAMPLE	271735-012	S	Soil	229575	11/19/15 19:21	1.0		
048	322_048	SAMPLE	271735-013	S	Soil	229575	11/19/15 19:51	1.0		
049	322_049	SAMPLE	271735-014	S	Soil	229575	11/19/15 20:21	1.0		
050	322_050	SAMPLE	271735-015	S	Soil	229599	11/19/15 20:52	1.0		
051	322_051	SAMPLE	271735-016	S	Soil	229599	11/19/15 21:22	1.0		
052	322_052	SAMPLE	271735-017	S	Soil	229599	11/19/15 21:52	1.0		
053	322_053	SAMPLE	271735-018	S	Soil	229599	11/19/15 22:21	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225464408

Instrument : GC14B Begun : 11/18/15 12:08  
 Method : EPA 8015B SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
054	322_054	SAMPLE	271630-001	S	Water	229591	11/19/15 22:51	1.0	
055	322_055	SAMPLE	271630-002	S	Water	229591	11/19/15 23:20	1.0	
056	322_056	CCV	MO_500				11/19/15 23:50	1.0	2
057	322_057	CCV	DSL_1000				11/20/15 00:19	1.0	5

BJP 11/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 43.



SAMPLE PREPARATION SUMMARY

Batch # : 229591  
 Started By : ARW  
 Method : 3520C  
 Spike #1 ID : S28476

Prep Date : 18-NOV-2015 13:30  
 SOP Version : TEH\_3520\_rv15  
 Spike #2 ID : S28481

Analysis : TEH  
 Finished By : GDM  
 Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
271630-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271630-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271630-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271630-004		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271668-003		Water	1000	5	1	0.005	7	1				TEH	
271668-004		Water	500	2.5	1	0.005	7	.5				TEH	
271668-005		Water	500	2.5	1	0.005	7	.5				TEH	
271668-006		Water	500	2.5	1	0.005	7	.5				TEH	
271668-007		Water	500	2.5	1	0.005	7	.5				TEH	
271668-008		Water	500	2.5	1	0.005	7	.5				TEH	
271668-009		Water	500	2.5	1	0.005	7	.5				TEH	
271668-010		Water	500	2.5	1	0.005	7	.5				TEH	
271668-011		Water	500	2.5	1	0.005	7	.5				TEH	
271668-012		Water	500	2.5	1	0.005	7	.5				TEH	
271668-013		Water	500	2.5	1	0.005	7	.5				TEH	
271668-014		Water	500	2.5	1	0.005	7	.5				TEH	
271668-015		Water	500	2.5	1	0.005	7	.5				TEH	
271668-016		Water	500	2.5	1	0.005	7	.5				TEH	
271750-001		Water	1070	5	1	0.004673	7	1				TEHM	
271770-001		Water	510	2.5	1	0.004902		.5			3630C	TEHM	Prepped 18-NOV-2015 15:55
QC813398	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC813399	BS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC813400	BSD	Water	500	2.5	1	0.005		.5	.5		3630C		

BJP 11/19/15 : Matrix spikes were not performed for this analysis in batch 229591 due to insufficient sample amount.

EAH 11/19/15 : Reviewed for 271770.

BJP: 11/19/15      JDG: 11/20/15      EAH: 11/20/15

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

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BK 3680

LIMS Batch No: 229591  
 LIMS Analysis: TEH/LM  
 Date Extracted: 11/16/15

Extraction Method:  
 EPA 3520c cont. L/L  
 \_\_\_\_\_

Cleanup Method (if needed):  
 EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
271430-001	E	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	
2	E	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	
3	E	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	
4	D	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	
5 271608-003	H	<input type="checkbox"/> 500 <input checked="" type="checkbox"/> 1000	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input type="checkbox"/> 2.5 <input checked="" type="checkbox"/> 5.0	<input checked="" type="checkbox"/> $\leq 2$ pH *	
6	K	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	
7	G	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/2" sediment
8	G	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/4"
9	G	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/2"
10 10	G	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/4"
11	G	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/2"
12	H	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/4"
13	G	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/4"
14	H	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/4"
15 15	G	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/2"
16	G	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	1/4"
271780-001	H	<input type="checkbox"/> 500 <input checked="" type="checkbox"/> 1000	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input type="checkbox"/> 2.5 <input checked="" type="checkbox"/> 5.0	<input checked="" type="checkbox"/> $\leq 2$ pH *	
20 MS 2C 87398	WA	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/> WA	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	
MS 399	+	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/> WA	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	
MS 400	+	<input checked="" type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/> WA	<input checked="" type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	
271770-001	1	<input type="checkbox"/> 500 <input checked="" type="checkbox"/> 500	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input type="checkbox"/> 2.5 <input type="checkbox"/>	<input checked="" type="checkbox"/> $\leq 2$ pH	n/a @ 1:55
		<input type="checkbox"/> 500 <input type="checkbox"/>	<input checked="" type="checkbox"/> 7 <input type="checkbox"/>	<input type="checkbox"/> 2.5 <input type="checkbox"/>	<input type="checkbox"/> $\leq 2$ pH	

MS/MSD not included due to:  insufficient volume, or  other (reason)

\* Sonicated @ 1.0mL

0.5 mL of TEH\_SURR was added to all samples  
 0.5 mL of TEH\_SP was added to all spikes  
 pH of all samples adjusted to pH  $\leq 2$  with H<sub>2</sub>SO<sub>4</sub>

3520c: Samples were continually extracted about 450 mL of CH<sub>2</sub>Cl<sub>2</sub>

Extraction Start Time:

Extraction End Time:

3510c: Samples were extracted 3 times with 60 mL of CH<sub>2</sub>Cl<sub>2</sub>  
 Extracts filtered through baked, CH<sub>2</sub>Cl<sub>2</sub>-rinsed granular Na<sub>2</sub>SO<sub>4</sub>  
 Concentrated to final volume at temperature (degrees C)

Relinquished to TEH Department

Mfg & Lot# / LIMS # / Time Date/ Initials

S28476E	APM 11/18/15
S28481C	
FS15.2524	
EMSS175	
1770/1155	
0930/1155	ART 11/19/15
NA	ARW to GDM
EM2535C502	11/19/15
1.0	

[Signature] 11/18/15  
 Extraction Chemist Date

Continued from Page \_\_\_\_\_  
 Continued on Page \_\_\_\_\_

[Signature] 11/19/15  
 Reviewed by Date

Prep Chemist: GDM  
 Cleanup Date: 11/19/15

Benchbook # **BK 3729**  
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Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
271630-001	229591	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	
2		<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	
3		<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	
4		<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	
5 271770-001		<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	
MB QCB13398		<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	
BS 399		<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	
BSD 400		<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	<input checked="" type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
10		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
15		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
20		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
25		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	
30		<input type="checkbox"/> 1.0 <input type="checkbox"/>	<input type="checkbox"/> 1.0 <input type="checkbox"/>	

Extracts were cleaned up using C&T assembled 1.0 g columns  
 Extracts were cleaned up using \_\_\_\_\_ g cartridges  
 Extracts were eluted with 4.0 mL CH<sub>2</sub>Cl<sub>2</sub>  
 Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
V14A041	GDM 11/19/15
N/A	
EMSS175	

[Signature] 11/19/15  
 Extraction Chemist / Date

Continued from page /  
 Continued on page /

[Signature] 11/19/15  
 Reviewed by / Date

Laboratory Job Number 271668

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Soil

Total Extractable Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3550B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	11/13/15
Units:	mg/Kg	Received:	11/16/15
Basis:	dry	Prepared:	11/17/15
Diln Fac:	1.000	Analyzed:	11/18/15
Batch#:	229547		

Field ID: COMP-1-NS                      Lab ID: 271668-001  
 Type: SAMPLE                              Moisture: 12%

Analyte	Result	RL
Diesel C10-C24	24 Y	1.1

Surrogate	%REC	Limits
o-Terphenyl	116	59-140

Field ID: COMP-2-NS                      Lab ID: 271668-002  
 Type: SAMPLE                              Moisture: 12%

Analyte	Result	RL
Diesel C10-C24	31 Y	1.1

Surrogate	%REC	Limits
o-Terphenyl	122	59-140

Type: BLANK                                      Lab ID: QC813210

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
o-Terphenyl	118	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3550B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC813211	Batch#:	229547
Matrix:	Soil	Prepared:	11/17/15
Units:	mg/Kg	Analyzed:	11/18/15

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.05	48.13	96	58-137

Surrogate	%REC	Limits
o-Terphenyl	109	59-140

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3550B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	229547
MSS Lab ID:	271667-001	Sampled:	11/16/15
Matrix:	Soil	Received:	11/16/15
Units:	mg/Kg	Prepared:	11/17/15
Basis:	as received	Analyzed:	11/18/15
Diln Fac:	1.000		

Type: MS Lab ID: QC813212

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	8.170	50.24	52.22	88	46-154

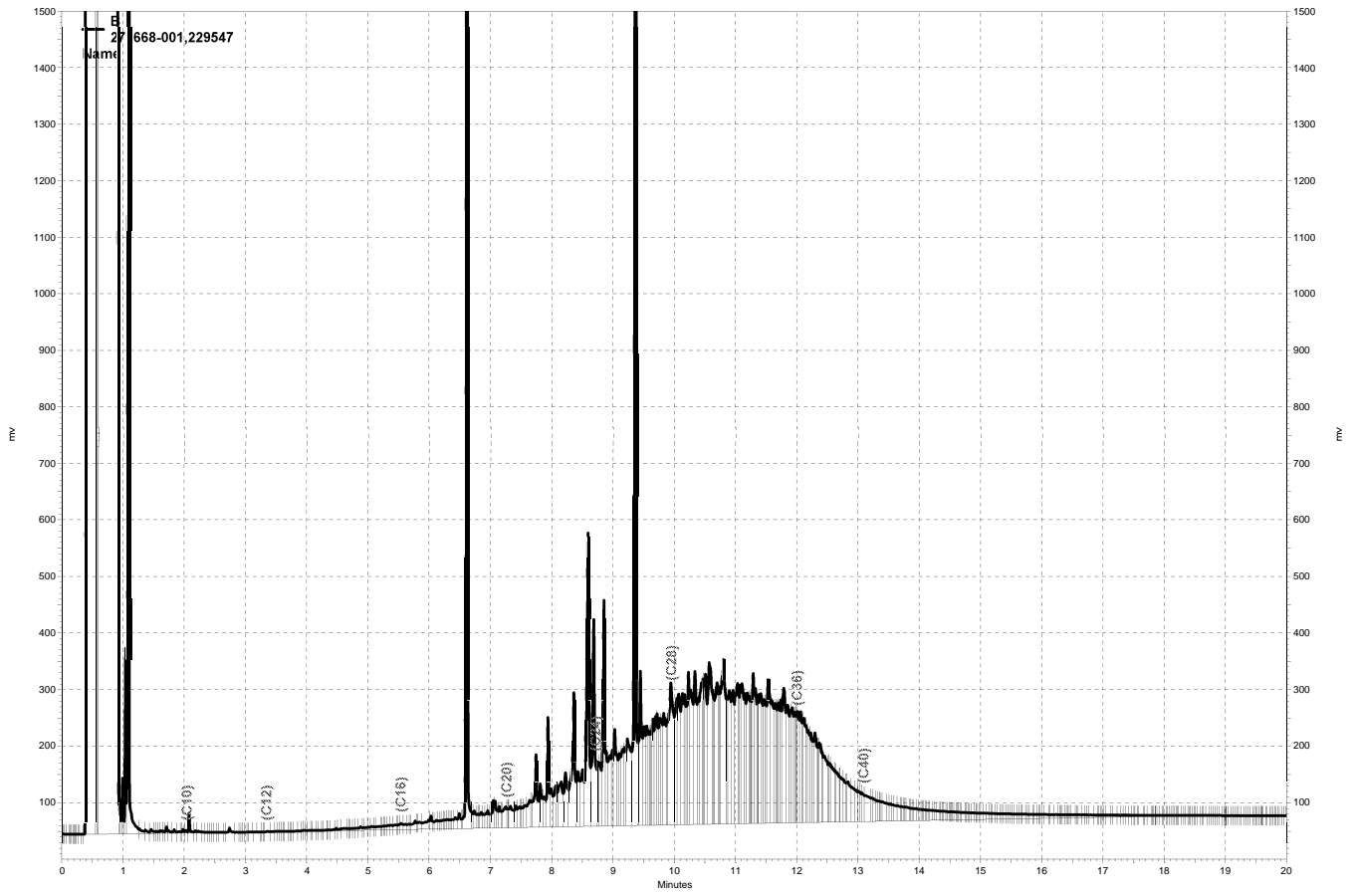
Surrogate	%REC	Limits
o-Terphenyl	116	59-140

Type: MSD Lab ID: QC813213

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.05	50.65	85	46-154	3	50

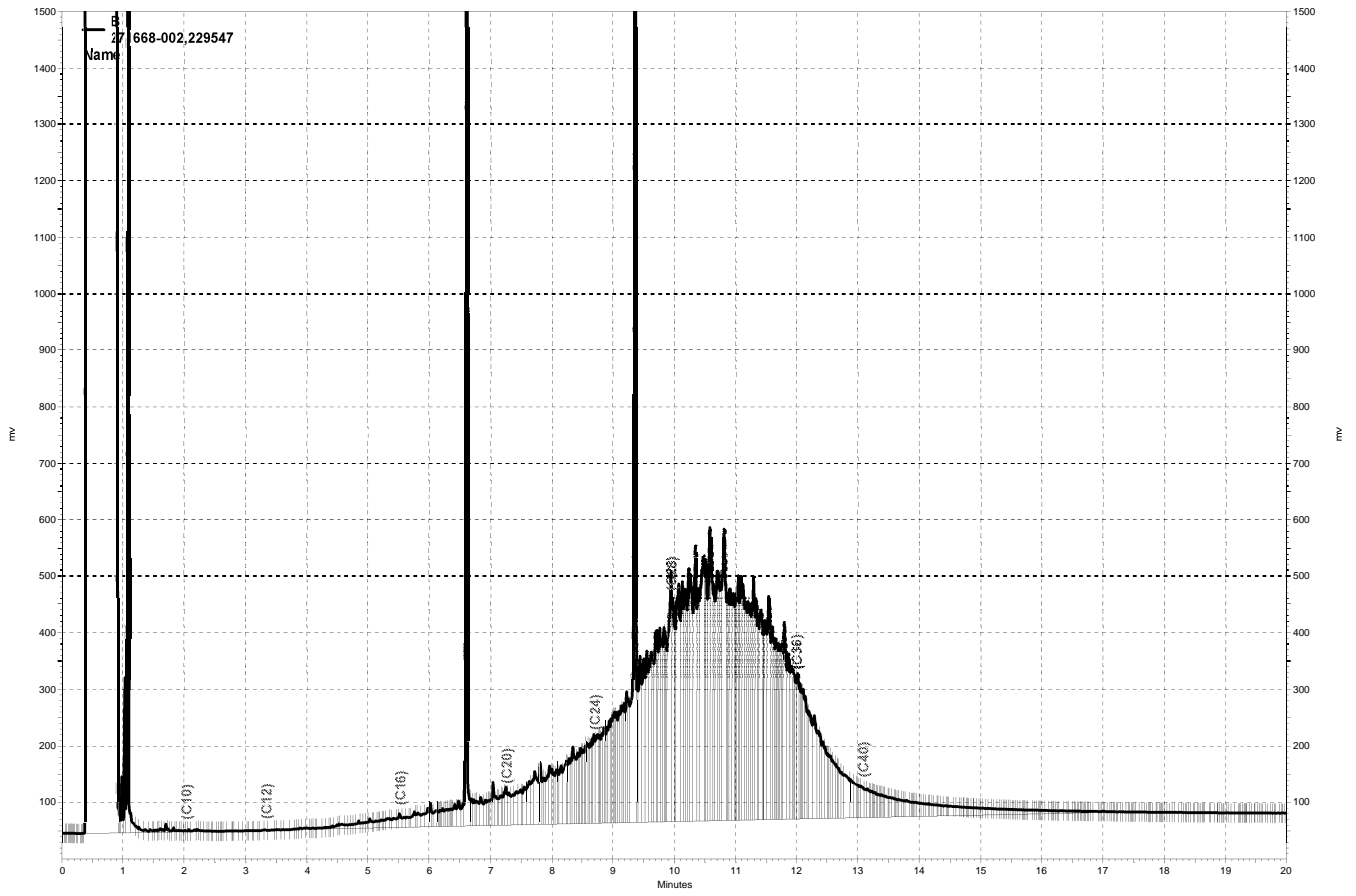
Surrogate	%REC	Limits
o-Terphenyl	111	59-140

RPD= Relative Percent Difference

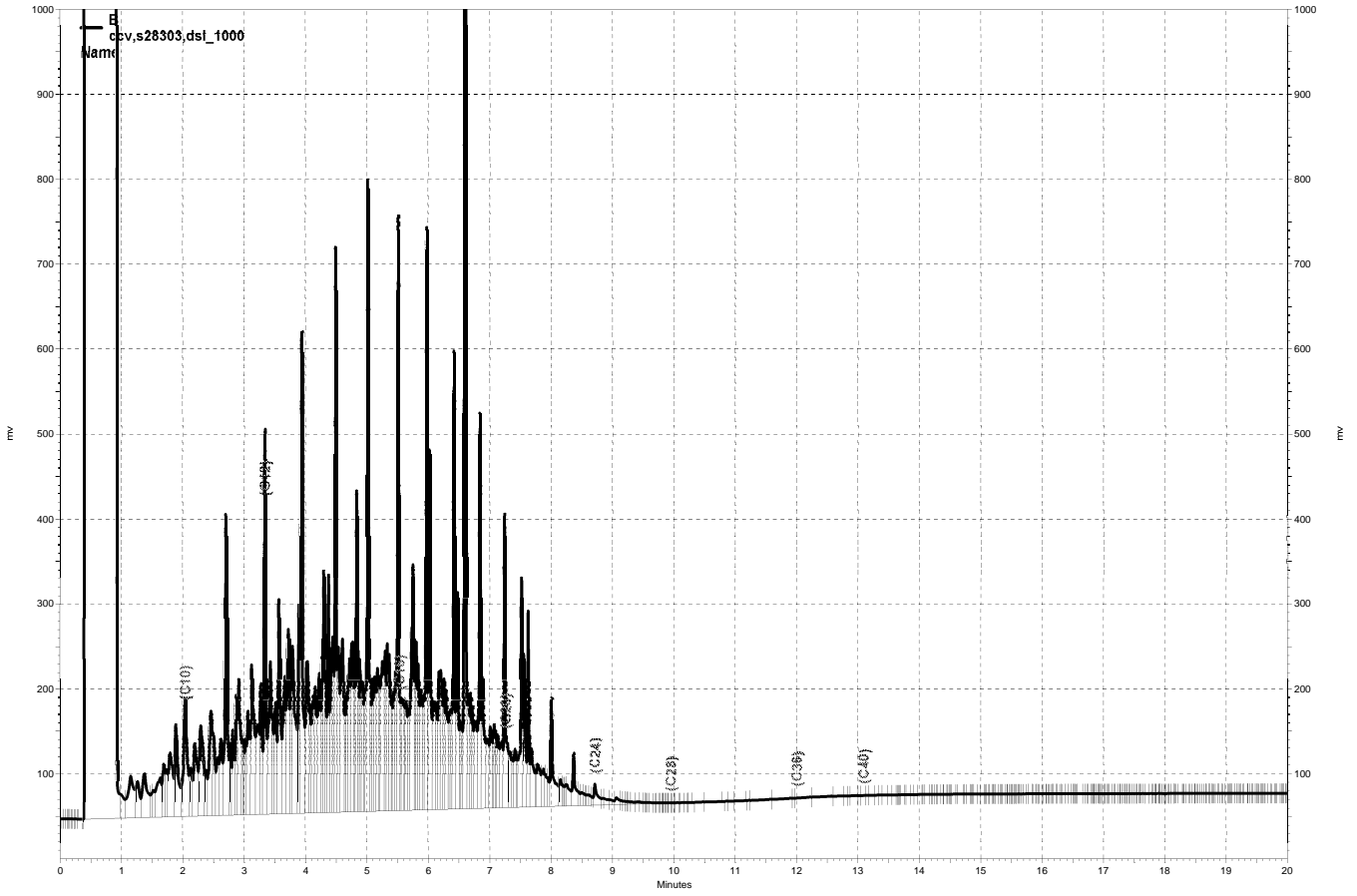


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— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\320b110, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\320b082, B

**Initial & Continuing Calibration Data**

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCSV Soil: EPA 8015B

Inst : GC15B  
 Calnum : 165229449002  
 Units : mg/L

Name : DSL\_159  
 Date : 08-JUN-2015 16:06  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	159b011	165229449011	DSL_10	08-JUN-2015 16:06	S27111
L2	159b012	165229449012	DSL_100	08-JUN-2015 16:34	S27112
L3	159b013	165229449013	DSL_500	08-JUN-2015 17:02	S27113
L4	159b014	165229449014	DSL_1000	08-JUN-2015 17:30	S27114
L5	159b015	165229449015	DSL_5000	08-JUN-2015 17:58	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	51297	43811	48117	51433	47837	AVRG		2.06E-5		48499	6	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	6	100.00	-10	500.00	-1	1000.0	6	5000.0	-1

JDG 06/10/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG

Date: 06/10/15

Reviewer: EAH

Date: 06/10/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC15B  
Calnum : 165229449002

Name : DSL\_159  
Cal Date : 08-JUN-2015

ICV 165229449017 (159b017 08-JUN-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	532.7	mg/L	7	15	

Analyst: JDG

Date: 06/10/15

Reviewer: EAH

Date: 06/10/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCSV Soil: EPA 8015B

Inst : GC15B  
 Calnum : 165383482001  
 Units : mg/L

Name : OTPHEX\_266  
 Date : 23-SEP-2015 11:31  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	266b009	165383482009	HEXOTP_5	23-SEP-2015 11:31	S27409
L2	266b010	165383482010	HEXOTP_10	23-SEP-2015 11:59	S27410
L3	266b011	165383482011	HEXOTP_25	23-SEP-2015 12:27	S27411
L4	266b012	165383482012	HEXOTP_50	23-SEP-2015 12:54	S27412
L5	266b013	165383482013	HEXOTP_100	23-SEP-2015 13:22	S27413
L6	266b014	165383482014	HEXOTP_200	23-SEP-2015 13:49	S27414

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	50594	59399	58914	58956	59523	62187	AVRG		1.72E-5		58262	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-13	10.000	2	25.000	1	50.000	1	100.00	2	200.00	7

JDG 09/23/15 [Hexacosane B]: Picked or reassigned peak in HEXOTP\_5 (266b009).

JDG 09/23/15 : Corrected automatically drawn baseline in multiple levels.

JDG 09/23/15 [Hexacosane B]: Samples requiring HEX will not be analyzed on this instrument.

Analyst: JDG

Date: 09/23/15

Reviewer: EAH

Date: 09/23/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCSV Soil: EPA 8015B

Inst : GC17A  
 Calnum : 175247623002  
 Units : mg/L

Name : DSL\_171  
 Date : 20-JUN-2015 15:31  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	171a010	175247623010	DSL_10	20-JUN-2015 15:31	S27111
L2	171a011	175247623011	DSL_100	20-JUN-2015 15:59	S27112
L3	171a012	175247623012	DSL_500	20-JUN-2015 16:27	S27113
L4	171a013	175247623013	DSL_1000	20-JUN-2015 16:56	S27114
L5	171a014	175247623014	DSL_5000	20-JUN-2015 17:24	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	59139	64770	65011	65212	64156	AVRG		1.57E-5		63657	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-7	100.00	2	500.00	2	1000.0	2	5000.0	1

JDG 06/22/15 : Corrected automatically drawn baseline in DSL\_10 (171a010).

Analyst: JDG

Date: 06/22/15

Reviewer: EAH

Date: 06/22/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC17A  
Calnum : 175247623002

Name : DSL\_171  
Cal Date : 20-JUN-2015

ICV 175247623016 (171a016 20-JUN-2015) stds: S27446

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	495.1	mg/L	-1	15	

Analyst: JDG

Date: 06/22/15

Reviewer: EAH

Date: 06/22/15



CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 GCSV Soil: EPA 8015B

Inst : GC17A  
 Calnum : 175394216001  
 Units : mg/L

Name : OTPHEX\_273  
 Date : 30-SEP-2015 19:13  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	273a003	175394216003	HEXOTP_5	30-SEP-2015 19:13	S27409
L2	273a004	175394216004	HEXOTP_10	30-SEP-2015 19:41	S27410
L3	273a005	175394216005	HEXOTP_25	30-SEP-2015 20:09	S27411
L4	273a006	175394216006	HEXOTP_50	30-SEP-2015 20:37	S27412
L5	273a007	175394216007	HEXOTP_100	30-SEP-2015 21:06	S27413
L6	273a008	175394216008	HEXOTP_200	30-SEP-2015 21:34	S27414

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71460	70831	71260	68676	69800	75121	AVRG		1.40E-5		71191	3	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	0	10.000	-1	25.000	0	50.000	-4	100.00	-2	200.00	6

JDG 10/01/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG

Date: 10/01/15

Reviewer: EAH

Date: 10/01/15

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC15B                      Run Name : DSL\_1000                      IDF : 1.0  
 Seqnum : 165461246082              File : 320b082                      Time : 18-NOV-2015 04:39  
 Standards: S28303

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165229449002	08-JUN-2015	48499	47991	1000	989.5	mg/L	-1	15	
o-Terphenyl	165383482001	23-SEP-2015	58262	59003	50.00	50.64	mg/L	1	15	

JDG 11/18/15 : Corrected automatically drawn baseline.

Analyst: JDG                      Date: 11/18/15                      Reviewer: EAH                      Date: 11/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC15B                      Run Name : JP5\_250                      IDF : 1.0  
 Seqnum : 165461246089              File : 320b089                      Time : 18-NOV-2015 08:33  
 Cal : 165383482001              Caldate : 23-SEP-2015  
 Standards: S28313

Analyte	Avg		Spiked	Quant	Units	%D	Max	%D	Flags
	RF/CF	RF/CF							
o-Terphenyl	58262	61169	50.00	52.49	mg/L	5	15		

Analyst: JDG                      Date: 11/18/15                      Reviewer: EAH                      Date: 11/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC15B Run Name : MO\_500 IDF : 1.0  
Seqnum : 165461246095 File : 320b095 Time : 18-NOV-2015 13:48  
Cal : 165383482001 Caldate : 23-SEP-2015  
Standards: S28475

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Flags
	RF/CF	RF/CF						
o-Terphenyl	58262	63569	50.00	54.55	mg/L	9	15	

BJP 11/18/15 : Corrected automatically drawn baseline.

Analyst: BJP Date: 11/18/15 Reviewer: EAH Date: 11/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC15B                      Run Name : DSL\_250                      IDF : 1.0  
 Seqnum : 165461246096              File : 320b096                      Time : 18-NOV-2015 14:15  
 Standards: S28301

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165229449002	08-JUN-2015	48499	45367	250.0	233.9	mg/L	-6	15	
o-Terphenyl	165383482001	23-SEP-2015	58262	58292	50.00	50.03	mg/L	0	15	

BJP 11/18/15 : Corrected automatically drawn baseline.

Analyst: BJP                      Date: 11/18/15                      Reviewer: EAH                      Date: 11/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC15B                      Run Name : DSL\_500                      IDF : 1.0  
 Seqnum : 165461246113              File : 320b113                      Time : 18-NOV-2015 22:43  
 Standards: S28302

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165229449002	08-JUN-2015	48499	54313	500.0	559.9	mg/L	12	15	
o-Terphenyl	165383482001	23-SEP-2015	58262	66947	50.00	57.45	mg/L	15	15	

BJP 11/19/15 : Corrected automatically drawn baseline.

Analyst: BJP                      Date: 11/19/15                      Reviewer: EAH                      Date: 11/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC17A                      Run Name : MO\_500                      IDF : 1.0  
 Seqnum : 175461248095              File : 320a095                      Time : 18-NOV-2015 08:52  
 Cal : 175394216001              Caldate : 30-SEP-2015  
 Standards: S28150

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Flags
	RF/CF	RF/CF						
o-Terphenyl	71191	72367	50.00	50.83	mg/L	2	15	

JDG 11/18/15 : Corrected automatically drawn baseline.

Analyst: JDG                      Date: 11/18/15                      Reviewer: EAH                      Date: 11/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC17A                      Run Name : DSL\_1000                      IDF : 1.0  
 Seqnum : 175461248096              File : 320a096                      Time : 18-NOV-2015 09:20  
 Standards: S28303

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C24	175247623002	20-JUN-2015	63657	60985	1000	958.0	mg/L	-4	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	72938	50.00	51.23	mg/L	2	15	

JDG 11/18/15 : Corrected automatically drawn baseline.

Analyst: JDG                      Date: 11/18/15                      Reviewer: EAH                      Date: 11/18/15



CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC17A Run Name : MO\_500 IDF : 1.0  
Seqnum : 175461248102 File : 320a102 Time : 18-NOV-2015 14:05  
Cal : 175394216001 Caldate : 30-SEP-2015  
Standards: S28150

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Flags
	RF/CF	RF/CF						
o-Terphenyl	71191	74888	50.00	52.60	mg/L	5	15	

RDG 11/18/15 : Corrected automatically drawn baseline.

Analyst: RDG Date: 11/18/15 Reviewer: EAH Date: 11/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 GCSV Soil  
EPA 8015B

Inst : GC17A                      Run Name : DSL\_500                      IDF : 1.0  
 Seqnum : 175461248103              File : 320a103                      Time : 18-NOV-2015 14:33  
 Standards: S28302

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C24	175247623002	20-JUN-2015	63657	62622	500.0	491.9	mg/L	-2	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	70922	50.00	49.81	mg/L	0	15	

RDG 11/18/15 : Corrected automatically drawn baseline.

Analyst: RDG                      Date: 11/18/15                      Reviewer: EAH                      Date: 11/18/15

## Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165229449

Instrument : GC15B Begun : 06/08/15 08:09  
 Method : EPA 8015B SOP Version : TEH\_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	159b001	X	IB			06/08/15 08:09	1.0	
002	159b002	X	CMARKER			06/08/15 10:43	1.0	1
003	159b003	IB	CALIB			06/08/15 12:21	1.0	
004	159b004	ICAL	HEXOTP_5			06/08/15 12:49	1.0	2
005	159b005	ICAL	HEXOTP_10			06/08/15 13:17	1.0	3
006	159b006	ICAL	HEXOTP_25			06/08/15 13:45	1.0	4
007	159b007	ICAL	HEXOTP_50			06/08/15 14:13	1.0	5
008	159b008	ICAL	HEXOTP_100			06/08/15 14:42	1.0	6
009	159b009	ICAL	HEXOTP_200			06/08/15 15:10	1.0	7
010	159b010	IB	CALIB			06/08/15 15:38	1.0	
011	159b011	ICAL	DSL_10			06/08/15 16:06	1.0	8
012	159b012	ICAL	DSL_100			06/08/15 16:34	1.0	9
013	159b013	ICAL	DSL_500			06/08/15 17:02	1.0	10
014	159b014	ICAL	DSL_1000			06/08/15 17:30	1.0	11
015	159b015	ICAL	DSL_5000			06/08/15 17:58	1.0	12
016	159b016	IB	CALIB			06/08/15 18:26	1.0	
017	159b017	ICV	DSL_500			06/08/15 18:54	1.0	13
018	159b018	X	ICV			06/08/15 19:21	1.0	13
019	159b019	IB	CALIB			06/10/15 08:01	1.0	
020	159b020	CMARKER	C8-C50			06/10/15 08:29	1.0	1
021	159b021	IB	CALIB			06/10/15 08:56	1.0	

JDG 06/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Standards used: 1=S27269 2=S27409 3=S27410 4=S27411 5=S27412 6=S27413 7=S27414 8=S27111 9=S27112 10=S27113 11=S27114  
 12=S27110 13=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165383482

Instrument : GC15B  
 Method : EPA 8015B

Begun : 09/23/15 07:22  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	266b001	X	IB				09/23/15 07:22	1.0	
002	266b002	X	CMARKER				09/23/15 07:49	1.0	1
003	266b003	X	MO_500				09/23/15 08:17	1.0	2
004	266b004	X	DSL_250				09/23/15 08:45	1.0	3
005	266b005	CCV	JET_250				09/23/15 09:13	1.0	4
006	266b006	CCV	MO_500				09/23/15 09:56	1.0	2
007	266b007	CCV	DSL_250				09/23/15 10:24	1.0	3
008	266b008	IB	CALIB				09/23/15 11:03	1.0	
009	266b009	ICAL	HEXOTP_5				09/23/15 11:31	1.0	5
010	266b010	ICAL	HEXOTP_10				09/23/15 11:59	1.0	6
011	266b011	ICAL	HEXOTP_25				09/23/15 12:27	1.0	7
012	266b012	ICAL	HEXOTP_50				09/23/15 12:54	1.0	8
013	266b013	ICAL	HEXOTP_100				09/23/15 13:22	1.0	9
014	266b014	ICAL	HEXOTP_200				09/23/15 13:49	1.0	10
016	266b016	X	CMARKER				09/23/15 14:45	1.0	1
017	266b017	CCV	MO_500				09/23/15 15:12	1.0	2
018	266b018	CCV	DSL_250				09/23/15 15:40	1.0	3
019	266b019	BLANK	QC804745		Water	227441	09/23/15 16:32	1.0	
020	266b020	BLANK	QC804745	S	Water	227441	09/23/15 16:59	1.0	
021	266b021	BS	QC804746		Water	227441	09/23/15 17:27	1.0	
022	266b022	BSD	QC804747		Water	227441	09/23/15 17:54	1.0	
023	266b023	BS	QC804746	S	Water	227441	09/23/15 18:22	1.0	
024	266b024	BSD	QC804747	S	Water	227441	09/23/15 18:49	1.0	
025	266b025	SAMPLE	269947-001	S	Water	227441	09/23/15 19:17	1.0	
026	266b026	SAMPLE	269947-002	S	Water	227441	09/23/15 19:45	1.0	
027	266b027	SAMPLE	269947-006	S	Water	227441	09/23/15 20:13	1.0	
028	266b028	SAMPLE	269947-007	S	Water	227441	09/23/15 20:40	1.0	
029	266b029	SAMPLE	269947-008	S	Water	227441	09/23/15 21:08	1.0	
030	266b030	SAMPLE	269947-009	S	Water	227441	09/23/15 21:36	1.0	
031	266b031	SAMPLE	269947-010	S	Water	227441	09/23/15 22:04	1.0	
032	266b032	SAMPLE	269947-011	S	Water	227441	09/23/15 22:32	1.0	
033	266b033	SAMPLE	269947-012	S	Water	227441	09/23/15 23:00	1.0	
034	266b034	SAMPLE	269947-014	S	Water	227441	09/23/15 23:27	1.0	
035	266b035	X	MO_500				09/23/15 23:55	1.0	2
036	266b036	CCV	DSL_500				09/24/15 00:23	1.0	11
037	266b037	CCV	MO_500				09/24/15 00:50	1.0	2
038	266b038	CCV	DSL_500				09/24/15 01:18	1.0	11
039	266b039	SAMPLE	269947-015	S	Water	227441	09/24/15 01:46	1.0	
040	266b040	SAMPLE	269947-016	S	Water	227441	09/24/15 02:13	1.0	
041	266b041	SAMPLE	269947-017	S	Water	227441	09/24/15 02:41	1.0	
042	266b042	SAMPLE	269947-018	S	Water	227441	09/24/15 03:09	1.0	
043	266b043	SAMPLE	269983-001	S	Water	227441	09/24/15 03:37	1.0	
044	266b044	SAMPLE	269934-001		Water	227441	09/24/15 04:04	1.0	
045	266b045	X	CMARKER				09/24/15 04:32	1.0	1
046	266b046	X	MO_500				09/24/15 05:00	1.0	2
047	266b047	CCV	DSL_1000				09/24/15 05:28	1.0	12
048	266b048	CCV	MO_500				09/24/15 05:56	1.0	2
049	266b049	CCV	DSL_1000				09/24/15 06:23	1.0	12

SFL 09/24/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 49.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165383482

Instrument : GC15B                      Begun                 : 09/23/15 07:22  
Method        : EPA 8015B                SOP Version        : TEH\_rv18

Standards used: 1=S27935 2=S27865 3=S27803 4=S28111 5=S27409 6=S27410 7=S27411 8=S27412 9=S27413 10=S27414 11=S27804  
12=S27805

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165461246

Instrument : GC15B  
 Method : EPA 8015B

Begun : 11/16/15 07:26  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	320b001	X	IB				11/16/15 07:26	1.0		
002	320b002	X	CMARKER				11/16/15 07:54	1.0	1	
003	320b003	CCV	MO_500				11/16/15 08:21	1.0	2	
004	320b004	CCV	DSL_1000				11/16/15 08:49	1.0	3	
005	320b005	BLANK	QC812797	S	Water	229442	11/16/15 12:05	1.0		
006	320b006	BS	QC812798	S	Water	229442	11/16/15 12:32	1.0		
007	320b007	BSD	QC812799	S	Water	229442	11/16/15 13:00	1.0		
008	320b008	CCV	MO_500				11/16/15 14:25	1.0	2	
009	320b009	CCV	DSL_500				11/16/15 14:53	1.0	4	
010	320b010	CCV	JP5_250				11/16/15 16:44	1.0	5	
011	320b011	CCV	BUNK_500				11/16/15 17:12	1.0	6	
012	320b012	BLANK	QC812797		Water	229442	11/16/15 17:40	1.0		
013	320b013	BLANK	QC812797	S	Water	229442	11/16/15 18:07	1.0		
014	320b014	BS	QC812798		Water	229442	11/16/15 18:35	1.0		
015	320b015	BSD	QC812799		Water	229442	11/16/15 19:03	1.0		
016	320b016	SAMPLE	271417-014		Water	229442	11/16/15 19:31	1.0		
017	320b017	SAMPLE	271429-001		Water	229442	11/16/15 19:59	1.0		
018	320b018	SAMPLE	271429-002		Water	229442	11/16/15 20:27	1.0		
019	320b019	SAMPLE	271521-001		Water	229442	11/16/15 20:54	1.0		
020	320b020	SAMPLE	271521-002		Water	229442	11/16/15 21:23	5.0		1:BUNKC:10-40=5300
021	320b021	SAMPLE	271521-003		Water	229442	11/16/15 21:50	5.0		
022	320b022	SAMPLE	271521-001	S	Water	229442	11/16/15 22:18	1.0		
023	320b023	SAMPLE	271521-002	S	Water	229442	11/16/15 22:46	1.0		8:BUNKC:10-40=22000
024	320b024	SAMPLE	271521-003	S	Water	229442	11/16/15 23:13	1.0		2:BUNKC:10-40=8700
025	320b025	SAMPLE	271118-006		Water	229010	11/16/15 23:41	1.0		
026	320b026	CCV	MO_500				11/17/15 00:08	1.0	2	
027	320b027	CCV	DSL_1000				11/17/15 00:36	1.0	3	
028	320b028	CCV	JP5_250				11/17/15 01:03	1.0	5	
029	320b029	CCV	BUNK_500				11/17/15 01:31	1.0	6	
030	320b030	X	CCV				11/17/15 01:58	1.0	2	
031	320b031	X	CCV				11/17/15 02:25	1.0	3	
032	320b032	X	CCV				11/17/15 02:53	1.0	5	
033	320b033	X	CCV				11/17/15 03:20	1.0	6	
034	320b034	SAMPLE	271484-002		Water	229442	11/17/15 03:48	1.0		
035	320b035	SAMPLE	271484-003		Water	229442	11/17/15 04:16	1.0		
036	320b036	SAMPLE	271484-004		Water	229442	11/17/15 04:44	1.0		
037	320b037	SAMPLE	271484-005		Water	229442	11/17/15 05:11	1.0		
038	320b038	SAMPLE	271484-006		Water	229442	11/17/15 05:40	1.0		
039	320b039	SAMPLE	271484-007		Water	229442	11/17/15 06:08	1.0		
040	320b040	SAMPLE	271484-008		Water	229442	11/17/15 06:36	1.0		
041	320b041	MSS	271478-014		Soil	229492	11/17/15 07:04	1.0		
042	320b042	MS	QC812997		Soil	229492	11/17/15 07:32	1.0		
043	320b043	MSD	QC812998		Soil	229492	11/17/15 08:00	1.0		
044	320b044	X	CMARKER				11/17/15 08:28	1.0	1	
045	320b045	CCV	MO_500				11/17/15 08:56	1.0	2	
046	320b046	CCV	DSL_500				11/17/15 09:23	1.0	4	
047	320b047	SAMPLE	271627-014		Soil	229450	11/17/15 10:03	10.0		
048	320b048	X	IB				11/17/15 10:30	1.0		
049	320b049	BLANK	QC813012		Water	229496	11/17/15 10:58	1.0		
050	320b050	LCS	QC813013		Water	229496	11/17/15 11:26	1.0		
051	320b051	CCV	MO_500				11/17/15 12:51	1.0	2	
052	320b052	CCV	DSL_1000				11/17/15 13:19	1.0	3	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165461246

Instrument : GC15B  
 Method : EPA 8015B

Begun : 11/16/15 07:26  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
053	320b053	BLANK	QC812835		Soil	229451	11/17/15 15:15	1.0	
054	320b054	LCS	QC812836		Soil	229451	11/17/15 15:43	1.0	
055	320b055	SAMPLE	271475-002		Soil	229398	11/17/15 16:10	5.0	
056	320b056	SAMPLE	271478-001		Soil	229436	11/17/15 16:39	20.0	
057	320b057	SAMPLE	271493-001		Soil	229436	11/17/15 17:06	5.0	
058	320b058	SAMPLE	271617-001		Soil	229492	11/17/15 17:34	1.0	
059	320b059	MSS	271229-001		Soil	229451	11/17/15 18:02	1.0	
060	320b060	SAMPLE	271593-001		Soil	229492	11/17/15 18:30	10.0	
061	320b061	SAMPLE	271604-001		Soil	229492	11/17/15 18:58	10.0	
062	320b062	SAMPLE	271604-002		Soil	229492	11/17/15 19:26	10.0	
063	320b063	MS	QC812995		Soil	229492	11/17/15 19:54	1.0	
064	320b064	MSD	QC812996		Soil	229492	11/17/15 20:21	1.0	
065	320b065	CCV	MO_500				11/17/15 20:49	1.0	2
066	320b066	CCV	DSL_500				11/17/15 21:17	1.0	4
067	320b067	X	CCV				11/17/15 21:45	1.0	2
068	320b068	X	CCV				11/17/15 22:13	1.0	4
069	320b069	SAMPLE	271229-004		Soil	229451	11/17/15 22:40	1.0	
070	320b070	MS	QC812837		Soil	229451	11/17/15 23:08	1.0	
071	320b071	MSD	QC812838		Soil	229451	11/17/15 23:35	1.0	
072	320b072	SAMPLE	271656-004		Water	229496	11/18/15 00:03	1.0	
073	320b073	MS	QC812999	S	Soil	229492	11/18/15 00:30	1.0	
074	320b074	MSD	QC813000	S	Soil	229492	11/18/15 00:58	1.0	2:BUNKC:10-40=7100
075	320b075	SAMPLE	271382-013		Water	229496	11/18/15 01:25	1.0	
076	320b076	SAMPLE	271417-013		Water	229496	11/18/15 01:53	1.0	
077	320b077	SAMPLE	271484-001		Water	229496	11/18/15 02:20	1.0	
078	320b078	SAMPLE	271498-001		Water	229496	11/18/15 02:48	100.0	8:BUNKC:10-40=18000
079	320b079	X	IB				11/18/15 03:15	1.0	
080	320b080	X	CMARKER				11/18/15 03:43	1.0	1
081	320b081	CCV	MO_500				11/18/15 04:11	1.0	2
082	320b082	CCV	DSL_1000				11/18/15 04:39	1.0	3
083	320b083	X	CCV				11/18/15 05:07	1.0	2
084	320b084	X	CCV				11/18/15 05:35	1.0	3
085	320b085	CHECK	MO_500				11/18/15 06:03	1.0	7
086	320b086	CHECK	DSL_250				11/18/15 06:31	1.0	8
087	320b087	CHECK	DSL_500				11/18/15 06:59	1.0	9
088	320b088	CHECK	DSL_1000				11/18/15 07:27	1.0	10
089	320b089	CCV	JP5_250				11/18/15 08:33	1.0	5
090	320b090	CCV	BUNK_500				11/18/15 09:02	1.0	6
091	320b091	BLANK	QC813210		Soil	229547	11/18/15 11:20	1.0	
092	320b092	LCS	QC813211	S	Soil	229547	11/18/15 11:48	1.0	
093	320b093	SAMPLE	271572-001		Water	229496	11/18/15 12:16	5.0	
094	320b094	SAMPLE	271382-016		Soil	229547	11/18/15 12:46	1.0	2:BUNKC:12-40=7300
095	320b095	CCV	MO_500				11/18/15 13:48	1.0	2
096	320b096	CCV	DSL_250				11/18/15 14:15	1.0	11
097	320b097	CCV	JP5_250				11/18/15 14:43	1.0	5
098	320b098	CCV	BUNK_500				11/18/15 15:11	1.0	6
099	320b099	BLANK	QC813325		Soil	229575	11/18/15 16:14	1.0	
100	320b100	LCS	QC813326		Soil	229575	11/18/15 16:41	1.0	
101	320b101	MSS	271727-001		Soil	229575	11/18/15 17:09	1.0	
102	320b102	MS	QC813327		Soil	229575	11/18/15 17:37	1.0	
103	320b103	MSD	QC813328		Soil	229575	11/18/15 18:05	1.0	
104	320b104	SAMPLE	271727-002		Soil	229575	11/18/15 18:33	1.0	



CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165461246

Instrument : GC15B Begun : 11/16/15 07:26  
 Method : EPA 8015B SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
105	320b105	SAMPLE	271724-001		Soil	229575	11/18/15 19:01	1.0	
106	320b106	SAMPLE	271725-001		Soil	229575	11/18/15 19:29	5.0	
107	320b107	SAMPLE	271729-001		Soil	229575	11/18/15 19:56	1.0	
108	320b108	SAMPLE	271748-001		Soil	229575	11/18/15 20:24	1.0	
109	320b109	SAMPLE	271668-001		Soil	229547	11/18/15 20:52	1.0	
110	320b110	SAMPLE	271668-002		Soil	229547	11/18/15 21:20	1.0	
111	320b111	X	IB				11/18/15 21:48	1.0	
112	320b112	X	MO_500				11/18/15 22:15	1.0	2
113	320b113	CCV	DSL_500				11/18/15 22:43	1.0	4
114	320b114	CCV	MO_500				11/18/15 23:11	1.0	2
115	320b115	X	CCV				11/18/15 23:38	1.0	4
116	320b116	BLANK	QC813325	S	Soil	229575	11/19/15 00:06	1.0	
117	320b117	LCS	QC813326	S	Soil	229575	11/19/15 00:33	1.0	
118	320b118	SAMPLE	271660-001		Soil	229547	11/19/15 01:01	2.0	
119	320b119	SAMPLE	271735-001	S	Soil	229575	11/19/15 01:29	1.0	
120	320b120	SAMPLE	271735-002	S	Soil	229575	11/19/15 01:57	1.0	
121	320b121	SAMPLE	271735-003	S	Soil	229575	11/19/15 02:24	1.0	
122	320b122	SAMPLE	271735-004	S	Soil	229575	11/19/15 02:52	1.0	
123	320b123	X	IB				11/19/15 03:19	1.0	
124	320b124	SAMPLE	271735-005	S	Soil	229575	11/19/15 03:47	1.0	
125	320b125	SAMPLE	271735-006	S	Soil	229575	11/19/15 04:15	1.0	
126	320b126	SAMPLE	271735-007	S	Soil	229575	11/19/15 04:43	1.0	
127	320b127	SAMPLE	271735-008	S	Soil	229575	11/19/15 05:10	1.0	
128	320b128	SAMPLE	271735-009	S	Soil	229575	11/19/15 05:38	1.0	
129	320b129	X	CMARKER				11/19/15 06:06	1.0	1
130	320b130	CCV	MO_500				11/19/15 06:34	1.0	2
131	320b131	CCV	DSL_1000				11/19/15 07:02	1.0	3
132	320b132	X	CCV				11/19/15 07:30	1.0	2
133	320b133	X	CCV				11/19/15 07:58	1.0	3

JDG 11/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 9.

JDG 11/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 10 through 46.

JDG 11/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 47 through 52.

JDG 11/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 53 through 90.

BJP 11/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 91 through 98.

BJP 11/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 99 through 133.

Standards used: 1=S27935 2=S28475 3=S28303 4=S28302 5=S28313 6=S27338 7=S28541 8=S28537 9=S28538 10=S28539 11=S28301

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175247623

Instrument : GC17A  
 Method : EPA 8015B

Begun : 06/20/15 11:16  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	171a001	X	IB			06/20/15 11:16	1.0	
002	171a002	IB	CALIB			06/20/15 11:45	1.0	
003	171a003	ICAL	HEXOTP_5			06/20/15 12:13	1.0	1
004	171a004	ICAL	HEXOTP_10			06/20/15 12:41	1.0	2
005	171a005	ICAL	HEXOTP_25			06/20/15 13:09	1.0	3
006	171a006	ICAL	HEXOTP_50			06/20/15 13:38	1.0	4
007	171a007	ICAL	HEXOTP_100			06/20/15 14:06	1.0	5
008	171a008	ICAL	HEXOTP_200			06/20/15 14:34	1.0	6
009	171a009	IB	CALIB			06/20/15 15:02	1.0	
010	171a010	ICAL	DSL_10			06/20/15 15:31	1.0	7
011	171a011	ICAL	DSL_100			06/20/15 15:59	1.0	8
012	171a012	ICAL	DSL_500			06/20/15 16:27	1.0	9
013	171a013	ICAL	DSL_1000			06/20/15 16:56	1.0	10
014	171a014	ICAL	DSL_5000			06/20/15 17:24	1.0	11
015	171a015	IB	CALIB			06/20/15 17:52	1.0	
016	171a016	ICV	DSL_500			06/20/15 18:20	1.0	12
017	171a017	X	ICV			06/20/15 18:48	1.0	12
018	171a018	IB	CALIB			06/20/15 19:16	1.0	
019	171a019	ICAL	MO_50			06/20/15 19:44	1.0	13
020	171a020	ICAL	MO_250			06/20/15 20:13	1.0	14
021	171a021	ICAL	MO_500			06/20/15 20:41	1.0	15
022	171a022	ICAL	MO_1000			06/20/15 21:09	1.0	16
023	171a023	ICAL	MO_2500			06/20/15 21:38	1.0	17
024	171a024	ICAL	MO_5000			06/20/15 22:06	1.0	17
025	171a025	IB	CALIB			06/20/15 22:35	1.0	
026	171a026	CMARKER	C8-C50			06/20/15 23:03	1.0	18
027	171a027	IB	CALIB			06/20/15 23:32	1.0	

JDG 06/22/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

Standards used: 1=S27409 2=S27410 3=S27411 4=S27412 5=S27413 6=S27414 7=S27111 8=S27112 9=S27113 10=S27114 11=S27110  
 12=S27446 13=S26392 14=S26393 15=S26394 16=S26395 17=S26389 18=S27269

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175394216

Instrument : GC17A  
 Method : EPA 8015B

Begun : 09/30/15 18:16  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	273a001	X	IB			09/30/15 18:16	1.0	
002	273a002	IB	CALIB			09/30/15 18:44	1.0	
003	273a003	ICAL	HEXOTP_5			09/30/15 19:13	1.0	1
004	273a004	ICAL	HEXOTP_10			09/30/15 19:41	1.0	2
005	273a005	ICAL	HEXOTP_25			09/30/15 20:09	1.0	3
006	273a006	ICAL	HEXOTP_50			09/30/15 20:37	1.0	4
007	273a007	ICAL	HEXOTP_100			09/30/15 21:06	1.0	5
008	273a008	ICAL	HEXOTP_200			09/30/15 21:34	1.0	6
009	273a009	IB	CALIB			09/30/15 22:02	1.0	

JDG 10/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 9.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175461248

Instrument : GC17A  
 Method : EPA 8015B

Begun : 11/16/15 07:28  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	320a001	X	IB				11/16/15 07:28	1.0		
002	320a002	CMARKER	C8-C50				11/16/15 07:55	1.0	1	
003	320a003	CCV	MO_500				11/16/15 08:23	1.0	2	
004	320a004	CCV	DSL_1000				11/16/15 08:51	1.0	3	
005	320a005	SAMPLE	271523-001	S	Water	229442	11/16/15 12:40	1.0		
006	320a006	SAMPLE	271628-001	S	Water	229442	11/16/15 13:08	1.0		
007	320a007	SAMPLE	271628-002	S	Water	229442	11/16/15 13:36	1.0		
008	320a008	SAMPLE	271312-001	S	Soil	229252	11/16/15 14:31	10.0		
009	320a009	SAMPLE	271118-006		Water	229010	11/16/15 14:59	1.0		
010	320a010	CCV	MO_500				11/16/15 15:44	1.0	2	
011	320a011	CCV	DSL_500				11/16/15 16:12	1.0	4	
012	320a012	X	CCV				11/16/15 16:40	1.0	2	
013	320a013	X	CCV				11/16/15 17:08	1.0	4	
014	320a014	BLANK	QC812831		Soil	229450	11/16/15 17:36	1.0		
015	320a015	BLANK	QC812831	S	Soil	229450	11/16/15 18:04	1.0		
016	320a016	LCS	QC812832	S	Soil	229450	11/16/15 18:32	1.0		
017	320a017	MSS	271478-010		Soil	229450	11/16/15 19:00	1.0		
018	320a018	MS	QC812833		Soil	229450	11/16/15 19:29	1.0		
019	320a019	MSD	QC812834		Soil	229450	11/16/15 19:57	1.0		
020	320a020	SAMPLE	271478-011		Soil	229450	11/16/15 20:25	1.0		
021	320a021	SAMPLE	271478-012		Soil	229450	11/16/15 20:53	1.0		
022	320a022	SAMPLE	271478-013		Soil	229450	11/16/15 21:22	1.0		
023	320a023	SAMPLE	271513-001		Soil	229450	11/16/15 21:50	1.0		
024	320a024	SAMPLE	271574-001		Soil	229450	11/16/15 22:18	2.0		
025	320a025	SAMPLE	271519-001		Soil	229450	11/16/15 22:46	1.0		2:BUNKC:12-40=7000
026	320a026	SAMPLE	271627-001		Soil	229450	11/16/15 23:14	1.0		
027	320a027	CCV	MO_500				11/16/15 23:42	1.0	2	
028	320a028	CCV	DSL_1000				11/17/15 00:10	1.0	3	
029	320a029	X	CCV				11/17/15 00:37	1.0	2	
030	320a030	X	CCV				11/17/15 01:05	1.0	3	
031	320a031	SAMPLE	271627-002		Soil	229450	11/17/15 01:33	1.0		
032	320a032	SAMPLE	271627-003		Soil	229450	11/17/15 02:01	1.0		
033	320a033	SAMPLE	271627-004		Soil	229450	11/17/15 02:29	1.0		
034	320a034	SAMPLE	271627-005		Soil	229450	11/17/15 02:57	1.0		
035	320a035	SAMPLE	271627-006		Soil	229450	11/17/15 03:25	1.0		
036	320a036	SAMPLE	271627-012		Soil	229450	11/17/15 03:53	1.0		
037	320a037	SAMPLE	271627-013		Soil	229450	11/17/15 04:21	1.0		
038	320a038	SAMPLE	271627-014		Soil	229450	11/17/15 04:50	1.0		8:BUNKC:12-40=26000
039	320a039	SAMPLE	271514-001	S	Soil	229450	11/17/15 05:19	20.0		
040	320a040	SAMPLE	271514-002	S	Soil	229450	11/17/15 05:47	5.0		
041	320a041	X	CMARKER				11/17/15 06:15	1.0	1	
042	320a042	CCV	MO_500				11/17/15 06:43	1.0	2	
043	320a043	CCV	DSL_500				11/17/15 07:11	1.0	4	
044	320a044	BLANK	QC812993		Soil	229492	11/17/15 07:52	1.0		
045	320a045	BLANK	QC812993	S	Soil	229492	11/17/15 08:20	1.0		
046	320a046	LCS	QC812994	S	Soil	229492	11/17/15 08:48	1.0		
047	320a047	SAMPLE	271626-019		Soil	229492	11/17/15 09:17	2.0		
048	320a048	SAMPLE	271626-020		Soil	229492	11/17/15 09:45	2.0		
049	320a049	X	IB				11/17/15 10:13	1.0		
050	320a050	SAMPLE	271609-001		Water	229496	11/17/15 10:41	1.0		
051	320a051	SAMPLE	271651-001		Water	229496	11/17/15 11:09	1.0		
052	320a052	SAMPLE	271348-010	S	Soil	229370	11/17/15 11:37	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175461248

Instrument : GC17A  
 Method : EPA 8015B

Begun : 11/16/15 07:28  
 SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	320a053	MSS	271653-002	S	Soil	229492	11/17/15 12:31	1.0		
054	320a054	CCV	MO_500				11/17/15 12:59	1.0	2	
055	320a055	CCV	DSL_1000				11/17/15 13:27	1.0	3	
056	320a056	CCV	JP5_250				11/17/15 14:34	1.0	5	
057	320a057	CCV	BUNK_500				11/17/15 15:02	1.0	6	
058	320a058	BLANK	QC813012		Water	229496	11/17/15 15:30	1.0		
059	320a059	BLANK	QC813012	S	Water	229496	11/17/15 15:59	1.0		
060	320a060	LCS	QC813013	S	Water	229496	11/17/15 16:27	1.0		
061	320a061	SAMPLE	271521-002	S	Water	229442	11/17/15 16:56	5.0		
062	320a062	SAMPLE	271521-003	S	Water	229442	11/17/15 17:24	5.0		
063	320a063	SAMPLE	271572-001		Water	229496	11/17/15 17:52	1.0		2:BUNKC:10-40=8000
064	320a064	SAMPLE	271572-002		Water	229496	11/17/15 18:21	1.0		
065	320a065	SAMPLE	271572-001	S	Water	229496	11/17/15 18:49	1.0		
066	320a066	SAMPLE	271572-002	S	Water	229496	11/17/15 19:17	1.0		
067	320a067	SAMPLE	271034-004		Soil	229451	11/17/15 19:45	1.0		sh
068	320a068	SAMPLE	271034-005		Soil	229451	11/17/15 20:14	1.0		sh
069	320a069	SAMPLE	271034-006		Soil	229451	11/17/15 20:42	1.0		sh
070	320a070	SAMPLE	271034-010		Soil	229451	11/17/15 21:10	1.0		sh
071	320a071	CCV	MO_500				11/17/15 21:38	1.0	2	
072	320a072	CCV	DSL_500				11/17/15 22:06	1.0	4	
073	320a073	CCV	MO_500				11/17/15 22:35	1.0	2	
074	320a074	CCV	DSL_500				11/17/15 23:02	1.0	4	
075	320a075	CCV	JP5_250				11/17/15 23:30	1.0	5	
076	320a076	CCV	BUNK_500				11/17/15 23:58	1.0	6	
077	320a077	CCV	MO_500				11/18/15 00:26	1.0	2	
078	320a078	CCV	DSL_500				11/18/15 00:54	1.0	4	
079	320a079	CCV	MO_500				11/18/15 01:21	1.0	2	
080	320a080	CCV	DSL_500				11/18/15 01:49	1.0	4	
081	320a081	X	CCV				11/18/15 02:17	1.0	5	
082	320a082	X	CCV				11/18/15 02:45	1.0	6	
083	320a083	SAMPLE	271637-001		Soil	229492	11/18/15 03:13	1.0		11:BUNKC:10-40=1000000
084	320a084	SAMPLE	271592-001	S	Soil	229492	11/18/15 03:40	20.0		
085	320a085	SAMPLE	271642-006		Soil	229492	11/18/15 04:09	1.0		
086	320a086	SAMPLE	271575-001	S	Soil	229492	11/18/15 04:37	1.0		
087	320a087	SAMPLE	271592-002	S	Soil	229492	11/18/15 05:06	1.0		3:BUNKC:12-40=9000
088	320a088	X	IB				11/18/15 05:34	1.0		
089	320a089	SAMPLE	271612-001	S	Soil	229492	11/18/15 06:02	1.0		5:BUNKC:12-40=13000
090	320a090	SAMPLE	271526-004		Miscell.	229492	11/18/15 06:30	1.0		sh , 11:BUNKC:12-40=150000
091	320a091	SAMPLE	271554-001		Soil	229492	11/18/15 06:58	1.0		
092	320a092	SAMPLE	271554-002		Soil	229492	11/18/15 07:27	1.0		
093	320a093	MSS	271561-001		Soil	229492	11/18/15 07:55	1.0		
094	320a094	X	CMARKER				11/18/15 08:24	1.0	1	
095	320a095	CCV	MO_500				11/18/15 08:52	1.0	2	
096	320a096	CCV	DSL_1000				11/18/15 09:20	1.0	3	
097	320a097	X	MO_500				11/18/15 11:27	1.0	2	
098	320a098	MSS	271667-001		Soil	229547	11/18/15 11:55	1.0		
099	320a099	SAMPLE	271721-001		Soil	229547	11/18/15 12:23	1.0		
100	320a100	MS	QC813212		Soil	229547	11/18/15 12:59	1.0		
101	320a101	MSD	QC813213		Soil	229547	11/18/15 13:27	1.0		
102	320a102	CCV	MO_500				11/18/15 14:05	1.0	2	
103	320a103	CCV	DSL_500				11/18/15 14:33	1.0	4	
104	320a104	BLANK	QC813027		Water	229500	11/18/15 15:54	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175461248

Instrument : GC17A Begun : 11/16/15 07:28  
 Method : EPA 8015B SOP Version : TEH\_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
105	320a105	BLANK	QC813210		Soil	229547	11/18/15 16:22	1.0	
106	320a106	SAMPLE	271589-001		Water	229500	11/18/15 16:50	1.0	
107	320a107	SAMPLE	271589-002		Water	229500	11/18/15 17:18	1.0	
108	320a108	SAMPLE	271589-003		Water	229500	11/18/15 17:46	1.0	
109	320a109	SAMPLE	271589-004		Water	229500	11/18/15 18:14	1.0	
110	320a110	SAMPLE	271589-005		Water	229500	11/18/15 18:43	1.0	
111	320a111	SAMPLE	271589-006		Water	229500	11/18/15 19:11	1.0	
112	320a112	SAMPLE	271589-007		Water	229500	11/18/15 19:39	1.0	
113	320a113	SAMPLE	271591-001		Water	229500	11/18/15 20:07	1.0	
114	320a114	SAMPLE	271597-001		Water	229500	11/18/15 20:36	1.0	
115	320a115	SAMPLE	271636-001		Water	229500	11/18/15 21:04	1.0	
116	320a116	CCV	MO_500				11/18/15 21:32	1.0	2
117	320a117	CCV	DSL_1000				11/18/15 22:00	1.0	3
118	320a118	X	CCV				11/18/15 22:28	1.0	2
120	320a120	SAMPLE	271632-012	S	Soil	229547	11/18/15 23:24	1.0	
121	320a121	SAMPLE	271632-009	S	Soil	229547	11/18/15 23:52	1.0	
122	320a122	SAMPLE	271632-006	S	Soil	229547	11/19/15 00:20	1.0	
123	320a123	SAMPLE	271632-005	S	Soil	229547	11/19/15 00:48	1.0	
124	320a124	SAMPLE	271632-003	S	Soil	229547	11/19/15 01:15	1.0	
125	320a125	SAMPLE	271632-002	S	Soil	229547	11/19/15 01:43	1.0	
126	320a126	SAMPLE	271636-003		Water	229500	11/19/15 02:11	1.0	
127	320a127	SAMPLE	271636-002		Water	229500	11/19/15 02:39	1.0	
128	320a128	SAMPLE	271660-002		Soil	229547	11/19/15 03:06	1.0	
129	320a129	SAMPLE	271611-010		Soil	229547	11/19/15 03:34	100.0	
130	320a130	X	IB				11/19/15 04:02	1.0	
131	320a131	X	CMARKER				11/19/15 04:31	1.0	1
132	320a132	CCV	MO_500				11/19/15 04:59	1.0	2
133	320a133	CCV	DSL_500				11/19/15 05:26	1.0	4
134	320a134	X	CCV				11/19/15 05:55	1.0	2
135	320a135	X	CCV				11/19/15 06:23	1.0	4

JDG 11/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 9.

BJP 11/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 10 through 11.

JDG 11/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 12 through 52.

JDG 11/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 53 through 55.

JDG 11/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 56 through 96.

BJP 11/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 97 through 103.

BJP 11/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 104 through 135.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175461248

Instrument : GC17A  
Method : EPA 8015B

Begun : 11/16/15 07:28  
SOP Version : TEH\_rv18

Standards used: 1=S27935 2=S28150 3=S28303 4=S28302 5=S28313 6=S27338

Flags used: sh=out of sample hold

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SAMPLE PREPARATION SUMMARY

Batch # : 229547  
 Started By : KKL  
 Method : 3550B  
 Spike #1 ID : S28305

Prep Date : 17-NOV-2015 16:15  
 Spike #2 ID : S28476

Analysis : TEH  
 Finished By : KKL  
 Units : g  
 Spike #3 ID : S28481

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
271382-016		Soil	49.92	5	1	0.1002		1				TEHM	
271611-010		Soil	49.91	5	1	0.1002		1				TEHM	
271632-002		Soil	49.89	5	1	0.1002		1			3630C	TEHM	
271632-003		Soil	50.23	5	1	0.09954		1			3630C	TEHM	
271632-005		Soil	49.78	5	1	0.1004		1			3630C	TEHM	
271632-006		Soil	49.91	5	1	0.1002		1			3630C	TEHM	
271632-009		Soil	49.88	5	1	0.1002			1		3630C	TEHM	
271632-012		Soil	49.97	5	1	0.1001			1		3630C	TEHM	
271634-013		Soil	50.26	5	1	0.09948			1			TEHM	
271634-014		Soil	50.28	5	1	0.09944			1			TEHM	
271634-015		Soil	49.98	5	1	0.1000			1			TEHM	
271660-001		Soil	50.12	5	1	0.09976			1			TEHM	
271660-002		Soil	50.08	5	1	0.09984			1			TEHM	
271667-001		Soil	50.1	5	1	0.0998			1			TEHM	
271668-001		Soil	50.23	5	1	0.09954			1			TEH	
271668-002		Soil	49.93	5	1	0.1001			1			TEH	
271721-001		Soil	49.76	5	1	0.1005			1			TEHM	
QC813210	BLANK	Soil	50.02	5	1	0.09996		1			3630C		
QC813211	LCS	Soil	49.95	5	1	0.1001		1		1	3630C		
QC813212	MS	Soil	49.76	5	1	0.1005		1		1			
QC813213	MSD	Soil	49.95	5	1	0.1001		1		1			

EAH 11/18/15 : Checked batch documents, QC runs are not signed.

BJP 11/18/15 : signed

Analyst: BJP Date: 11/18/15 Reviewer: EAH Date: 11/18/15



TITLE Soil Aliquot

PROJECT

DATE

Continued from page

Sample	ID	Weight (g)	Analysis	Batch #	Scale Used	Comments		
271382-c16	Comp	49.92	TEH/M	229547	Dish 1	MIS - No Dry, Prev. Comp. 271382-c01, 2, 3 @ 50g ea. Comp 271611-c10-A-De @ 12.5g ea.		
271611-c10	↓	49.91						
271632-c02	A	49.89						
	3 ↓	50.23						
	5 A/B	49.78						
	6 A	49.91						
	9 ↓	49.88						
	12 ↓	49.97						
271634-c13	Comp	50.26						Prev. Comp. 271634-c01, 2, 3, 4 @ 40g each
	14 ↓	50.28						5, 6, 7, 8 ↓
	15 ↓	49.98						9, 10, 11, 12 ↓
271660-c01	B	50.12						
	2 ↓	50.08						
271667-c01	C	50.10			MSS			
271668-c01	↓	50.23						
	2 ↓	49.93						
271721-c01	B	49.76						
MB	N/A	50.02			FC154411			
LCS	↓	49.95			↓			
MS	↓	49.76			271667-c01			
MSD	↓	49.95			↓			

KKL 11/17/15

SIGNATURE

DATE

Continued to page

DISCLOSED TO AND UNDERSTOOD BY

DATE

PROPRIETARY INFORMATION

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3701

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LIMS Batch No: 229547  
 LIMS Analysis TEH/M  
 Date Extracted: 11/17/15

Extraction Method:  
 Shaker Table  
 EPA 3550 Sonication  
 \_\_\_\_\_

Cleanup Method (if necessary):  
 EPA 3630 Silica Gel

Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments	
271382-016	Comp	49.92	5.0			
271611-010	↓	49.91	5.0			
271632-002	A	49.87	5.0	X		
3	↓	50.23	5.0	X		
5	3	A/B	49.78	5.0	X	
6	A	49.91	5.0	X		
7	↓	49.88	5.0	X	*	
12	↓	49.97	5.0	X	*	
271634-0.3	Comp	50.26	5.0		*	
10	14	↓	50.28	5.0	*	
15	15	↓	49.98	5.0	*	
271660-001	B	50.12	5.0		*	
2	↓	50.68	5.0		*	
271667-001	C	50.10	5.0		*MS	
15	271668-001	↓	50.23	5.0	*	
2	↓	49.93	5.0		*	
271721-001	B	49.76	5.0		*	
MB QC813210	N/A	50.02	5.0	X		
LCS	1	↓	49.95	5.0	X	
20	MS	2	↓	49.76	5.0	
MSD	3	↓	49.95	5.0		
			5.0			
			5.0			
			5.0			
			5.0			

MS/MSD not included due to:  insufficient volume, or  other (reason)

APG 11/18/15

Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples

Samples were dried with CH2Cl2-rinsed powdered Na2SO4

1.0 mL of Surrogate solution was added to all samples

1.0 mL of Spike solution was added to all spikes

1:1 CH2Cl2 (lot# EM55175):Acetone(lot# FC156453) was added to all

Solvent added at (time)

Sonicated 3 times w/ ≥100mL  placed on Shaker Table at:  
 taken off Shaker Table at:

Extracts filtered through baked, rinsed powdered Na2SO4

Concentrated to final volume at temperature (degrees C)

Relinquished to TEH Department

Mfg & Lot # / LIMS # / Time	Date/Initials
FC154411	KKL 11/17/15
↓	
5283050/5284700*	
5284219/B	
✓	
16.15	
✓	
N/A	
EM25350502	
100	
✓	

Kristin Low 11/17/15  
 Extraction Chemist / Date

Continued from page \_\_\_\_\_  
 Continued on page \_\_\_\_\_

[Signature] 11/18/15  
 Reviewed by / Date



Laboratory Job Number 271668

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	PURGE-1-NS	Diln Fac:	40.00
Lab ID:	271668-003	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	40	229688	11/20/15
Chloromethane	ND	40	229688	11/20/15
Vinyl Chloride	ND	20	229688	11/20/15
Bromomethane	ND	40	229688	11/20/15
Chloroethane	ND	40	229688	11/20/15
Trichlorofluoromethane	ND	40	229688	11/20/15
Acetone	ND	400	229708	11/21/15
Freon 113	ND	80	229688	11/20/15
1,1-Dichloroethene	ND	20	229688	11/20/15
Methylene Chloride	ND	400	229688	11/20/15
Carbon Disulfide	ND	20	229708	11/21/15
MTBE	ND	20	229688	11/20/15
trans-1,2-Dichloroethene	ND	20	229688	11/20/15
Vinyl Acetate	ND	400	229688	11/20/15
1,1-Dichloroethane	ND	20	229688	11/20/15
2-Butanone	ND	400	229688	11/20/15
cis-1,2-Dichloroethene	ND	20	229688	11/20/15
2,2-Dichloropropane	ND	20	229688	11/20/15
Chloroform	ND	20	229688	11/20/15
Bromochloromethane	ND	20	229688	11/20/15
1,1,1-Trichloroethane	ND	20	229688	11/20/15
1,1-Dichloropropene	ND	20	229688	11/20/15
Carbon Tetrachloride	ND	20	229688	11/20/15
1,2-Dichloroethane	ND	20	229688	11/20/15
Benzene	ND	20	229688	11/20/15
Trichloroethene	ND	20	229688	11/20/15
1,2-Dichloropropane	ND	20	229688	11/20/15
Bromodichloromethane	ND	20	229688	11/20/15
Dibromomethane	ND	20	229688	11/20/15
4-Methyl-2-Pentanone	ND	400	229688	11/20/15
cis-1,3-Dichloropropene	ND	20	229688	11/20/15
Toluene	ND	20	229688	11/20/15
trans-1,3-Dichloropropene	ND	20	229688	11/20/15
1,1,2-Trichloroethane	ND	20	229688	11/20/15
2-Hexanone	ND	400	229688	11/20/15
1,3-Dichloropropane	ND	20	229688	11/20/15
Tetrachloroethene	ND	20	229688	11/20/15
Dibromochloromethane	ND	20	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	PURGE-1-NS	Diln Fac:	40.00
Lab ID:	271668-003	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	20	229688	11/20/15
Chlorobenzene	ND	20	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	20	229688	11/20/15
Ethylbenzene	ND	20	229688	11/20/15
m,p-Xylenes	ND	20	229688	11/20/15
o-Xylene	ND	20	229688	11/20/15
Styrene	ND	20	229688	11/20/15
Bromoform	ND	40	229688	11/20/15
Isopropylbenzene	ND	20	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	20	229688	11/20/15
1,2,3-Trichloropropane	ND	20	229688	11/20/15
Propylbenzene	ND	20	229688	11/20/15
Bromobenzene	ND	20	229688	11/20/15
1,3,5-Trimethylbenzene	ND	20	229688	11/20/15
2-Chlorotoluene	ND	20	229688	11/20/15
4-Chlorotoluene	ND	20	229688	11/20/15
tert-Butylbenzene	ND	20	229688	11/20/15
1,2,4-Trimethylbenzene	ND	20	229688	11/20/15
sec-Butylbenzene	ND	20	229688	11/20/15
para-Isopropyl Toluene	ND	20	229688	11/20/15
1,3-Dichlorobenzene	ND	20	229688	11/20/15
1,4-Dichlorobenzene	ND	20	229688	11/20/15
n-Butylbenzene	ND	20	229688	11/20/15
1,2-Dichlorobenzene	ND	20	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	80	229688	11/20/15
1,2,4-Trichlorobenzene	ND	20	229688	11/20/15
Hexachlorobutadiene	ND	80	229688	11/20/15
Naphthalene	ND	80	229708	11/21/15
1,2,3-Trichlorobenzene	ND	20	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	109	80-128	229688	11/20/15
1,2-Dichloroethane-d4	125	75-139	229688	11/20/15
Toluene-d8	112	80-120	229688	11/20/15
Bromofluorobenzene	103	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	PURGE-2-NS	Diln Fac:	33.33
Lab ID:	271668-004	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	33	229688	11/20/15
Chloromethane	ND	33	229688	11/20/15
Vinyl Chloride	ND	17	229688	11/20/15
Bromomethane	ND	33	229688	11/20/15
Chloroethane	ND	33	229688	11/20/15
Trichlorofluoromethane	ND	33	229688	11/20/15
Acetone	ND	330	229708	11/21/15
Freon 113	ND	67	229688	11/20/15
1,1-Dichloroethene	ND	17	229688	11/20/15
Methylene Chloride	ND	330	229688	11/20/15
Carbon Disulfide	ND	17	229708	11/21/15
MTBE	ND	17	229688	11/20/15
trans-1,2-Dichloroethene	ND	17	229688	11/20/15
Vinyl Acetate	ND	330	229688	11/20/15
1,1-Dichloroethane	ND	17	229688	11/20/15
2-Butanone	ND	330	229688	11/20/15
cis-1,2-Dichloroethene	ND	17	229688	11/20/15
2,2-Dichloropropane	ND	17	229688	11/20/15
Chloroform	ND	17	229688	11/20/15
Bromochloromethane	ND	17	229688	11/20/15
1,1,1-Trichloroethane	ND	17	229688	11/20/15
1,1-Dichloropropene	ND	17	229688	11/20/15
Carbon Tetrachloride	ND	17	229688	11/20/15
1,2-Dichloroethane	ND	17	229688	11/20/15
Benzene	ND	17	229688	11/20/15
Trichloroethene	ND	17	229688	11/20/15
1,2-Dichloropropane	ND	17	229688	11/20/15
Bromodichloromethane	ND	17	229688	11/20/15
Dibromomethane	ND	17	229688	11/20/15
4-Methyl-2-Pentanone	ND	330	229688	11/20/15
cis-1,3-Dichloropropene	ND	17	229688	11/20/15
Toluene	ND	17	229688	11/20/15
trans-1,3-Dichloropropene	ND	17	229688	11/20/15
1,1,2-Trichloroethane	ND	17	229688	11/20/15
2-Hexanone	ND	330	229688	11/20/15
1,3-Dichloropropane	ND	17	229688	11/20/15
Tetrachloroethene	ND	17	229688	11/20/15
Dibromochloromethane	ND	17	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	PURGE-2-NS	Diln Fac:	33.33
Lab ID:	271668-004	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	17	229688	11/20/15
Chlorobenzene	ND	17	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	17	229688	11/20/15
Ethylbenzene	ND	17	229688	11/20/15
m,p-Xylenes	ND	17	229688	11/20/15
o-Xylene	ND	17	229688	11/20/15
Styrene	ND	17	229688	11/20/15
Bromoform	ND	33	229688	11/20/15
Isopropylbenzene	ND	17	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	17	229688	11/20/15
1,2,3-Trichloropropane	ND	17	229688	11/20/15
Propylbenzene	ND	17	229688	11/20/15
Bromobenzene	ND	17	229688	11/20/15
1,3,5-Trimethylbenzene	ND	17	229688	11/20/15
2-Chlorotoluene	ND	17	229688	11/20/15
4-Chlorotoluene	ND	17	229688	11/20/15
tert-Butylbenzene	ND	17	229688	11/20/15
1,2,4-Trimethylbenzene	ND	17	229688	11/20/15
sec-Butylbenzene	ND	17	229688	11/20/15
para-Isopropyl Toluene	ND	17	229688	11/20/15
1,3-Dichlorobenzene	ND	17	229688	11/20/15
1,4-Dichlorobenzene	ND	17	229688	11/20/15
n-Butylbenzene	ND	17	229688	11/20/15
1,2-Dichlorobenzene	ND	17	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	67	229688	11/20/15
1,2,4-Trichlorobenzene	ND	17	229688	11/20/15
Hexachlorobutadiene	ND	67	229688	11/20/15
Naphthalene	ND	67	229708	11/21/15
1,2,3-Trichlorobenzene	ND	17	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	111	80-128	229688	11/20/15
1,2-Dichloroethane-d4	123	75-139	229688	11/20/15
Toluene-d8	112	80-120	229688	11/20/15
Bromofluorobenzene	104	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit



### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-02-16-NS	Diln Fac:	1.000
Lab ID:	271668-005	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-02-16-NS	Diln Fac:	1.000
Lab ID:	271668-005	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	109	80-128	229688	11/20/15
1,2-Dichloroethane-d4	118	75-139	229688	11/20/15
Toluene-d8	112	80-120	229688	11/20/15
Bromofluorobenzene	103	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-02-24-NS	Diln Fac:	1.000
Lab ID:	271668-006	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	3.8	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-02-24-NS	Diln Fac:	1.000
Lab ID:	271668-006	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	109	80-128	229688	11/20/15
1,2-Dichloroethane-d4	117	75-139	229688	11/20/15
Toluene-d8	111	80-120	229688	11/20/15
Bromofluorobenzene	103	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-04-16-NS	Diln Fac:	1.000
Lab ID:	271668-007	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-04-16-NS	Diln Fac:	1.000
Lab ID:	271668-007	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	109	80-128	229688	11/20/15
1,2-Dichloroethane-d4	118	75-139	229688	11/20/15
Toluene-d8	112	80-120	229688	11/20/15
Bromofluorobenzene	104	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-04-28-NS	Diln Fac:	1.000
Lab ID:	271668-008	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-04-28-NS	Diln Fac:	1.000
Lab ID:	271668-008	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	110	80-128	229688	11/20/15
1,2-Dichloroethane-d4	117	75-139	229688	11/20/15
Toluene-d8	111	80-120	229688	11/20/15
Bromofluorobenzene	105	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit



### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-08-14-NS	Diln Fac:	1.000
Lab ID:	271668-009	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	1.8	0.5	229708	11/21/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-08-14-NS	Diln Fac:	1.000
Lab ID:	271668-009	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	106	80-128	229688	11/20/15
1,2-Dichloroethane-d4	121	75-139	229688	11/20/15
Toluene-d8	112	80-120	229688	11/20/15
Bromofluorobenzene	102	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-08-28-NS	Diln Fac:	1.000
Lab ID:	271668-010	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	1.1	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-08-28-NS	Diln Fac:	1.000
Lab ID:	271668-010	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	108	80-128	229688	11/20/15
1,2-Dichloroethane-d4	123	75-139	229688	11/20/15
Toluene-d8	111	80-120	229688	11/20/15
Bromofluorobenzene	102	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-20-32-NS	Diln Fac:	1.000
Lab ID:	271668-011	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-20-32-NS	Diln Fac:	1.000
Lab ID:	271668-011	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	112	80-128	229688	11/20/15
1,2-Dichloroethane-d4	123	75-139	229688	11/20/15
Toluene-d8	111	80-120	229688	11/20/15
Bromofluorobenzene	104	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-21-20-FD	Diln Fac:	1.000
Lab ID:	271668-012	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229752	11/24/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229752	11/24/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-21-20-FD	Diln Fac:	1.000
Lab ID:	271668-012	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229752	11/24/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	108	80-128	229688	11/20/15
1,2-Dichloroethane-d4	122	75-139	229688	11/20/15
Toluene-d8	112	80-120	229688	11/20/15
Bromofluorobenzene	102	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit



### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-21-20-NS	Diln Fac:	1.000
Lab ID:	271668-013	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-21-20-NS	Diln Fac:	1.000
Lab ID:	271668-013	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	107	80-128	229688	11/20/15
1,2-Dichloroethane-d4	126	75-139	229688	11/20/15
Toluene-d8	112	80-120	229688	11/20/15
Bromofluorobenzene	102	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-21-32-NS	Diln Fac:	1.000
Lab ID:	271668-014	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	3.0	0.5	229708	11/21/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-21-32-NS	Diln Fac:	1.000
Lab ID:	271668-014	Sampled:	11/12/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	112	80-128	229688	11/20/15
1,2-Dichloroethane-d4	124	75-139	229688	11/20/15
Toluene-d8	110	80-120	229688	11/20/15
Bromofluorobenzene	104	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-22-20-NS	Diln Fac:	1.000
Lab ID:	271668-015	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229688	11/20/15
Chloromethane	ND	1.0	229688	11/20/15
Vinyl Chloride	ND	0.5	229688	11/20/15
Bromomethane	ND	1.0	229688	11/20/15
Chloroethane	ND	1.0	229688	11/20/15
Trichlorofluoromethane	ND	1.0	229688	11/20/15
Acetone	ND	10	229708	11/21/15
Freon 113	ND	2.0	229688	11/20/15
1,1-Dichloroethene	ND	0.5	229688	11/20/15
Methylene Chloride	ND	10	229688	11/20/15
Carbon Disulfide	ND	0.5	229708	11/21/15
MTBE	ND	0.5	229688	11/20/15
trans-1,2-Dichloroethene	ND	0.5	229688	11/20/15
Vinyl Acetate	ND	10	229688	11/20/15
1,1-Dichloroethane	ND	0.5	229688	11/20/15
2-Butanone	ND	10	229688	11/20/15
cis-1,2-Dichloroethene	ND	0.5	229688	11/20/15
2,2-Dichloropropane	ND	0.5	229688	11/20/15
Chloroform	ND	0.5	229688	11/20/15
Bromochloromethane	ND	0.5	229688	11/20/15
1,1,1-Trichloroethane	ND	0.5	229688	11/20/15
1,1-Dichloropropene	ND	0.5	229688	11/20/15
Carbon Tetrachloride	ND	0.5	229688	11/20/15
1,2-Dichloroethane	ND	0.5	229688	11/20/15
Benzene	ND	0.5	229688	11/20/15
Trichloroethene	ND	0.5	229688	11/20/15
1,2-Dichloropropane	ND	0.5	229688	11/20/15
Bromodichloromethane	ND	0.5	229688	11/20/15
Dibromomethane	ND	0.5	229688	11/20/15
4-Methyl-2-Pentanone	ND	10	229688	11/20/15
cis-1,3-Dichloropropene	ND	0.5	229688	11/20/15
Toluene	ND	0.5	229688	11/20/15
trans-1,3-Dichloropropene	ND	0.5	229688	11/20/15
1,1,2-Trichloroethane	ND	0.5	229688	11/20/15
2-Hexanone	ND	10	229688	11/20/15
1,3-Dichloropropane	ND	0.5	229688	11/20/15
Tetrachloroethene	ND	0.5	229688	11/20/15
Dibromochloromethane	ND	0.5	229688	11/20/15

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-22-20-NS	Diln Fac:	1.000
Lab ID:	271668-015	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229688	11/20/15
Chlorobenzene	ND	0.5	229688	11/20/15
1,1,1,2-Tetrachloroethane	ND	0.5	229688	11/20/15
Ethylbenzene	ND	0.5	229688	11/20/15
m,p-Xylenes	ND	0.5	229688	11/20/15
o-Xylene	ND	0.5	229688	11/20/15
Styrene	ND	0.5	229688	11/20/15
Bromoform	ND	1.0	229688	11/20/15
Isopropylbenzene	ND	0.5	229688	11/20/15
1,1,2,2-Tetrachloroethane	ND	0.5	229688	11/20/15
1,2,3-Trichloropropane	ND	0.5	229688	11/20/15
Propylbenzene	ND	0.5	229688	11/20/15
Bromobenzene	ND	0.5	229688	11/20/15
1,3,5-Trimethylbenzene	ND	0.5	229688	11/20/15
2-Chlorotoluene	ND	0.5	229688	11/20/15
4-Chlorotoluene	ND	0.5	229688	11/20/15
tert-Butylbenzene	ND	0.5	229688	11/20/15
1,2,4-Trimethylbenzene	ND	0.5	229688	11/20/15
sec-Butylbenzene	ND	0.5	229688	11/20/15
para-Isopropyl Toluene	ND	0.5	229688	11/20/15
1,3-Dichlorobenzene	ND	0.5	229688	11/20/15
1,4-Dichlorobenzene	ND	0.5	229688	11/20/15
n-Butylbenzene	ND	0.5	229688	11/20/15
1,2-Dichlorobenzene	ND	0.5	229688	11/20/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229688	11/20/15
1,2,4-Trichlorobenzene	ND	0.5	229688	11/20/15
Hexachlorobutadiene	ND	2.0	229688	11/20/15
Naphthalene	ND	2.0	229708	11/21/15
1,2,3-Trichlorobenzene	ND	0.5	229688	11/20/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	110	80-128	229688	11/20/15
1,2-Dichloroethane-d4	125	75-139	229688	11/20/15
Toluene-d8	116	80-120	229688	11/20/15
Bromofluorobenzene	102	80-120	229688	11/20/15

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-22-32-NS	Batch#:	229811
Lab ID:	271668-016	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L	Analyzed:	11/24/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-22-32-NS	Batch#:	229811
Lab ID:	271668-016	Sampled:	11/13/15
Matrix:	Water	Received:	11/16/15
Units:	ug/L	Analyzed:	11/24/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-128
1,2-Dichloroethane-d4	112	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected

RL= Reporting Limit



**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	229688
Units:	ug/L	Analyzed:	11/20/15
Diln Fac:	1.000		

Type: BS Lab ID: QC813847

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	12.09	97	66-135
Benzene	12.50	13.14	105	80-123
Trichloroethene	12.50	13.44	108	80-123
Toluene	12.50	14.58	117	80-121
Chlorobenzene	12.50	14.44	115	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	117	75-139
Toluene-d8	112	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC813848

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	12.56	100	66-135	4	24
Benzene	12.50	13.50	108	80-123	3	20
Trichloroethene	12.50	13.66	109	80-123	2	20
Toluene	12.50	14.95	120	80-121	3	20
Chlorobenzene	12.50	14.88	119	80-123	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	114	75-139
Toluene-d8	110	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC813849	Batch#:	229688
Matrix:	Water	Analyzed:	11/20/15
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC813849	Batch#:	229688
Matrix:	Water	Analyzed:	11/20/15
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	118	75-139
Toluene-d8	111	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	229708
Units:	ug/L	Analyzed:	11/21/15
Diln Fac:	1.000		

Type: BS Lab ID: QC813920

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	28.62	114	66-135
Benzene	25.00	31.26	125 *	80-123
Trichloroethene	25.00	28.79	115	80-123
Toluene	25.00	30.54	122 *	80-121
Chlorobenzene	25.00	28.83	115	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	130	75-139
Toluene-d8	109	80-120
Bromofluorobenzene	104	80-120

Type: BSD Lab ID: QC813940

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	26.61	106	66-135	7	24
Benzene	25.00	29.42	118	80-123	6	20
Trichloroethene	25.00	27.47	110	80-123	5	20
Toluene	25.00	29.23	117	80-121	4	20
Chlorobenzene	25.00	27.98	112	80-123	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	110	80-120
Bromofluorobenzene	102	80-120

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC813921	Batch#:	229708
Matrix:	Water	Analyzed:	11/21/15
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC813921	Batch#:	229708
Matrix:	Water	Analyzed:	11/21/15
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	131	75-139
Toluene-d8	107	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC814115	Batch#:	229752
Matrix:	Water	Analyzed:	11/24/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	12.80	102	66-135
Benzene	12.50	13.37	107	80-123
Trichloroethene	12.50	13.42	107	80-123
Toluene	12.50	12.94	104	80-121
Chlorobenzene	12.50	13.22	106	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-128
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	109	80-120
Bromofluorobenzene	99	80-120

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC814116	Batch#:	229752
Matrix:	Water	Analyzed:	11/24/15
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit



**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC814116	Batch#:	229752
Matrix:	Water	Analyzed:	11/24/15
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	116	80-128
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	105	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC814353	Batch#:	229811
Matrix:	Water	Analyzed:	11/24/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	23.04	92	66-135
Benzene	25.00	23.48	94	80-123
Trichloroethene	25.00	23.72	95	80-123
Toluene	25.00	25.36	101	80-121
Chlorobenzene	25.00	25.10	100	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	106	80-120
Bromofluorobenzene	106	80-120

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC814354	Batch#:	229811
Matrix:	Water	Analyzed:	11/24/15
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC814354	Batch#:	229811
Matrix:	Water	Analyzed:	11/24/15
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	104	80-128
1,2-Dichloroethane-d4	87	75-139
Toluene-d8	107	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	271802-009	Batch#:	229811
Matrix:	Water	Sampled:	11/17/15
Units:	ug/L	Received:	11/19/15

Type: MS Analyzed: 11/24/15  
 Lab ID: QC814355

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1000	25.00	28.70	115	73-129
Benzene	<0.1000	25.00	29.96	120	80-120
Trichloroethene	2.282	25.00	31.89	118	73-123
Toluene	<0.1000	25.00	29.48	118	80-120
Chlorobenzene	<0.1000	25.00	29.69	119	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	112	75-139
Toluene-d8	104	80-120
Bromofluorobenzene	97	80-120

Type: MSD Analyzed: 11/25/15  
 Lab ID: QC814356

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	26.98	108	73-129	6	25
Benzene	25.00	26.77	107	80-120	11	20
Trichloroethene	25.00	29.29	108	73-123	8	20
Toluene	25.00	26.99	108	80-120	9	21
Chlorobenzene	25.00	27.84	111	80-120	6	24

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	96	80-120

RPD= Relative Percent Difference

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	229752
MSS Lab ID:	271732-005	Sampled:	11/12/15
Matrix:	Water	Received:	11/17/15
Units:	ug/L	Analyzed:	11/24/15
Diln Fac:	1.000		

Type: MS Lab ID: QC814385

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1117	12.50	10.79	86	73-129
Benzene	<0.1000	12.50	12.69	102	80-120
Trichloroethene	57.40	12.50	62.22	39 NM	73-123
Toluene	<0.1000	12.50	12.21	98	80-120
Chlorobenzene	<0.1000	12.50	12.76	102	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	114	80-128
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	109	80-120
Bromofluorobenzene	97	80-120

Type: MSD Lab ID: QC814386

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.96	96	73-129	10	25
Benzene	12.50	13.53	108	80-120	6	20
Trichloroethene	12.50	64.19	54 NM	73-123	3	20
Toluene	12.50	12.95	104	80-120	6	21
Chlorobenzene	12.50	13.63	109	80-120	7	24

Surrogate	%REC	Limits
Dibromofluoromethane	114	80-128
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	109	80-120
Bromofluorobenzene	99	80-120

NM= Not Meaningful: Sample concentration > 4X spike concentration  
 RPD= Relative Percent Difference

**Initial & Continuing Calibration Data**

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA02                      Run Name : BFB                      IDF : 1.0  
Seqnum : 415365033009              File : bia09                      Time : 10-SEP-2015 19:26

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	25024	20.15	
75	30% - 60% of mass 95	55152	44.41	
95		124200	100.00	
96	5% - 9% of mass 95	8526	6.86	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	108741	87.55	
175	5% - 9% of mass 174	7977	7.34	
176	> 95% and < 101% of mass 174	106720	98.14	
177	5% - 9% of mass 176	6821	6.39	

Analyst: KKM                      Date: 09/15/15                      Reviewer: LW                      Date: 09/16/15



CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA02                      Run Name : BFB                      IDF : 1.0  
Seqnum : 415467153007              File : bkk07                      Time : 20-NOV-2015 13:09

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	9093	21.84	
75	30% - 60% of mass 95	19883	47.76	
95		41627	100.00	
96	5% - 9% of mass 95	2873	6.90	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	37432	89.92	
175	5% - 9% of mass 174	2511	6.71	
176	> 95% and < 101% of mass 174	36213	96.74	
177	5% - 9% of mass 176	2228	6.15	

Analyst: DJA                      Date: 11/23/15                      Reviewer: LW                      Date: 11/23/15

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA03                      Run Name : BFB                      IDF : 1.0  
Seqnum : 425383715013              File : cin13                      Time : 23-SEP-2015 20:54

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	57842	20.44	
75	30% - 60% of mass 95	128698	45.47	
95		283029	100.00	
96	5% - 9% of mass 95	19250	6.80	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	213845	75.56	
175	5% - 9% of mass 174	15834	7.40	
176	> 95% and < 101% of mass 174	205610	96.15	
177	5% - 9% of mass 176	13648	6.64	

Analyst: DAR                      Date: 09/24/15                      Reviewer: LW                      Date: 09/29/15

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA03 Run Name : BFB IDF : 1.0  
Seqnum : 425468732002 File : ck102 Time : 21-NOV-2015 12:55

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	38064	19.74	
75	30% - 60% of mass 95	89978	46.67	
95		192789	100.00	
96	5% - 9% of mass 95	12859	6.67	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	144552	74.98	
175	5% - 9% of mass 174	10263	7.10	
176	> 95% and < 101% of mass 174	139597	96.57	
177	5% - 9% of mass 176	8886	6.37	

Analyst: DAR Date: 11/23/15 Reviewer: LW Date: 11/23/15

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA03 Run Name : BFB IDF : 1.0  
Seqnum : 425472906006 File : cko06 Time : 24-NOV-2015 13:21

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	42666	19.92	
75	30% - 60% of mass 95	98861	46.16	
95		214165	100.00	
96	5% - 9% of mass 95	14276	6.67	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	182848	85.38	
175	5% - 9% of mass 174	13490	7.38	
176	> 95% and < 101% of mass 174	177493	97.07	
177	5% - 9% of mass 176	11937	6.73	

Analyst: DAR Date: 11/24/15 Reviewer: LW Date: 11/25/15

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA14                      Run Name : BFB                      IDF : 1.0  
Seqnum : 955422499012              File : njk12                      Time : 20-OCT-2015 13:29

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6135	25.97	
75	30% - 60% of mass 95	11611	49.16	
95		23619	100.00	
96	5% - 9% of mass 95	1771	7.50	
173	< 2% of mass 174	181	1.03	
174	> 50% and < 100% of mass 95	17576	74.41	
175	5% - 9% of mass 174	1199	6.82	
176	> 95% and < 101% of mass 174	17083	97.20	
177	5% - 9% of mass 176	1070	6.26	

Analyst: MCT                      Date: 10/21/15                      Reviewer: LW                      Date: 10/22/15

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA14                      Run Name : BFB                      IDF : 1.0  
Seqnum : 955423728005              File : njl05                      Time : 21-OCT-2015 10:43

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	9284	26.58	
75	30% - 60% of mass 95	17331	49.61	
95		34931	100.00	
96	5% - 9% of mass 95	2234	6.40	
173	< 2% of mass 174	246	1.02	
174	> 50% and < 100% of mass 95	24045	68.84	
175	5% - 9% of mass 174	1674	6.96	
176	> 95% and < 101% of mass 174	23349	97.11	
177	5% - 9% of mass 176	1688	7.23	

MCT: 10/21/15 \*      DJA: 10/22/15      LW: 10/23/15

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA14                      Run Name : BFB                      IDF : 1.0  
Seqnum : 955472935012              File : nk012                      Time : 24-NOV-2015 16:24

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	2000	21.65	
75	30% - 60% of mass 95	4913	53.18	
95		9239	100.00	
96	5% - 9% of mass 95	573	6.20	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	6922	74.92	
175	5% - 9% of mass 174	607	8.77	
176	> 95% and < 101% of mass 174	6590	95.20	
177	5% - 9% of mass 176	555	8.42	

Analyst: DJA                      Date: 11/25/15                      Reviewer: LW                      Date: 11/25/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 MSVOA Water: EPA 8260B

Inst : MSVOA02  
 Calnum : 415365033001  
 Units : ug/L

Name : 8260X02W  
 Date : 10-SEP-2015 21:57

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	bia14	415365033014		10-SEP-2015 21:57	S27005 (2000000X), S27823 (2000000X), S27893 (2000000X), S26571 (1000000X), S28020 (5000X)
L2	bia15	415365033015		10-SEP-2015 22:42	S27005 (1000000X), S27823 (1000000X), S27893 (1000000X), S26571 (500000X), S28020 (5000X)
L3	bia16	415365033016		10-SEP-2015 23:12	S27005 (500000X), S27823 (250000X), S27893 (250000X), S26571 (250000X), S28020 (5000X)
L4	bia17	415365033017		10-SEP-2015 23:42	S27005 (200000X), S27823 (100000X), S27893 (100000X), S26571 (100000X), S28020 (5000X)
L5	bia18	415365033018		11-SEP-2015 00:13	S27005 (100000X), S27823 (50000X), S27893 (50000X), S26571 (50000X), S28020 (5000X)
L6	bia19	415365033019		11-SEP-2015 00:43	S27005 (50000X), S27823 (25000X), S27893 (25000X), S26571 (25000X), S28020 (5000X)
L7	bia20	415365033020		11-SEP-2015 01:28	S27005 (20000X), S27823 (10000X), S27893 (10000X), S26571 (10000X), S28020 (5000X)
L8	bia21	415365033021		11-SEP-2015 01:58	S27005 (13333X), S27823 (6667X), S27893 (6667X), S26571 (6667X), S28020 (5000X)
L9	bia22	415365033022		11-SEP-2015 02:29	S27005 (10000X), S27823 (5000X), S27893 (5000X), S26571 (5000X), S28020 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.8075	0.6644	0.6899	0.5523	0.5770	0.5735	0.5784	0.5918	AVRG	R		1.58896		0.6293	14	15	0.05	0.99	
Chloromethane		1.2856m	1.2693	1.1460	1.0841	0.9926	0.9690	0.9395	0.9329	AVRG	R		0.92818		1.0774	13	15	0.10	0.99	
Vinyl Chloride	0.9558	0.8906	0.8161	0.7794	0.7077	0.6595	0.6711	0.6624	0.6600	AVRG	R		1.32302		0.7558	15	15	0.05	0.99	
Bromomethane		0.2960	0.3968	0.3498	0.3625	0.3414	0.3833	0.3841	0.4000	AVRG	R		2.74543		0.3642	10	15	0.05	0.99	
Chloroethane		0.4390m	0.4417m	0.4778	0.4445	0.3998	0.3987	0.3931	0.3932	AVRG	R		2.36142		0.4235	7	15	0.05	0.99	
Trichlorofluoromethane		0.8029	0.7636	0.7779	0.6564	0.6616	0.6909	0.7117	0.7515	AVRG	R		1.37540		0.7271	8	15	0.05	0.99	
Acetone			0.3439	0.3191	0.2806	0.2970	0.2954	0.3031	0.3056	AVRG	R		3.26371		0.3064	7	15	0.05	0.99	
Freon 113		0.4810	0.4385	0.4536	0.4139	0.4261	0.5121	0.4800	0.4969	AVRG	R		2.16090		0.4628	8	15	0.05	0.99	
1,1-Dichloroethene		0.5137m	0.4717	0.4889	0.4463	0.4222	0.4491	0.4280	0.4416	AVRG	R		2.18485		0.4577	7	15	0.05	0.99	
Methylene Chloride		1.0259	0.8690	0.8033	0.7808	0.7262	0.7399	0.7256	0.7304	AVRG	R		1.24978		0.8001	13	15	0.05	0.99	
Carbon Disulfide		2.2760	2.0809	2.1257	1.9542	1.9388	2.0011	1.9278	1.9837	AVRG	R		0.49115		2.0360	6	15	0.05	0.99	
MTBE		1.5936	1.7224	1.5933	1.5828	1.5463	1.6212	1.7200	1.8096	AVRG	R		0.60656		1.6486	6	15	0.05	0.99	
trans-1,2-Dichloroethene		0.5452m	0.5889	0.5832	0.5629	0.5396	0.5540	0.5261	0.5352	AVRG	R		1.80381		0.5544	4	15	0.05	0.99	
Vinyl Acetate		2.0955	1.9768	1.8991	1.8822	1.9290	1.9661	2.0954	2.1581	AVRG	R		0.49993		2.0003	5	15	0.05	0.99	
1,1-Dichloroethane		1.3862	1.2416	1.1709	1.1334	1.0776	1.1049	1.0709	1.0907	AVRG	R		0.86242		1.1595	9	15	0.10	0.99	
2-Butanone			0.5461	0.4741	0.4668	0.4761	0.4754	0.4960	0.4978	AVRG	R		2.03952		0.4903	6	15	0.05	0.99	
2,2-Dichloropropane		0.5873	0.6073	0.5774	0.5436	0.5548	0.6168	0.6056	0.5991	AVRG	R		1.70506		0.5865	4	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6485m	0.7433	0.6778	0.6482	0.6360	0.6440	0.6202	0.6262	AVRG	R		1.52547		0.6555	6	15	0.05	0.99	
Chloroform		1.2559	1.1078	1.1290	1.0572	1.0397	1.0469	0.9942	1.0134	AVRG	R		0.92550		1.0805	8	15	0.05	0.99	
Bromochloromethane		0.3905	0.3738	0.3796	0.3660	0.3703	0.3731	0.3820	0.3880	AVRG	R		2.64619		0.3779	2	15	0.05	0.99	
1,1,1-Trichloroethane		0.9686	0.7706	0.7486	0.7067	0.6867	0.7835	0.8160	0.8473	AVRG	R		1.26420		0.7910	11	15	0.05	0.99	
1,1-Dichloropropene		0.5332	0.4934	0.5038	0.4727	0.4592	0.4824	0.4917	0.5182	AVRG	R		2.02295		0.4943	5	15	0.05	0.99	
Carbon Tetrachloride		0.4369	0.3746	0.3764	0.3506	0.3455	0.3826	0.4095	0.4289	AVRG	R		2.57646		0.3881	9	15	0.05	0.99	
1,2-Dichloroethane		0.6833	0.5407	0.5316	0.4946	0.5058	0.5095	0.4973	0.4901	AVRG	R		1.88102		0.5316	12	15	0.05	0.99	



Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.7013	1.4907	1.5084	1.4476	1.4319	1.4659	1.4742	1.4756	AVRG	R		0.66691		1.4995	6	15	0.05	0.99	
Trichloroethene		0.4474	0.3803	0.3867	0.3702	0.3655	0.3721	0.3771	0.3908	AVRG	R		2.58895		0.3863	7	15	0.05	0.99	
1,2-Dichloropropane		0.5099	0.4735	0.4679	0.4548	0.4461	0.4479	0.4566	0.4707	AVRG	R		2.14632		0.4659	4	15	0.05	0.99	
Bromodichloromethane		0.5346	0.4949m	0.5064	0.5055	0.4971	0.5062	0.5385	0.5496	AVRG	R		1.93575		0.5166	4	15	0.05	0.99	
Dibromomethane		0.3075	0.3097m	0.3295	0.3166	0.3184	0.3030	0.2997	0.2902	AVRG	R		3.23293		0.3093	4	15	0.05	0.99	
4-Methyl-2-Pentanone			0.6943	0.6842	0.6417	0.6740	0.6438	0.6809	0.6659	AVRG	R		1.49420		0.6693	3	15	0.05	0.99	
cis-1,3-Dichloropropene		0.7404	0.6713	0.6507	0.6419	0.6370	0.6308	0.6458	0.6525	AVRG	R		1.51792		0.6588	5	15	0.05	0.99	
Toluene		1.7548	1.6632	1.6424	1.5870	1.5614	1.5931	1.5573	1.5673	AVRG	R		0.61889		1.6158	4	15	0.05	0.99	
trans-1,3-Dichloropropene		0.6529	0.5994	0.5886	0.5771	0.5735	0.5871	0.5828	0.6032	AVRG	R		1.67904		0.5956	4	15	0.05	0.99	
1,1,2-Trichloroethane		0.2108m	0.2156m	0.2160m	0.2196	0.2138	0.2163	0.2176	0.2187	AVRG	R		4.62836		0.2161	1	15	0.05	0.99	
2-Hexanone			0.4655	0.4734	0.4459	0.4731	0.4530	0.4770	0.4776	AVRG	R		2.14364		0.4665	3	15	0.05	0.99	
1,3-Dichloropropane		0.6696	0.6602	0.6458	0.6382	0.6391	0.6463	0.6459	0.6651	AVRG	R		1.53542		0.6513	2	15	0.05	0.99	
Tetrachloroethene		0.4578	0.4032	0.4154	0.3876	0.3752	0.3989	0.3862	0.3972	AVRG	R		2.48327		0.4027	6	15	0.05	0.99	
Dibromochloromethane		0.4736	0.4633	0.4589	0.4577	0.4608	0.4694	0.4677	0.4772	AVRG	R		2.14558		0.4661	2	15	0.05	0.99	
1,2-Dibromoethane		0.5267	0.4787	0.4528	0.4418	0.4507	0.4524	0.4507	0.4549	AVRG	R		2.15701		0.4636	6	15	0.05	0.99	
Chlorobenzene		1.2388	1.1279	1.1156	1.0681	1.0651	1.0887	1.0607	1.0613	AVRG	R		0.90638		1.1033	5	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4032	0.3832	0.3716	0.3597	0.3593	0.3635	0.3526	0.3573	AVRG	R		2.71160		0.3688	5	15	0.05	0.99	
Ethylbenzene		1.9347	1.8298	1.8125	1.7471	1.6940	1.7864	1.7310	1.7266	AVRG	R		0.56093		1.7827	4	15	0.05	0.99	
m,p-Xylenes	0.7863	0.7462	0.6715	0.6657	0.6415	0.6256	0.6483	0.6244	0.6206	AVRG	R		1.49251		0.6700	9	15	0.05	0.99	
o-Xylene		0.7236	0.6899	0.6760	0.6571	0.6380	0.6645	0.6368	0.6366	AVRG	R		1.50310		0.6653	5	15	0.05	0.99	
Styrene		1.2525	1.1974	1.1783	1.1594	1.1470	1.1798	1.1415	1.1393	AVRG	R		0.85150		1.1744	3	15	0.05	0.99	
Bromoform		0.4906	0.3788	0.3657	0.3590	0.3596	0.3667	0.3644	0.3651	AVRG	R		2.62313		0.3812	12	15	0.10	0.99	
Isopropylbenzene		3.7452	3.2976	3.2743	3.1857	2.9036	3.1731	3.0639	3.1113	AVRG	R		0.31062		3.2193	8	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.2854	1.2508	1.2429	1.2421	1.2143	1.2132	1.2188	1.2237	AVRG	R		0.80880		1.2364	2	15	0.30	0.99	
1,2,3-Trichloropropane		1.0814	0.9467m	0.9278m	0.9116m	0.8857m	0.9006m	0.8879m	0.9058m	AVRG	R		1.07421		0.9309	7	15	0.05	0.99	
Propylbenzene		4.0612	3.8385	3.7856	3.7359	3.4757	3.8113	3.6821	3.7108	AVRG	R		0.26577		3.7626	4	15	0.05	0.99	
Bromobenzene		1.0696	1.0072	1.0216	1.0049	0.9538	0.9705	0.9557	0.9536	AVRG	R		1.00796		0.9921	4	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.6552	2.3694	2.3319	2.2855	2.1459	2.3753	2.3153	2.3383	AVRG	R		0.42515		2.3521	6	15	0.05	0.99	
2-Chlorotoluene		2.9240	2.7543	2.6827	2.6245	2.4588	2.5614	2.4959	2.5016	AVRG	R		0.38089		2.6254	6	15	0.05	0.99	
4-Chlorotoluene		2.8057	2.4802	2.4266	2.4231	2.3072	2.4105	2.3588	2.3773	AVRG	R		0.40838		2.4487	6	15	0.05	0.99	
tert-Butylbenzene		2.4282	2.0505	2.0843	1.9908	1.8625	2.0852	2.0288	2.0627	AVRG	R		0.48212		2.0742	8	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.3875	2.0236	2.0896	2.1095	2.0259	2.3118	2.2726	2.3161	AVRG	R		0.45619		2.1921	7	15	0.05	0.99	
sec-Butylbenzene		3.2839	2.8800	2.9795	2.8861	2.7066	3.1205	3.0438	3.1214	AVRG	R		0.33303		3.0027	6	15	0.05	0.99	
para-Isopropyl Toluene		2.4219	2.0418	2.1063	2.1058	2.0140	2.3870	2.3386	2.4080	AVRG	R		0.44885		2.2279	8	15	0.05	0.99	
1,3-Dichlorobenzene		1.8389	1.6785	1.6442	1.6271	1.4667	1.6083	1.5819	1.5933	AVRG	R		0.61355		1.6298	6	15	0.05	0.99	
1,4-Dichlorobenzene		1.8119	1.6886	1.6318	1.6182	1.5606	1.6281	1.6028	1.6069	AVRG	R		0.60840		1.6436	5	15	0.05	0.99	
n-Butylbenzene		1.7231	1.5327	1.6837	1.6608	1.6416	2.0248	1.9991	2.0690	AVRG	R		0.55809		1.7918	12	15	0.05	0.99	
1,2-Dichlorobenzene		1.7214	1.6637	1.6229	1.6102	1.5624	1.6005	1.5768	1.5835	AVRG	R		0.61817		1.6177	3	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.2212	0.2333	0.2365	0.2247	0.2229	0.2286	0.2294	AVRG	R		4.38449		0.2281	2	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.5189	0.5567	0.6139	0.6253	0.6490	0.7562	0.7515	0.7693	AVRG	R		1.52651		0.6551	15	15	0.05	0.99	
Hexachlorobutadiene		0.3488	0.3308	0.3539	0.3440	0.3240	0.3802	0.3664	0.3746	AVRG	R		2.83421		0.3528	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r <sup>2</sup> %RSD	Max %RSD	Min RF	Min r <sup>2</sup>	Flg
Naphthalene		1.7403	1.6022	1.6760	1.6848	1.7469	1.8386	1.8907	1.8798	AVRG	R		0.56901		1.7574	6	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.4403	0.4771	0.5615	0.5827	0.6196	0.7078			QUAD	A	-0.1226	0.56822	0.002841	0.5648	1.000	15	0.05	0.99	
Dibromofluoromethane	0.5360	0.5259	0.5350	0.5339	0.5318	0.5299	0.5276	0.5170	0.5172	AVRG	R		1.89299		0.5283	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3356	0.3318	0.3331	0.3355	0.3292	0.3333	0.3189	0.3192	0.3052	AVRG	R		3.05941		0.3269	3	15	0.05	0.99	
Toluene-d8	1.1786	1.1764	1.1747	1.1844	1.1710	1.1804	1.1796	1.1809	1.1862	AVRG	R		0.84808		1.1791	0	15	0.05	0.99	
Bromofluorobenzene	1.0211	1.0213	0.9992	1.0075	1.0185	0.9880	0.9802	0.9776	0.9924	AVRG	R		0.99935		1.0006	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	<b>28</b>	2.0000	6	5.0000	10	10.000	-12	20.000	-8	50.000	-9	74.996	-8	100.00	-6
Chloromethane			1.0000	19	2.0000	18	5.0000	6	10.000	1	20.000	-8	50.000	-10	74.996	-13	100.00	-13
Vinyl Chloride	0.5000	<b>26</b>	1.0000	18	2.0000	8	5.0000	3	10.000	-6	20.000	-13	50.000	-11	74.996	-12	100.00	-13
Bromomethane			1.0000	-19	2.0000	9	5.0000	-4	10.000	0	20.000	-6	50.000	5	74.996	5	100.00	10
Chloroethane			1.0000	4	2.0000	4	5.0000	13	10.000	5	20.000	-6	50.000	-6	74.996	-7	100.00	-7
Trichlorofluoromethane			1.0000	10	2.0000	5	5.0000	7	10.000	-10	20.000	-9	50.000	-5	74.996	-2	100.00	3
Acetone					2.0000	12	5.0000	4	10.000	-8	20.000	-3	50.000	-4	74.996	-1	100.00	0
Freon 113			0.5000	4	2.0000	-5	5.0000	-2	10.000	-11	20.000	-8	50.000	11	74.996	4	100.00	7
1,1-Dichloroethene			0.5000	12	2.0000	3	5.0000	7	10.000	-2	20.000	-8	50.000	-2	74.996	-6	100.00	-4
Methylene Chloride			0.5000	<b>28</b>	2.0000	9	5.0000	0	10.000	-2	20.000	-9	50.000	-8	74.996	-9	100.00	-9
Carbon Disulfide			0.5000	12	2.0000	2	5.0000	4	10.000	-4	20.000	-5	50.000	-2	74.996	-5	100.00	-3
MTBE			0.5000	-3	2.0000	4	5.0000	-3	10.000	-4	20.000	-6	50.000	-2	74.996	4	100.00	10
trans-1,2-Dichloroethene			0.5000	-2	2.0000	6	5.0000	5	10.000	2	20.000	-3	50.000	0	74.996	-5	100.00	-3
Vinyl Acetate			0.5000	5	2.0000	-1	5.0000	-5	10.000	-6	20.000	-4	50.000	-2	74.996	5	100.00	8
1,1-Dichloroethane			0.5000	20	2.0000	7	5.0000	1	10.000	-2	20.000	-7	50.000	-5	74.996	-8	100.00	-6
2-Butanone					2.0000	11	5.0000	-3	10.000	-5	20.000	-3	50.000	-3	74.996	1	100.00	2
2,2-Dichloropropane			0.5000	0	2.0000	4	5.0000	-2	10.000	-7	20.000	-5	50.000	5	74.996	3	100.00	2
cis-1,2-Dichloroethene			0.5000	-1	2.0000	13	5.0000	3	10.000	-1	20.000	-3	50.000	-2	74.996	-5	100.00	-4
Chloroform			0.5000	16	2.0000	3	5.0000	4	10.000	-2	20.000	-4	50.000	-3	74.996	-8	100.00	-6
Bromochloromethane			0.5000	3	2.0000	-1	5.0000	0	10.000	-3	20.000	-2	50.000	-1	74.996	1	100.00	3
1,1,1-Trichloroethane			0.5000	<b>22</b>	2.0000	-3	5.0000	-5	10.000	-11	20.000	-13	50.000	-1	74.996	3	100.00	7
1,1-Dichloropropene			0.5000	8	2.0000	0	5.0000	2	10.000	-4	20.000	-7	50.000	-2	74.996	-1	100.00	5
Carbon Tetrachloride			0.5000	13	2.0000	-3	5.0000	-3	10.000	-10	20.000	-11	50.000	-1	74.996	6	100.00	11
1,2-Dichloroethane			0.5000	<b>29</b>	2.0000	2	5.0000	0	10.000	-7	20.000	-5	50.000	-4	74.996	-6	100.00	-8
Benzene			0.5000	13	2.0000	-1	5.0000	1	10.000	-3	20.000	-5	50.000	-2	74.996	-2	100.00	-2
Trichloroethene			0.5000	16	2.0000	-2	5.0000	0	10.000	-4	20.000	-5	50.000	-4	74.996	-2	100.00	1
1,2-Dichloropropane			0.5000	9	2.0000	2	5.0000	0	10.000	-2	20.000	-4	50.000	-4	74.996	-2	100.00	1
Bromodichloromethane			0.5000	3	2.0000	-4	5.0000	-2	10.000	-2	20.000	-4	50.000	-2	74.996	4	100.00	6
Dibromomethane			0.5000	-1	2.0000	0	5.0000	7	10.000	2	20.000	3	50.000	-2	74.996	-3	100.00	-6
4-Methyl-2-Pentanone					2.0000	4	5.0000	2	10.000	-4	20.000	1	50.000	-4	74.996	2	100.00	-1
cis-1,3-Dichloropropene			0.5000	12	2.0000	2	5.0000	-1	10.000	-3	20.000	-3	50.000	-4	74.996	-2	100.00	-1
Toluene			0.5000	9	2.0000	3	5.0000	2	10.000	-2	20.000	-3	50.000	-1	74.996	-4	100.00	-3
trans-1,3-Dichloropropene			0.5000	10	2.0000	1	5.0000	-1	10.000	-3	20.000	-4	50.000	-1	74.996	-2	100.00	1
1,1,2-Trichloroethane			0.5000	-2	2.0000	0	5.0000	0	10.000	2	20.000	-1	50.000	0	74.996	1	100.00	1
2-Hexanone					2.0000	0	5.0000	1	10.000	-4	20.000	1	50.000	-3	74.996	2	100.00	2
1,3-Dichloropropane			0.5000	3	2.0000	1	5.0000	-1	10.000	-2	20.000	-2	50.000	-1	74.996	-1	100.00	2
Tetrachloroethene			0.5000	14	2.0000	0	5.0000	3	10.000	-4	20.000	-7	50.000	-1	74.996	-4	100.00	-1
Dibromochloromethane			0.5000	2	2.0000	-1	5.0000	-2	10.000	-2	20.000	-1	50.000	1	74.996	0	100.00	2
1,2-Dibromoethane			0.5000	14	2.0000	3	5.0000	-2	10.000	-5	20.000	-3	50.000	-2	74.996	-3	100.00	-2
Chlorobenzene			0.5000	12	2.0000	2	5.0000	1	10.000	-3	20.000	-3	50.000	-1	74.996	-4	100.00	-4
1,1,1,2-Tetrachloroethane			0.5000	9	2.0000	4	5.0000	1	10.000	-2	20.000	-3	50.000	-1	74.996	-4	100.00	-3
Ethylbenzene			0.5000	9	2.0000	3	5.0000	2	10.000	-2	20.000	-5	50.000	0	74.996	-3	100.00	-3

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	17	1.0000	11	4.0000	0	10.000	-1	20.000	-4	40.000	-7	100.00	-3	149.99	-7	200.00	-7
o-Xylene			0.5000	9	2.0000	4	5.0000	2	10.000	-1	20.000	-4	50.000	0	74.996	-4	100.00	-4
Styrene			0.5000	7	2.0000	2	5.0000	0	10.000	-1	20.000	-2	50.000	0	74.996	-3	100.00	-3
Bromoform			0.5000	29	2.0000	-1	5.0000	-4	10.000	-6	20.000	-6	50.000	-4	74.996	-4	100.00	-4
Isopropylbenzene			0.5000	16	2.0000	2	5.0000	2	10.000	-1	20.000	-10	50.000	-1	74.996	-5	100.00	-3
1,1,2,2-Tetrachloroethane			0.5000	4	2.0000	1	5.0000	1	10.000	0	20.000	-2	50.000	-2	74.996	-1	100.00	-1
1,2,3-Trichloropropane			0.5000	16	2.0000	2	5.0000	0	10.000	-2	20.000	-5	50.000	-3	74.996	-5	100.00	-3
Propylbenzene			0.5000	8	2.0000	2	5.0000	1	10.000	-1	20.000	-8	50.000	1	74.996	-2	100.00	-1
Bromobenzene			0.5000	8	2.0000	2	5.0000	3	10.000	1	20.000	-4	50.000	-2	74.996	-4	100.00	-4
1,3,5-Trimethylbenzene			0.5000	13	2.0000	1	5.0000	-1	10.000	-3	20.000	-9	50.000	1	74.996	-2	100.00	-1
2-Chlorotoluene			0.5000	11	2.0000	5	5.0000	2	10.000	0	20.000	-6	50.000	-2	74.996	-5	100.00	-5
4-Chlorotoluene			0.5000	15	2.0000	1	5.0000	-1	10.000	-1	20.000	-6	50.000	-2	74.996	-4	100.00	-3
tert-Butylbenzene			0.5000	17	2.0000	-1	5.0000	0	10.000	-4	20.000	-10	50.000	1	74.996	-2	100.00	-1
1,2,4-Trimethylbenzene			0.5000	9	2.0000	-8	5.0000	-5	10.000	-4	20.000	-8	50.000	5	74.996	4	100.00	6
sec-Butylbenzene			0.5000	9	2.0000	-4	5.0000	-1	10.000	-4	20.000	-10	50.000	4	74.996	1	100.00	4
para-Isopropyl Toluene			0.5000	9	2.0000	-8	5.0000	-5	10.000	-5	20.000	-10	50.000	7	74.996	5	100.00	8
1,3-Dichlorobenzene			0.5000	13	2.0000	3	5.0000	1	10.000	0	20.000	-10	50.000	-1	74.996	-3	100.00	-2
1,4-Dichlorobenzene			0.5000	10	2.0000	3	5.0000	-1	10.000	-2	20.000	-5	50.000	-1	74.996	-2	100.00	-2
n-Butylbenzene			0.5000	-4	2.0000	-14	5.0000	-6	10.000	-7	20.000	-8	50.000	13	74.996	12	100.00	15
1,2-Dichlorobenzene			0.5000	6	2.0000	3	5.0000	0	10.000	0	20.000	-3	50.000	-1	74.996	-3	100.00	-2
1,2-Dibromo-3-Chloropropane					2.0000	-3	5.0000	2	10.000	4	20.000	-1	50.000	-2	74.996	0	100.00	1
1,2,4-Trichlorobenzene			0.5000	-21	2.0000	-15	5.0000	-6	10.000	-5	20.000	-1	50.000	15	74.996	15	100.00	17
Hexachlorobutadiene			0.5000	-1	2.0000	-6	5.0000	0	10.000	-3	20.000	-8	50.000	8	74.996	4	100.00	6
Naphthalene			0.5000	-1	2.0000	-9	5.0000	-5	10.000	-4	20.000	-1	50.000	5	74.996	8	100.00	7
1,2,3-Trichlorobenzene			0.5000	20	2.0000	-6	5.0000	1	10.000	0	20.000	0	50.000	0				
Dibromofluoromethane	50.000	1	50.000	0	50.000	1	50.000	1	50.000	1	50.000	0	50.000	0	50.000	-2	50.000	-2
1,2-Dichloroethane-d4	50.000	3	50.000	1	50.000	2	50.000	3	50.000	1	50.000	2	50.000	-2	50.000	-2	50.000	-7
Toluene-d8	50.000	0	50.000	0	50.000	0	50.000	0	50.000	-1	50.000	0	50.000	0	50.000	0	50.000	1
Bromofluorobenzene	50.000	2	50.000	2	50.000	0	50.000	1	50.000	2	50.000	-1	50.000	-2	50.000	-2	50.000	-1

KKM 09/18/15 [2-Chloroethylvinylether]: Not usable from calibration

KKM 09/18/15 [Chloroethane]: Corrected automatically drawn baseline in multiple levels.

KKM 09/18/15 [Chloromethane]: Corrected automatically drawn baseline in (bia15).

KKM 09/18/15 [1,1-Dichloroethene]: Corrected automatically drawn baseline in (bia15).

KKM 09/18/15 [trans-1,2-Dichloroethene]: Corrected automatically drawn baseline in (bia15).

KKM 09/18/15 [cis-1,2-Dichloroethene]: Corrected automatically drawn baseline in (bia15).

KKM 09/18/15 [1,1,2-Trichloroethane]: Corrected automatically drawn baseline in multiple levels.

KKM 09/18/15 [Dibromomethane]: Corrected automatically drawn baseline in (bia16).

KKM 09/18/15 [Bromodichloromethane]: Corrected automatically drawn baseline in (bia16).

KKM 09/18/15 [1,2,3-Trichloropropane]: Separated from coeluting peak in multiple levels.

Analyst: KKM

Date: 09/18/15

Reviewer: LW

Date: 09/23/15

m=manual integration

X=A: Instrument response = a0 + amount \* a1 + amount^2 \* a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA02  
Calnum : 415365033001

Name : 8260X02W  
Cal Date : 10-SEP-2015

Type : WATER

ICV 415365033023 (bia23 11-SEP-2015) stds: S27007 (10000X), S28020 (5000X)  
ICV 415365033024 (bia24 11-SEP-2015) stds: S28013 (10000X), S27930 (10000X),  
S28020 (5000X), S27929 (10000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	415365033023	20.00	23.04	ug/L	15	30	
Chloromethane	415365033023	20.00	19.64	ug/L	-2	30	
Vinyl Chloride	415365033023	20.00	19.93	ug/L	0	20	
Bromomethane	415365033023	20.00	18.71	ug/L	-6	30	
Chloroethane	415365033023	20.00	20.60	ug/L	3	30	
Trichlorofluoromethane	415365033023	20.00	21.59	ug/L	8	30	
Acetone	415365033024	25.00	24.61	ug/L	-2	40	
Freon 113	415365033024	25.00	20.02	ug/L	-20	30	
1,1-Dichloroethene	415365033024	25.00	20.89	ug/L	-16	20	
Methylene Chloride	415365033024	25.00	22.43	ug/L	-10	30	
Carbon Disulfide	415365033024	25.00	17.36	ug/L	-31	30	v-
MTBE	415365033024	25.00	24.63	ug/L	-1	30	
trans-1,2-Dichloroethene	415365033024	25.00	21.97	ug/L	-12	30	
Vinyl Acetate	415365033024	25.00	25.36	ug/L	1	40	
1,1-Dichloroethane	415365033024	25.00	22.96	ug/L	-8	30	
2-Butanone	415365033024	25.00	24.57	ug/L	-2	40	
2,2-Dichloropropane	415365033024	25.00	21.95	ug/L	-12	30	
cis-1,2-Dichloroethene	415365033024	25.00	25.72	ug/L	3	30	
Chloroform	415365033024	25.00	24.65	ug/L	-1	20	
Bromochloromethane	415365033024	25.00	24.89	ug/L	0	30	
1,1,1-Trichloroethane	415365033024	25.00	22.68	ug/L	-9	30	m
1,1-Dichloropropene	415365033024	25.00	21.08	ug/L	-16	30	
Carbon Tetrachloride	415365033024	25.00	23.44	ug/L	-6	30	
1,2-Dichloroethane	415365033024	25.00	23.77	ug/L	-5	30	
Benzene	415365033024	25.00	24.05	ug/L	-4	30	
Trichloroethene	415365033024	25.00	23.84	ug/L	-5	30	
1,2-Dichloropropane	415365033024	25.00	22.60	ug/L	-10	20	
Bromodichloromethane	415365033024	25.00	24.11	ug/L	-4	30	
Dibromomethane	415365033024	25.00	26.18	ug/L	5	30	
4-Methyl-2-Pentanone	415365033024	25.00	25.70	ug/L	3	40	
cis-1,3-Dichloropropene	415365033024	25.00	25.10	ug/L	0	30	
Toluene	415365033024	25.00	25.18	ug/L	1	20	
trans-1,3-Dichloropropene	415365033024	25.00	23.82	ug/L	-5	30	
1,1,2-Trichloroethane	415365033024	25.00	25.75	ug/L	3	30	
2-Hexanone	415365033024	25.00	26.01	ug/L	4	40	
1,3-Dichloropropane	415365033024	25.00	26.03	ug/L	4	30	
Tetrachloroethene	415365033024	25.00	24.89	ug/L	0	30	
Dibromochloromethane	415365033024	25.00	24.51	ug/L	-2	30	
1,2-Dibromoethane	415365033024	25.00	24.54	ug/L	-2	30	
Chlorobenzene	415365033024	25.00	25.07	ug/L	0	30	
1,1,1,2-Tetrachloroethane	415365033024	25.00	24.69	ug/L	-1	30	
Ethylbenzene	415365033024	25.00	25.57	ug/L	2	20	
m,p-Xylenes	415365033024	50.00	50.02	ug/L	0	30	
o-Xylene	415365033024	25.00	25.25	ug/L	1	30	
Styrene	415365033024	25.00	25.83	ug/L	3	30	
Bromoform	415365033024	25.00	24.15	ug/L	-3	30	
Isopropylbenzene	415365033024	25.00	24.80	ug/L	-1	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	415365033024	25.00	20.62	ug/L	-18	30	
1,2,3-Trichloropropane	415365033024	25.00	25.04	ug/L	0	30	m
Propylbenzene	415365033024	25.00	25.22	ug/L	1	30	
Bromobenzene	415365033024	25.00	25.29	ug/L	1	30	
1,3,5-Trimethylbenzene	415365033024	25.00	26.04	ug/L	4	30	
2-Chlorotoluene	415365033024	25.00	25.18	ug/L	1	30	
4-Chlorotoluene	415365033024	25.00	25.27	ug/L	1	30	
tert-Butylbenzene	415365033024	25.00	25.24	ug/L	1	30	
1,2,4-Trimethylbenzene	415365033024	25.00	25.18	ug/L	1	30	
sec-Butylbenzene	415365033024	25.00	25.63	ug/L	3	30	
para-Isopropyl Toluene	415365033024	25.00	25.79	ug/L	3	30	
1,3-Dichlorobenzene	415365033024	25.00	25.12	ug/L	0	30	
1,4-Dichlorobenzene	415365033024	25.00	25.44	ug/L	2	30	
n-Butylbenzene	415365033024	25.00	26.35	ug/L	5	30	
1,2-Dichlorobenzene	415365033024	25.00	25.59	ug/L	2	30	
1,2-Dibromo-3-Chloropropane	415365033024	25.00	26.74	ug/L	7	30	
1,2,4-Trichlorobenzene	415365033024	25.00	27.32	ug/L	9	30	
Hexachlorobutadiene	415365033024	25.00	26.64	ug/L	7	30	
Naphthalene	415365033024	25.00	24.22	ug/L	-3	30	
1,2,3-Trichlorobenzene	415365033024	25.00	26.97	ug/L	8	30	

415365033023: Analyst: KKM  
415365033024: Analyst: KKM

Date: 09/18/15  
Date: 09/18/15

Reviewer: LW  
Reviewer: LW

Date: 09/23/15  
Date: 09/23/15

--low bias m=manual integration v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 MSVOA Water: EPA 8260B

Inst : MSVOA03  
 Calnum : 425383715001  
 Units : ug/L

Name : 8260GX3W  
 Date : 23-SEP-2015 23:45  
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	cin18	425383715018	.25/.5PPB	23-SEP-2015 23:45	S27005 (2000000X), S27823 (2000000X), S27893 (2000000X), S26571 (1000000X), S27973 (5000X)
L2	cin19	425383715019	.5/1PPB	24-SEP-2015 00:07	S27973 (5000X), S27005 (1000000X), S27823 (1000000X), S27893 (1000000X), S26571 (5000000X)
L3	cin20	425383715020	2PPB	24-SEP-2015 00:50	S27005 (250000X), S27823 (250000X), S27893 (250000X), S26571 (250000X), S27973 (5000X)
L4	cin21	425383715021	5PPB	24-SEP-2015 01:11	S27973 (5000X), S27005 (1000000X), S27823 (1000000X), S27893 (1000000X), S26571 (1000000X)
L5	cin22	425383715022	10PPB	24-SEP-2015 01:54	S27973 (5000X), S27005 (500000X), S27823 (500000X), S27893 (500000X), S26571 (500000X)
L6	cin23	425383715023	20PPB	24-SEP-2015 02:37	S27973 (5000X), S27005 (250000X), S27823 (250000X), S27893 (250000X), S26571 (250000X)
L7	cin24	425383715024	50PPB	24-SEP-2015 02:58	S27973 (5000X), S27005 (100000X), S27823 (100000X), S27893 (100000X), S26571 (100000X)
L8	cin25	425383715025	75PPB	24-SEP-2015 03:41	S27973 (5000X), S27005 (6667X), S27823 (6667X), S27893 (6667X), S26571 (6667X)
L9	cin26	425383715026	100PPB	24-SEP-2015 04:24	S27973 (5000X), S27005 (5000X), S27823 (5000X), S27893 (5000X), S26571 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.5073	0.5042	0.5536	0.5000	0.4829	0.5209	0.4776	0.4799	AVRG		1.98696		0.5033	5	15	0.05	0.99	
Chloromethane	0.6172	0.5010	0.4729	0.5033	0.4523	0.4609	0.4354	0.4493	0.4195	AVRG		2.08731		0.4791	12	15	0.10	0.99	
Vinyl Chloride	0.4453	0.4441	0.4176	0.4640	0.4201	0.4435	0.4268	0.4192	0.3990	AVRG		2.31981		0.4311	5	15	0.05	0.99	
Bromomethane		0.2686	0.2307	0.2588	0.2195	0.2707	0.2440	0.2657	0.2397	AVRG		4.00446		0.2497	8	15	0.05	0.99	
Chloroethane		0.2308	0.2507	0.2734	0.2496	0.2606	0.2545	0.2485	0.2303	AVRG		4.00340		0.2498	6	15	0.05	0.99	
Trichlorofluoromethane		0.5659	0.5435	0.5694	0.5102	0.5385	0.5171	0.4942	0.4973	AVRG		1.88847		0.5295	6	15	0.05	0.99	
Acetone				0.2325	0.2315	0.1969	0.2264	0.1912	0.2184	AVRG		4.62637		0.2162	8	15	0.05	0.99	
Freon 113		0.3718	0.4455	0.4375	0.4021	0.4196	0.3928	0.3958	0.3933	AVRG		2.45512		0.4073	6	15	0.05	0.99	
1,1-Dichloroethene		0.3643	0.4379	0.4324	0.3841	0.3978	0.3946	0.3846	0.3830	AVRG		2.51673		0.3973	6	15	0.05	0.99	
Methylene Chloride		0.4334	0.5674	0.5710	0.5535	0.5513	0.5366	0.5322	0.5301	AVRG		1.87109		0.5344	8	15	0.05	0.99	
Carbon Disulfide		1.4808	1.7776	1.7869	1.6096	1.6685	1.5695	1.5513	1.5520	AVRG		0.61556		1.6245	7	15	0.05	0.99	
MTBE		1.0902	1.2758	1.2877	1.3594	1.3385	1.3385	1.2805	1.2571	AVRG		0.78220		1.2784	7	15	0.05	0.99	
trans-1,2-Dichloroethene		0.4336	0.4815	0.4832	0.4548	0.4690	0.4674	0.4439	0.4370	AVRG		2.17961		0.4588	4	15	0.05	0.99	
Vinyl Acetate					0.9175	1.2091	0.9294	0.9789	0.8856	AVRG		1.01615		0.9841	13	15	0.05	0.99	
1,1-Dichloroethane		0.7873	0.9139	0.9253	0.8937	0.9286	0.8860	0.8365	0.8671	AVRG		1.13662		0.8798	6	15	0.10	0.99	
2-Butanone				0.3164	0.3487	0.3038	0.3224	0.2741	0.3056	AVRG		3.20702		0.3118	8	15	0.05	0.99	
2,2-Dichloropropane		0.4428	0.5126	0.5000	0.4702	0.4989	0.4501	0.4327	0.4223	AVRG		2.14505		0.4662	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.5046	0.5427	0.5543	0.5393	0.5465	0.5350	0.5272	0.5206	AVRG		1.87348		0.5338	3	15	0.05	0.99	
Chloroform		0.7722	0.8796	0.9134	0.8704	0.8899	0.8513	0.8343	0.8177	AVRG		1.17153		0.8536	5	15	0.05	0.99	
Bromochloromethane		0.2551	0.3001	0.3036	0.3099	0.3099	0.2980	0.2938	0.2809	AVRG		3.40237		0.2939	6	15	0.05	0.99	
1,1,1-Trichloroethane		0.5663	0.6509	0.6537	0.6186	0.6422	0.6122	0.6097	0.6002	AVRG		1.61492		0.6192	5	15	0.05	0.99	
1,1-Dichloropropene		0.3185	0.3546	0.3627	0.3404	0.3526	0.3379	0.3394	0.3403	AVRG		2.91303		0.3433	4	15	0.05	0.99	
Carbon Tetrachloride		0.1910	0.2625	0.2786	0.2745	0.2955	0.2898	0.2988	0.3002	AVRG		3.65149		0.2739	13	15	0.05	0.99	
1,2-Dichloroethane		0.3151	0.3687	0.3741	0.3759	0.3760	0.3673	0.3634	0.3571	AVRG		2.76087		0.3622	6	15	0.05	0.99	



Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		0.9027	1.0217	1.0332	0.9905	0.9987	0.9460	0.9395	0.9110	AVRG		1.03315		0.9679	5	15	0.05	0.99	
Trichloroethene		0.2360	0.2895	0.2931	0.2774	0.2805	0.2747	0.2703	0.2699	AVRG		3.65080		0.2739	6	15	0.05	0.99	
1,2-Dichloropropane		0.2724	0.3137	0.3191	0.3108	0.3167	0.3125	0.3111	0.3028	AVRG		3.25322		0.3074	5	15	0.05	0.99	
Bromodichloromethane		0.3306	0.3617	0.3856	0.3837	0.3928	0.3858	0.3883	0.3849	AVRG		2.65482		0.3767	6	15	0.05	0.99	
Dibromomethane		0.1950	0.2202	0.2252	0.2303	0.2274	0.2254	0.2214	0.2192	AVRG		4.53501		0.2205	5	15	0.05	0.99	
4-Methyl-2-Pentanone			0.3921	0.3558	0.3957	0.3697	0.3941	0.3628	0.3836	AVRG		2.63767		0.3791	4	15	0.05	0.99	
cis-1,3-Dichloropropene		0.3925	0.4264	0.4334	0.4375	0.4474	0.4445	0.4410	0.4333	AVRG		2.31478		0.4320	4	15	0.05	0.99	
Toluene		0.5795	0.6232	0.6391	0.6132	0.6314	0.5958	0.5939	0.5858	AVRG		1.64548		0.6077	4	15	0.05	0.99	
trans-1,3-Dichloropropene		0.3428	0.3780	0.3947	0.3994	0.4197	0.4171	0.4067	0.4133	AVRG		2.52230		0.3965	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.1434	0.1583	0.1629	0.1610	0.1664	0.1646	0.1599	0.1610	AVRG		6.26272		0.1597	4	15	0.05	0.99	
2-Hexanone			0.3038	0.2742	0.3041	0.2758	0.3024	0.2705	0.2929	AVRG		3.45894		0.2891	5	15	0.05	0.99	
1,3-Dichloropropane		0.4315	0.4760	0.4809	0.4892	0.4929	0.4804	0.4709	0.4727	AVRG		2.10826		0.4743	4	15	0.05	0.99	
Tetrachloroethene		0.2380	0.2641	0.2650	0.2474	0.2625	0.2519	0.2536	0.2579	AVRG		3.92097		0.2550	4	15	0.05	0.99	
Dibromochloromethane		0.2743	0.3176	0.3244	0.3416	0.3551	0.3592	0.3603	0.3644	AVRG		2.96637		0.3371	9	15	0.05	0.99	
1,2-Dibromoethane		0.2950	0.3297	0.3220	0.3328	0.3340	0.3391	0.3325	0.3371	AVRG		3.05110		0.3278	4	15	0.05	0.99	
Chlorobenzene		0.6987	0.7618	0.7751	0.7366	0.7640	0.7265	0.7230	0.7153	AVRG		1.35571		0.7376	4	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2272	0.2640	0.2740	0.2719	0.2819	0.2763	0.2764	0.2762	AVRG		3.72469		0.2685	7	15	0.05	0.99	
Ethylbenzene		1.0373	1.1807	1.2219	1.1282	1.1769	1.1048	1.0995	1.0840	AVRG		0.88561		1.1292	5	15	0.05	0.99	
m,p-Xylenes	0.3957	0.3716	0.4325	0.4563	0.4282	0.4475	0.4113	0.4040	0.3904	AVRG		2.40809		0.4153	7	15	0.05	0.99	
o-Xylene		0.3834	0.4236	0.4533	0.4312	0.4588	0.4226	0.4243	0.4130	AVRG		2.34594		0.4263	6	15	0.05	0.99	
Styrene		0.6550	0.7438	0.7920	0.7742	0.8187	0.7645	0.7573	0.7425	AVRG		1.32275		0.7560	6	15	0.05	0.99	
Bromoform		0.1833	0.1987	0.2023	0.2185	0.2286	0.2447	0.2401	0.2491	AVRG		4.53173		0.2207	11	15	0.10	0.99	
Isopropylbenzene		1.8368	2.1137	2.1934	2.0555	2.1799	2.0128	2.0239	1.9990	AVRG		0.48736		2.0519	6	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.7630	0.8180	0.7886	0.8282	0.8572	0.8327	0.8050	0.8134	AVRG		1.22963		0.8133	4	15	0.30	0.99	
1,2,3-Trichloropropane		0.6234m	0.6802m	0.6264m	0.6715m	0.6308m	0.6213m	0.5997m	0.5977m	AVRG		1.58387		0.6314	5	15	0.05	0.99	
Propylbenzene		2.3019	2.6203	2.6749	2.5161	2.6008	2.3441	2.3273	2.2390	AVRG		0.40765		2.4531	7	15	0.05	0.99	
Bromobenzene		0.5863	0.6229	0.6438	0.6300	0.6475	0.6099	0.6069	0.5900	AVRG		1.62031		0.6172	4	15	0.05	0.99	
1,3,5-Trimethylbenzene		1.4720	1.7399	1.8040	1.6729	1.7644	1.5893	1.5702	1.5395	AVRG		0.60827		1.6440	7	15	0.05	0.99	
2-Chlorotoluene		1.6069	1.7773	1.8346	1.7267	1.7758	1.6068	1.5721	1.5224	AVRG		0.59601		1.6778	7	15	0.05	0.99	
4-Chlorotoluene		1.5104	1.6756	1.7296	1.6237	1.6999	1.5731	1.5760	1.5524	AVRG		0.61820		1.6176	5	15	0.05	0.99	
tert-Butylbenzene		1.2264	1.4579	1.4495	1.3727	1.4427	1.3330	1.3558	1.3507	AVRG		0.72802		1.3736	6	15	0.05	0.99	
1,2,4-Trimethylbenzene		1.5705	1.7515	1.8465	1.7490	1.8472	1.7140	1.7179	1.7039	AVRG		0.57552		1.7376	5	15	0.05	0.99	
sec-Butylbenzene		1.8894	2.1525	2.2019	2.0955	2.2228	2.0609	2.0804	2.0751	AVRG		0.47680		2.0973	5	15	0.05	0.99	
para-Isopropyl Toluene		1.4120	1.7049	1.7409	1.6588	1.7839	1.6458	1.6673	1.6751	AVRG		0.60201		1.6611	7	15	0.05	0.99	
1,3-Dichlorobenzene		0.9972	1.0804	1.1370	1.0736	1.1394	1.0710	1.0764	1.0771	AVRG		0.92464		1.0815	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.0585	1.1594	1.1754	1.1193	1.1657	1.1027	1.1081	1.1058	AVRG		0.88939		1.1244	4	15	0.05	0.99	
n-Butylbenzene		1.2135	1.5152	1.5535	1.4708	1.6166	1.4705	1.5040	1.5061	AVRG		0.67510		1.4813	8	15	0.05	0.99	
1,2-Dichlorobenzene		0.9521	1.0846	1.1053	1.0753	1.1227	1.0594	1.0740	1.0758	AVRG		0.93576		1.0687	5	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.0946	0.1392	0.1264	0.1357	0.1345	0.1419	0.1311	0.1421	AVRG		7.65201		0.1307	12	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.4087	0.5467	0.5761	0.5783	0.6209	0.5983	0.6025	0.6165	AVRG		1.75898		0.5685	12	15	0.05	0.99	
Hexachlorobutadiene		0.1243	0.1842	0.1901	0.1811	0.1986	0.1795	0.1865	0.1934	AVRG		5.56427		0.1797	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.1936	1.4158	1.4739	1.5871	1.6634	1.7487	1.6896	1.8211	AVRG		0.63526		1.5742	13	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.3778	0.5187	0.5482	0.5598	0.5948	0.5850	0.5851	0.6067	AVRG		1.82811		0.5470	14	15	0.05	0.99	
Dibromofluoromethane	0.7032	0.7017	0.7058	0.6994	0.6994	0.6962	0.6898	0.6832	0.6771	AVRG		1.43870		0.6951	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3764	0.3744	0.3779	0.3745	0.3834	0.3620	0.3534	0.3482	0.3408	AVRG		2.73469		0.3657	4	15	0.05	0.99	
Toluene-d8	1.1333	1.1252	1.1333	1.1312	1.1348	1.1381	1.1358	1.1438	1.1446	AVRG		0.88062		1.1356	1	15	0.05	0.99	
Bromofluorobenzene	0.9683	0.9632	0.9701	0.9524	0.9457	0.9539	0.9342	0.9366	0.9351	AVRG		1.05144		0.9511	1	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	1	2.0000	0	5.0000	10	10.000	-1	20.000	-4	50.000	3	75.000	-5	100.00	-5
Chloromethane	0.5000	29	1.0000	5	2.0000	-1	5.0000	5	10.000	-6	20.000	-4	50.000	-9	75.000	-6	100.00	-12
Vinyl Chloride	0.5000	3	1.0000	3	2.0000	-3	5.0000	8	10.000	-3	20.000	3	50.000	-1	75.000	-3	100.00	-7
Bromomethane			1.0000	8	2.0000	-8	5.0000	4	10.000	-12	20.000	8	50.000	-2	75.000	6	100.00	-4
Chloroethane			1.0000	-8	2.0000	0	5.0000	9	10.000	0	20.000	4	50.000	2	75.000	-1	100.00	-8
Trichlorofluoromethane			1.0000	7	2.0000	3	5.0000	8	10.000	-4	20.000	2	50.000	-2	75.000	-7	100.00	-6
Acetone							5.0000	8	10.000	7	20.000	-9	50.000	5	75.000	-12	100.00	1
Freon 113			0.5000	-9	2.0000	9	5.0000	7	10.000	-1	20.000	3	50.000	-4	75.000	-3	100.00	-3
1,1-Dichloroethene			0.5000	-8	2.0000	10	5.0000	9	10.000	-3	20.000	0	50.000	-1	75.000	-3	100.00	-4
Methylene Chloride			0.5000	-19	2.0000	6	5.0000	7	10.000	4	20.000	3	50.000	0	75.000	0	100.00	-1
Carbon Disulfide			0.5000	-9	2.0000	9	5.0000	10	10.000	-1	20.000	3	50.000	-3	75.000	-5	100.00	-4
MTBE			0.5000	-15	2.0000	0	5.0000	1	10.000	6	20.000	5	50.000	5	75.000	0	100.00	-2
trans-1,2-Dichloroethene			0.5000	-5	2.0000	5	5.0000	5	10.000	-1	20.000	2	50.000	2	75.000	-3	100.00	-5
Vinyl Acetate									10.000	-7	20.000	23	50.000	-6	75.000	-1	100.00	-10
1,1-Dichloroethane			0.5000	-11	2.0000	4	5.0000	5	10.000	2	20.000	6	50.000	1	75.000	-5	100.00	-1
2-Butanone							5.0000	1	10.000	12	20.000	-3	50.000	3	75.000	-12	100.00	-2
2,2-Dichloropropane			0.5000	-5	2.0000	10	5.0000	7	10.000	1	20.000	7	50.000	-3	75.000	-7	100.00	-9
cis-1,2-Dichloroethene			0.5000	-5	2.0000	2	5.0000	4	10.000	1	20.000	2	50.000	0	75.000	-1	100.00	-2
Chloroform			0.5000	-10	2.0000	3	5.0000	7	10.000	2	20.000	4	50.000	0	75.000	-2	100.00	-4
Bromochloromethane			0.5000	-13	2.0000	2	5.0000	3	10.000	5	20.000	5	50.000	1	75.000	0	100.00	-4
1,1,1-Trichloroethane			0.5000	-9	2.0000	5	5.0000	6	10.000	0	20.000	4	50.000	-1	75.000	-2	100.00	-3
1,1-Dichloropropene			0.5000	-7	2.0000	3	5.0000	6	10.000	-1	20.000	3	50.000	-2	75.000	-1	100.00	-1
Carbon Tetrachloride			0.5000	-30	2.0000	-4	5.0000	2	10.000	0	20.000	8	50.000	6	75.000	9	100.00	10
1,2-Dichloroethane			0.5000	-13	2.0000	2	5.0000	3	10.000	4	20.000	4	50.000	1	75.000	0	100.00	-1
Benzene			0.5000	-7	2.0000	6	5.0000	7	10.000	2	20.000	3	50.000	-2	75.000	-3	100.00	-6
Trichloroethene			0.5000	-14	2.0000	6	5.0000	7	10.000	1	20.000	2	50.000	0	75.000	-1	100.00	-1
1,2-Dichloropropane			0.5000	-11	2.0000	2	5.0000	4	10.000	1	20.000	3	50.000	2	75.000	1	100.00	-1
Bromodichloromethane			0.5000	-12	2.0000	-4	5.0000	2	10.000	2	20.000	4	50.000	2	75.000	3	100.00	2
Dibromomethane			0.5000	-12	2.0000	0	5.0000	2	10.000	4	20.000	3	50.000	2	75.000	0	100.00	-1
4-Methyl-2-Pentanone					2.0000	3	5.0000	-6	10.000	4	20.000	-2	50.000	4	75.000	-4	100.00	1
cis-1,3-Dichloropropene			0.5000	-9	2.0000	-1	5.0000	0	10.000	1	20.000	4	50.000	3	75.000	2	100.00	0
Toluene			0.5000	-5	2.0000	3	5.0000	5	10.000	1	20.000	4	50.000	-2	75.000	-2	100.00	-4
trans-1,3-Dichloropropene			0.5000	-14	2.0000	-5	5.0000	0	10.000	1	20.000	6	50.000	5	75.000	3	100.00	4
1,1,2-Trichloroethane			0.5000	-10	2.0000	-1	5.0000	2	10.000	1	20.000	4	50.000	3	75.000	0	100.00	1
2-Hexanone					2.0000	5	5.0000	-5	10.000	5	20.000	-5	50.000	5	75.000	-6	100.00	1
1,3-Dichloropropane			0.5000	-9	2.0000	0	5.0000	1	10.000	3	20.000	4	50.000	1	75.000	-1	100.00	0
Tetrachloroethene			0.5000	-7	2.0000	4	5.0000	4	10.000	-3	20.000	3	50.000	-1	75.000	-1	100.00	1
Dibromochloromethane			0.5000	-19	2.0000	-6	5.0000	-4	10.000	1	20.000	5	50.000	7	75.000	7	100.00	8
1,2-Dibromoethane			0.5000	-10	2.0000	1	5.0000	-2	10.000	2	20.000	2	50.000	3	75.000	1	100.00	3
Chlorobenzene			0.5000	-5	2.0000	3	5.0000	5	10.000	0	20.000	4	50.000	-2	75.000	-2	100.00	-3
1,1,1,2-Tetrachloroethane			0.5000	-15	2.0000	-2	5.0000	2	10.000	1	20.000	5	50.000	3	75.000	3	100.00	3
Ethylbenzene			0.5000	-8	2.0000	5	5.0000	8	10.000	0	20.000	4	50.000	-2	75.000	-3	100.00	-4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	-5	1.0000	-11	4.0000	4	10.000	10	20.000	3	40.000	8	100.00	-1	150.00	-3	200.00	-6
o-Xylene			0.5000	-10	2.0000	-1	5.0000	6	10.000	1	20.000	8	50.000	-1	75.000	0	100.00	-3
Styrene			0.5000	-13	2.0000	-2	5.0000	5	10.000	2	20.000	8	50.000	1	75.000	0	100.00	-2
Bromoform			0.5000	-17	2.0000	-10	5.0000	-8	10.000	-1	20.000	4	50.000	11	75.000	9	100.00	13
Isopropylbenzene			0.5000	-10	2.0000	3	5.0000	7	10.000	0	20.000	6	50.000	-2	75.000	-1	100.00	-3
1,1,2,2-Tetrachloroethane			0.5000	-6	2.0000	1	5.0000	-3	10.000	2	20.000	5	50.000	2	75.000	-1	100.00	0
1,2,3-Trichloropropane			0.5000	-1	2.0000	8	5.0000	-1	10.000	6	20.000	0	50.000	-2	75.000	-5	100.00	-5
Propylbenzene			0.5000	-6	2.0000	7	5.0000	9	10.000	3	20.000	6	50.000	-4	75.000	-5	100.00	-9
Bromobenzene			0.5000	-5	2.0000	1	5.0000	4	10.000	2	20.000	5	50.000	-1	75.000	-2	100.00	-4
1,3,5-Trimethylbenzene			0.5000	-10	2.0000	6	5.0000	10	10.000	2	20.000	7	50.000	-3	75.000	-4	100.00	-6
2-Chlorotoluene			0.5000	-4	2.0000	6	5.0000	9	10.000	3	20.000	6	50.000	-4	75.000	-6	100.00	-9
4-Chlorotoluene			0.5000	-7	2.0000	4	5.0000	7	10.000	0	20.000	5	50.000	-3	75.000	-3	100.00	-4
tert-Butylbenzene			0.5000	-11	2.0000	6	5.0000	6	10.000	0	20.000	5	50.000	-3	75.000	-1	100.00	-2
1,2,4-Trimethylbenzene			0.5000	-10	2.0000	1	5.0000	6	10.000	1	20.000	6	50.000	-1	75.000	-1	100.00	-2
sec-Butylbenzene			0.5000	-10	2.0000	3	5.0000	5	10.000	0	20.000	6	50.000	-2	75.000	-1	100.00	-1
para-Isopropyl Toluene			0.5000	-15	2.0000	3	5.0000	5	10.000	0	20.000	7	50.000	-1	75.000	0	100.00	1
1,3-Dichlorobenzene			0.5000	-8	2.0000	0	5.0000	5	10.000	-1	20.000	5	50.000	-1	75.000	0	100.00	0
1,4-Dichlorobenzene			0.5000	-6	2.0000	3	5.0000	5	10.000	0	20.000	4	50.000	-2	75.000	-1	100.00	-2
n-Butylbenzene			0.5000	-18	2.0000	2	5.0000	5	10.000	-1	20.000	9	50.000	-1	75.000	2	100.00	2
1,2-Dichlorobenzene			0.5000	-11	2.0000	1	5.0000	3	10.000	1	20.000	5	50.000	-1	75.000	1	100.00	1
1,2-Dibromo-3-Chloropropane			0.5000	<b>-28</b>	2.0000	7	5.0000	-3	10.000	4	20.000	3	50.000	9	75.000	0	100.00	9
1,2,4-Trichlorobenzene			0.5000	<b>-28</b>	2.0000	-4	5.0000	1	10.000	2	20.000	9	50.000	5	75.000	6	100.00	8
Hexachlorobutadiene			0.5000	<b>-31</b>	2.0000	2	5.0000	6	10.000	1	20.000	10	50.000	0	75.000	4	100.00	8
Naphthalene			0.5000	<b>-24</b>	2.0000	-10	5.0000	-6	10.000	1	20.000	6	50.000	11	75.000	7	100.00	16
1,2,3-Trichlorobenzene			0.5000	<b>-31</b>	2.0000	-5	5.0000	0	10.000	2	20.000	9	50.000	7	75.000	7	100.00	11
Dibromofluoromethane	50.000	1	50.000	1	50.000	2	50.000	1	50.000	1	50.000	0	50.000	-1	50.000	-2	50.000	-3
1,2-Dichloroethane-d4	50.000	3	50.000	2	50.000	3	50.000	2	50.000	5	50.000	-1	50.000	-3	50.000	-5	50.000	-7
Toluene-d8	50.000	0	50.000	-1	50.000	0	50.000	0	50.000	0	50.000	0	50.000	0	50.000	1	50.000	1
Bromofluorobenzene	50.000	2	50.000	1	50.000	2	50.000	0	50.000	-1	50.000	0	50.000	-2	50.000	-2	50.000	-2

DAR 09/24/15 [1,2,3-Trichloropropane]: Separated from coeluting peak in multiple levels.

DAR 09/24/15 [tert-Butyl Alcohol (TBA)]: ICV out high, rerun all hits

DAR 09/24/15 [Ethanol]: ICV out high, rerun all hits

DAR 09/24/15 [Isopropanol]: ICV out high, rerun all hits

LW 09/30/15 [n-Hexane]: High bias at low point - ok for ND results and hits over 5 ppb.

Analyst: DAR

Date: 09/24/15

Reviewer: LW

Date: 09/30/15

m=manual integration

Instrument amount =  $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$ ; AVRG=Average response factor

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425383715001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA03  
Calnum : 425383715001

Name : 8260GX3W  
Cal Date : 23-SEP-2015

Type : WATER

ICV 425383715027 (cin27 24-SEP-2015) stds: S27858 (10000X), S27973 (5000X), S27929 (10000X), S27930 (10000X)

ICV 425383715028 (cin28 24-SEP-2015) stds: S27007 (10000X), S27973 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	425383715028	20.00	14.28	ug/L	-29	30	!v-
Chloromethane	425383715028	20.00	17.62	ug/L	-12	30	
Vinyl Chloride	425383715028	20.00	19.10	ug/L	-5	20	
Bromomethane	425383715028	20.00	15.33	ug/L	-23	30	!v-
Chloroethane	425383715028	20.00	19.80	ug/L	-1	30	
Trichlorofluoromethane	425383715028	20.00	18.17	ug/L	-9	30	
Acetone	425383715027	25.00	28.02	ug/L	12	40	
Freon 113	425383715027	25.00	19.83	ug/L	-21	30	!v-
1,1-Dichloroethene	425383715027	25.00	22.63	ug/L	-9	20	
Methylene Chloride	425383715027	25.00	25.05	ug/L	0	30	
Carbon Disulfide	425383715027	25.00	22.35	ug/L	-11	30	
MTBE	425383715027	25.00	26.57	ug/L	6	30	
trans-1,2-Dichloroethene	425383715027	25.00	23.18	ug/L	-7	30	
Vinyl Acetate	425383715027	25.00	22.53	ug/L	-10	40	
1,1-Dichloroethane	425383715027	25.00	24.02	ug/L	-4	30	
2-Butanone	425383715027	25.00	27.22	ug/L	9	40	
2,2-Dichloropropane	425383715027	25.00	22.23	ug/L	-11	30	
cis-1,2-Dichloroethene	425383715027	25.00	26.24	ug/L	5	30	
Chloroform	425383715027	25.00	24.70	ug/L	-1	20	
Bromochloromethane	425383715027	25.00	25.75	ug/L	3	30	
1,1,1-Trichloroethane	425383715027	25.00	23.94	ug/L	-4	30	
1,1-Dichloropropene	425383715027	25.00	20.54	ug/L	-18	30	
Carbon Tetrachloride	425383715027	25.00	24.03	ug/L	-4	30	
1,2-Dichloroethane	425383715027	25.00	23.67	ug/L	-5	30	
Benzene	425383715027	25.00	23.24	ug/L	-7	30	
Trichloroethene	425383715027	25.00	23.72	ug/L	-5	30	
1,2-Dichloropropane	425383715027	25.00	22.46	ug/L	-10	20	
Bromodichloromethane	425383715027	25.00	23.21	ug/L	-7	30	
Dibromomethane	425383715027	25.00	24.20	ug/L	-3	30	
4-Methyl-2-Pentanone	425383715027	25.00	25.33	ug/L	1	40	
cis-1,3-Dichloropropene	425383715027	25.00	24.43	ug/L	-2	30	
Toluene	425383715027	25.00	23.76	ug/L	-5	20	
trans-1,3-Dichloropropene	425383715027	25.00	24.10	ug/L	-4	30	
1,1,2-Trichloroethane	425383715027	25.00	24.58	ug/L	-2	30	
2-Hexanone	425383715027	25.00	26.81	ug/L	7	40	
1,3-Dichloropropane	425383715027	25.00	25.45	ug/L	2	30	
Tetrachloroethene	425383715027	25.00	23.37	ug/L	-7	30	
Dibromochloromethane	425383715027	25.00	24.32	ug/L	-3	30	
1,2-Dibromoethane	425383715027	25.00	24.71	ug/L	-1	30	
Chlorobenzene	425383715027	25.00	23.89	ug/L	-4	30	
1,1,1,2-Tetrachloroethane	425383715027	25.00	24.52	ug/L	-2	30	
Ethylbenzene	425383715027	25.00	23.82	ug/L	-5	20	
m,p-Xylenes	425383715027	50.00	48.79	ug/L	-2	30	
o-Xylene	425383715027	25.00	24.11	ug/L	-4	30	
Styrene	425383715027	25.00	24.97	ug/L	0	30	
Bromoform	425383715027	25.00	24.90	ug/L	0	30	
Isopropylbenzene	425383715027	25.00	23.55	ug/L	-6	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	425383715027	25.00	24.38	ug/L	-2	30	
1,2,3-Trichloropropane	425383715027	25.00	25.11	ug/L	0	30	m
Propylbenzene	425383715027	25.00	23.10	ug/L	-8	30	
Bromobenzene	425383715027	25.00	24.20	ug/L	-3	30	
1,3,5-Trimethylbenzene	425383715027	25.00	24.52	ug/L	-2	30	
2-Chlorotoluene	425383715027	25.00	23.64	ug/L	-5	30	
4-Chlorotoluene	425383715027	25.00	23.74	ug/L	-5	30	
tert-Butylbenzene	425383715027	25.00	23.56	ug/L	-6	30	
1,2,4-Trimethylbenzene	425383715027	25.00	23.73	ug/L	-5	30	
sec-Butylbenzene	425383715027	25.00	23.59	ug/L	-6	30	
para-Isopropyl Toluene	425383715027	25.00	23.76	ug/L	-5	30	
1,3-Dichlorobenzene	425383715027	25.00	23.93	ug/L	-4	30	
1,4-Dichlorobenzene	425383715027	25.00	23.59	ug/L	-6	30	
n-Butylbenzene	425383715027	25.00	23.95	ug/L	-4	30	
1,2-Dichlorobenzene	425383715027	25.00	23.91	ug/L	-4	30	
1,2-Dibromo-3-Chloropropane	425383715027	25.00	26.01	ug/L	4	30	
1,2,4-Trichlorobenzene	425383715027	25.00	25.32	ug/L	1	30	
Hexachlorobutadiene	425383715027	25.00	24.84	ug/L	-1	30	
Naphthalene	425383715027	25.00	25.34	ug/L	1	30	
1,2,3-Trichlorobenzene	425383715027	25.00	26.01	ug/L	4	30	

425383715027: Analyst: DAR

Date: 09/24/15 Reviewer: LW

Date: 09/30/15

425383715028: Analyst: DAR

Date: 09/24/15 \* Reviewer: LW

Date: 09/30/15

!=warning --low bias m=manual integration v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 MSVOA Water: EPA 8260B

Inst : MSVOA14  
 Calnum : 955422499001  
 Units : ug/L

Name : 8260X14W  
 Date : 20-OCT-2015 15:49  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	njk17	955422499017		20-OCT-2015 15:49	S27004 (2000000X), S28008 (2000000X), S28355 (2000000X), S27081 (1000000X), S28246 (2500X)
L2	njk18	955422499018		20-OCT-2015 16:15	S27004 (1000000X), S28008 (1000000X), S28355 (1000000X), S27081 (500000X), S28246 (2500X)
L3	njk19	955422499019		20-OCT-2015 16:41	S27004 (500000X), S28008 (250000X), S28355 (250000X), S27081 (250000X), S28246 (2500X)
L4	njk20	955422499020		20-OCT-2015 17:08	S27004 (200000X), S28008 (100000X), S28355 (100000X), S27081 (100000X), S28246 (2500X)
L5	njk21	955422499021		20-OCT-2015 17:34	S27004 (100000X), S28008 (50000X), S28355 (50000X), S27081 (50000X), S28246 (2500X)
L6	njk22	955422499022		20-OCT-2015 18:00	S27004 (50000X), S28008 (25000X), S28355 (25000X), S27081 (25000X), S28246 (2500X)
L7	njk23	955422499023		20-OCT-2015 18:26	S27004 (20000X), S28008 (10000X), S28355 (10000X), S27081 (10000X), S28246 (2500X)
L8	njk24	955422499024		20-OCT-2015 18:53	S27004 (13330X), S28008 (6667X), S28355 (6667X), S27081 (6667X), S28246 (2500X)
L9	njk25	955422499025		20-OCT-2015 19:19	S27004 (10000X), S28008 (5000X), S28355 (5000X), S27081 (5000X), S28246 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.6837	0.6585	0.6598	0.6465	0.6233	0.6133	0.6239	0.6226	AVRG		1.55896		0.6415	4	15	0.05	0.99	
Chloromethane	0.9255	1.1154	0.9404	0.9896	0.9803	0.8971	0.9091	0.8887	0.9132	AVRG		1.05148		0.9510	7	15	0.10	0.99	
Vinyl Chloride	0.8999	1.0998	0.9717	0.9947	0.9714	0.9323	0.9560	0.9515	0.9588	AVRG		1.03020		0.9707	6	15	0.05	0.99	
Bromomethane		0.2097	0.2055	0.2338	0.2282	0.2241	0.2349	0.2304	0.2266	AVRG		4.46123		0.2242	5	15	0.05	0.99	
Chloroethane		0.6283	0.5547	0.5452	0.5234	0.5146	0.5057	0.5021	0.5021	AVRG		1.87084		0.5345	8	15	0.05	0.99	
Trichlorofluoromethane		0.9312	0.8190	0.8477	0.8279	0.8073	0.7916	0.7943	0.8005	AVRG		1.20854		0.8274	6	15	0.05	0.99	
Acetone			0.4907m	0.4211m	0.4174m	0.4203m	0.3912m	0.3730m	0.3952m	AVRG		2.40635		0.4156	9	15	0.05	0.99	
Freon 113		0.5077	0.4409	0.4305	0.4099	0.4100	0.4298	0.4276	0.4209	AVRG		2.30057		0.4347	7	15	0.05	0.99	
1,1-Dichloroethene		0.4902	0.4204	0.4204	0.4075	0.3943	0.4100	0.4093	0.4061	AVRG		2.38219		0.4198	7	15	0.05	0.99	
Methylene Chloride		0.5744	0.4944	0.5013	0.4855	0.4733	0.4934	0.4875	0.4851	AVRG		2.00255		0.4994	6	15	0.05	0.99	
Carbon Disulfide		1.6007	1.5105	1.4858	1.4361	1.3946	1.4590	1.4543	1.4486	AVRG		0.67857		1.4737	4	15	0.05	0.99	
MTBE		1.8670	1.6464	1.6428	1.6332	1.6163	1.6646	1.6531	1.6950	AVRG		0.59620		1.6773	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.5631	0.4839	0.4724	0.4676	0.4501	0.4642	0.4637	0.4643	AVRG		2.08918		0.4787	7	15	0.05	0.99	
Vinyl Acetate		1.7426	1.4446	1.7048	1.5558	1.7632	1.8221	1.7386	1.9343	AVRG		0.58369		1.7132	9	15	0.05	0.99	
1,1-Dichloroethane		1.5314	1.3333	1.3266	1.3053	1.2600	1.3091	1.2960	1.3074	AVRG		0.74984		1.3336	6	15	0.10	0.99	
2-Butanone			0.5179	0.4876	0.4793	0.4796	0.4848	0.4727	0.4985	AVRG		2.04652		0.4886	3	15	0.05	0.99	
2,2-Dichloropropane		0.7631	0.6617	0.6577	0.6369	0.6165	0.6452	0.6397	0.6364	AVRG		1.52174		0.6571	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6344	0.5605	0.5725	0.5451	0.5320	0.5509	0.5520	0.5522	AVRG		1.77795		0.5624	6	15	0.05	0.99	
Chloroform		1.0104	0.9092	0.8810	0.8677	0.8361	0.8779	0.8764	0.8784	AVRG		1.12093		0.8921	6	15	0.05	0.99	
Bromochloromethane		0.2823	0.2653	0.2526	0.2458	0.2368	0.2408	0.2356	0.2327	AVRG		4.01645		0.2490	7	15	0.05	0.99	
1,1,1-Trichloroethane		0.8544	0.7822	0.7928	0.7752	0.7424	0.7819	0.7782	0.7817	AVRG		1.27208		0.7861	4	15	0.05	0.99	
1,1-Dichloropropene		0.5075	0.4901	0.4843	0.4655	0.4587	0.4788	0.4831	0.4826	AVRG		2.07764		0.4813	3	15	0.05	0.99	
Carbon Tetrachloride		0.4378	0.3967	0.4105	0.3905	0.3878	0.4132	0.4186	0.4157	AVRG		2.44587		0.4089	4	15	0.05	0.99	
1,2-Dichloroethane		0.6891	0.6343	0.6391	0.6267	0.6133	0.6248	0.6320	0.6346	AVRG		1.57054		0.6367	4	15	0.05	0.99	



Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.6254	1.3784	1.4119	1.3495	1.3209	1.3753	1.3789	1.3730	AVRG		0.71344		1.4017	7	15	0.05	0.99	
Trichloroethene		0.4025	0.3692	0.3582	0.3493	0.3487	0.3589	0.3589	0.3565	AVRG		2.75647		0.3628	5	15	0.05	0.99	
1,2-Dichloropropane		0.5757	0.4929	0.5244	0.4817m	0.4821m	0.4992m	0.4980m	0.4974m	AVRG		1.97465		0.5064	6	15	0.05	0.99	
Bromodichloromethane		0.4533	0.4459	0.4344	0.4366	0.4280	0.4517	0.4533	0.4556	AVRG		2.24799		0.4448	2	15	0.05	0.99	
Dibromomethane		0.2428	0.2246	0.2279	0.2128	0.2108	0.2160	0.2156	0.2186	AVRG		4.52219		0.2211	5	15	0.05	0.99	
4-Methyl-2-Pentanone			0.6560	0.6384	0.6210	0.6446	0.6454	0.6358	0.6711	AVRG		1.55130		0.6446	2	15	0.05	0.99	
cis-1,3-Dichloropropene		0.6089	0.5354	0.5413	0.5251	0.5310	0.5586	0.5619	0.5638	AVRG		1.80754		0.5532	5	15	0.05	0.99	
Toluene		1.9507	1.6507	1.6330	1.6277	1.5840	1.6564	1.6419	1.6301	AVRG		0.59816		1.6718	7	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5638	0.5265	0.5471	0.5354	0.5405	0.5648	0.5680	0.5725	AVRG		1.81051		0.5523	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.2042	0.1862	0.1868	0.1823	0.1794	0.1849	0.1829	0.1830	AVRG		5.37022		0.1862	4	15	0.05	0.99	
2-Hexanone			0.4851	0.4874	0.4896	0.4905	0.5035	0.4921	0.5175	AVRG		2.01976		0.4951	2	15	0.05	0.99	
1,3-Dichloropropane		0.6835	0.6350	0.6219	0.6187	0.6136	0.6304	0.6219	0.6312	AVRG		1.58221		0.6320	3	15	0.05	0.99	
Tetrachloroethene		0.4048	0.3665	0.3651	0.3474	0.3398	0.3565	0.3543	0.3539	AVRG		2.76980		0.3610	5	15	0.05	0.99	
Dibromochloromethane		0.4335	0.3523	0.3636	0.3677	0.3690	0.3898	0.3881	0.3917	AVRG		2.61807		0.3820	7	15	0.05	0.99	
1,2-Dibromoethane		0.4210	0.3578	0.3536	0.3543	0.3528	0.3666	0.3640	0.3675	AVRG		2.72342		0.3672	6	15	0.05	0.99	
Chlorobenzene		1.1930	1.0437	1.0547	1.0088	0.9940	1.0357	1.0309	1.0231	AVRG		0.95422		1.0480	6	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4003	0.3408	0.3541	0.3493	0.3507	0.3662	0.3658	0.3667	AVRG		2.76439		0.3617	5	15	0.05	0.99	
Ethylbenzene		2.2020	1.9060	1.9237	1.8725	1.8465	1.9238	1.9190	1.9236	AVRG		0.51556		1.9396	6	15	0.05	0.99	
m,p-Xylenes	0.6673	0.8362	0.7342	0.7448	0.7084	0.7126	0.7401	0.7368	0.7375	AVRG		1.35991		0.7353	6	15	0.05	0.99	
o-Xylene		0.7708	0.7121	0.7417	0.7154	0.7075	0.7337	0.7320	0.7326	AVRG		1.36850		0.7307	3	15	0.05	0.99	
Styrene		1.4284	1.2162	1.2466	1.2092	1.2092	1.2606	1.2573	1.2598	AVRG		0.79308		1.2609	6	15	0.05	0.99	
Bromoform		0.2976	0.2582	0.2607	0.2546	0.2583	0.2748	0.2723	0.2843	AVRG		3.70223		0.2701	6	15	0.10	0.99	
Isopropylbenzene		3.9761	3.5450	3.6250	3.4828	3.4189	3.5304	3.5404	3.5087	AVRG		0.27945		3.5784	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.0367	0.8055	0.8587	0.7907	0.8097	0.8217	0.8186	0.8550	AVRG		1.17709		0.8496	9	15	0.30	0.99	
1,2,3-Trichloropropane		1.1143	0.9847	0.9773	0.9535	0.9429	0.9603	0.9452	0.9752	AVRG		1.01868		0.9817	6	15	0.05	0.99	
Propylbenzene		4.7698	4.3192	4.3657	4.2011	4.1600	4.3312	4.3185	4.3047	AVRG		0.23008		4.3463	4	15	0.05	0.99	
Bromobenzene		0.9841	0.8326	0.8466	0.8202	0.8060	0.8238	0.8190	0.8084	AVRG		1.18683		0.8426	7	15	0.05	0.99	
1,3,5-Trimethylbenzene		3.4587	3.0402	3.1055	2.9658	2.9331	3.0739	3.0886	3.0777	AVRG		0.32332		3.0929	5	15	0.05	0.99	
2-Chlorotoluene		3.2675	2.9352	2.9659	2.8163	2.7289	2.8697	2.8591	2.8589	AVRG		0.34333		2.9127	6	15	0.05	0.99	
4-Chlorotoluene		2.9939	2.6512	2.7564	2.6373	2.5811	2.6823	2.6733	2.6739	AVRG		0.36952		2.7062	5	15	0.05	0.99	
tert-Butylbenzene		2.9899	2.6374	2.6651	2.5470	2.5447	2.6403	2.6300	2.6164	AVRG		0.37610		2.6588	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		3.2533	3.1263	3.1636	3.0200	2.9884	3.1369	3.1498	3.1495	AVRG		0.32016		3.1235	3	15	0.05	0.99	
sec-Butylbenzene		4.5661	3.9855	4.0250	3.8675	3.8320	4.0254	3.9857	3.9955	AVRG		0.24781		4.0353	6	15	0.05	0.99	
para-Isopropyl Toluene		3.6147	3.3196	3.3606	3.2451	3.2444	3.3996	3.3729	3.3681	AVRG		0.29712		3.3656	3	15	0.05	0.99	
1,3-Dichlorobenzene		1.8036	1.5631	1.6145	1.5338	1.5081	1.5635	1.5542	1.5585	AVRG		0.62996		1.5874	6	15	0.05	0.99	
1,4-Dichlorobenzene		1.9904	1.6226	1.6369	1.5736	1.5443	1.5889	1.5728	1.5750	AVRG		0.61048		1.6381	9	15	0.05	0.99	
n-Butylbenzene		3.6954	3.1137	3.1369	3.0403	3.0612	3.2155	3.1986	3.2209	AVRG		0.31150		3.2103	6	15	0.05	0.99	
1,2-Dichlorobenzene		1.7139	1.5835	1.5779	1.4877	1.4738	1.5320	1.5251	1.5205	AVRG		0.64441		1.5518	5	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.2906	0.2292	0.2143	0.2078	0.2173	0.2215	0.2194	0.2364	AVRG		4.35583		0.2296	11	15	0.05	0.99	
1,2,4-Trichlorobenzene		1.3164	1.1849	1.2055	1.1777	1.1526	1.2023	1.1824	1.1691	AVRG		0.83412		1.1989	4	15	0.05	0.99	
Hexachlorobutadiene		0.6213	0.5325	0.5136	0.5382	0.5470	0.5910	0.5929	0.5879	AVRG		1.76812		0.5656	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		3.8240	3.3505	3.4727	3.3602	3.3820	3.4978	3.4049	3.4519	AVRG		0.28835		3.4680	4	15	0.05	0.99	
1,2,3-Trichlorobenzene		1.2864	1.1793	1.2248	1.1701	1.1346	1.1732	1.1654	1.1444	AVRG		0.84406		1.1848	4	15	0.05	0.99	
Dibromofluoromethane	0.4466	0.4485	0.4526	0.4538	0.4531	0.4511	0.4533	0.4576	0.4581	AVRG		2.20877		0.4527	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4571	0.4656	0.4693	0.4632	0.4637	0.4685	0.4625	0.4660	0.4695	AVRG		2.15041		0.4650	1	15	0.05	0.99	
Toluene-d8	1.3377	1.3408	1.3415	1.3438	1.3335	1.3520	1.3441	1.3312	1.3394	AVRG		0.74602		1.3404	0	15	0.05	0.99	
Bromofluorobenzene	1.0206	1.0203	1.0242	1.0391	1.0109	1.0120	1.0134	1.0040	1.0036	AVRG		0.98379		1.0165	1	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	7	2.0000	3	5.0000	3	10.000	1	20.000	-3	50.000	-4	75.000	-3	100.00	-3
Chloromethane	0.5000	-3	1.0000	17	2.0000	-1	5.0000	4	10.000	3	20.000	-6	50.000	-4	75.000	-7	100.00	-4
Vinyl Chloride	0.5000	-7	1.0000	13	2.0000	0	5.0000	2	10.000	0	20.000	-4	50.000	-2	75.000	-2	100.00	-1
Bromomethane			1.0000	-6	2.0000	-8	5.0000	4	10.000	2	20.000	0	50.000	5	75.000	3	100.00	1
Chloroethane			1.0000	18	2.0000	4	5.0000	2	10.000	-2	20.000	-4	50.000	-5	75.000	-6	100.00	-6
Trichlorofluoromethane			1.0000	13	2.0000	-1	5.0000	2	10.000	0	20.000	-2	50.000	-4	75.000	-4	100.00	-3
Acetone					2.0000	18	5.0000	1	10.000	0	20.000	1	50.000	-6	75.000	-10	100.00	-5
Freon 113			0.5000	17	2.0000	1	5.0000	-1	10.000	-6	20.000	-6	50.000	-1	75.000	-2	100.00	-3
1,1-Dichloroethene			0.5000	17	2.0000	0	5.0000	0	10.000	-3	20.000	-6	50.000	-2	75.000	-2	100.00	-3
Methylene Chloride			0.5000	15	2.0000	-1	5.0000	0	10.000	-3	20.000	-5	50.000	-1	75.000	-2	100.00	-3
Carbon Disulfide			0.5000	9	2.0000	2	5.0000	1	10.000	-3	20.000	-5	50.000	-1	75.000	-1	100.00	-2
MTBE			0.5000	11	2.0000	-2	5.0000	-2	10.000	-3	20.000	-4	50.000	-1	75.000	-1	100.00	1
trans-1,2-Dichloroethene			0.5000	18	2.0000	1	5.0000	-1	10.000	-2	20.000	-6	50.000	-3	75.000	-3	100.00	-3
Vinyl Acetate			0.5000	2	2.0000	-16	5.0000	0	10.000	-9	20.000	3	50.000	6	75.000	1	100.00	13
1,1-Dichloroethane			0.5000	15	2.0000	0	5.0000	-1	10.000	-2	20.000	-6	50.000	-2	75.000	-3	100.00	-2
2-Butanone					2.0000	6	5.0000	0	10.000	-2	20.000	-2	50.000	-1	75.000	-3	100.00	2
2,2-Dichloropropane			0.5000	16	2.0000	1	5.0000	0	10.000	-3	20.000	-6	50.000	-2	75.000	-3	100.00	-3
cis-1,2-Dichloroethene			0.5000	13	2.0000	0	5.0000	2	10.000	-3	20.000	-5	50.000	-2	75.000	-2	100.00	-2
Chloroform			0.5000	13	2.0000	2	5.0000	-1	10.000	-3	20.000	-6	50.000	-2	75.000	-2	100.00	-2
Bromochloromethane			0.5000	13	2.0000	7	5.0000	1	10.000	-1	20.000	-5	50.000	-3	75.000	-5	100.00	-7
1,1,1-Trichloroethane			0.5000	9	2.0000	0	5.0000	1	10.000	-1	20.000	-6	50.000	-1	75.000	-1	100.00	-1
1,1-Dichloropropene			0.5000	5	2.0000	2	5.0000	1	10.000	-3	20.000	-5	50.000	-1	75.000	0	100.00	0
Carbon Tetrachloride			0.5000	7	2.0000	-3	5.0000	0	10.000	-4	20.000	-5	50.000	1	75.000	2	100.00	2
1,2-Dichloroethane			0.5000	8	2.0000	0	5.0000	0	10.000	-2	20.000	-4	50.000	-2	75.000	-1	100.00	0
Benzene			0.5000	16	2.0000	-2	5.0000	1	10.000	-4	20.000	-6	50.000	-2	75.000	-2	100.00	-2
Trichloroethene			0.5000	11	2.0000	2	5.0000	-1	10.000	-4	20.000	-4	50.000	-1	75.000	-1	100.00	-2
1,2-Dichloropropane			0.5000	14	2.0000	-3	5.0000	4	10.000	-5	20.000	-5	50.000	-1	75.000	-2	100.00	-2
Bromodichloromethane			0.5000	2	2.0000	0	5.0000	-2	10.000	-2	20.000	-4	50.000	2	75.000	2	100.00	2
Dibromomethane			0.5000	10	2.0000	2	5.0000	3	10.000	-4	20.000	-5	50.000	-2	75.000	-2	100.00	-1
4-Methyl-2-Pentanone					2.0000	2	5.0000	-1	10.000	-4	20.000	0	50.000	0	75.000	-1	100.00	4
cis-1,3-Dichloropropene			0.5000	10	2.0000	-3	5.0000	-2	10.000	-5	20.000	-4	50.000	1	75.000	2	100.00	2
Toluene			0.5000	17	2.0000	-1	5.0000	-2	10.000	-3	20.000	-5	50.000	-1	75.000	-2	100.00	-2
trans-1,3-Dichloropropene			0.5000	2	2.0000	-5	5.0000	-1	10.000	-3	20.000	-2	50.000	2	75.000	3	100.00	4
1,1,2-Trichloroethane			0.5000	10	2.0000	0	5.0000	0	10.000	-2	20.000	-4	50.000	-1	75.000	-2	100.00	-2
2-Hexanone					2.0000	-2	5.0000	-2	10.000	-1	20.000	-1	50.000	2	75.000	-1	100.00	5
1,3-Dichloropropane			0.5000	8	2.0000	0	5.0000	-2	10.000	-2	20.000	-3	50.000	0	75.000	-2	100.00	0
Tetrachloroethene			0.5000	12	2.0000	2	5.0000	1	10.000	-4	20.000	-6	50.000	-1	75.000	-2	100.00	-2
Dibromochloromethane			0.5000	13	2.0000	-8	5.0000	-5	10.000	-4	20.000	-3	50.000	2	75.000	2	100.00	3
1,2-Dibromoethane			0.5000	15	2.0000	-3	5.0000	-4	10.000	-4	20.000	-4	50.000	0	75.000	-1	100.00	0
Chlorobenzene			0.5000	14	2.0000	0	5.0000	1	10.000	-4	20.000	-5	50.000	-1	75.000	-2	100.00	-2
1,1,1,2-Tetrachloroethane			0.5000	11	2.0000	-6	5.0000	-2	10.000	-3	20.000	-3	50.000	1	75.000	1	100.00	1
Ethylbenzene			0.5000	14	2.0000	-2	5.0000	-1	10.000	-3	20.000	-5	50.000	-1	75.000	-1	100.00	-1

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	-9	1.0000	14	4.0000	0	10.000	1	20.000	-4	40.000	-3	100.00	1	150.00	0	200.00	0
o-Xylene			0.5000	5	2.0000	-3	5.0000	2	10.000	-2	20.000	-3	50.000	0	75.000	0	100.00	0
Styrene			0.5000	13	2.0000	-4	5.0000	-1	10.000	-4	20.000	-4	50.000	0	75.000	0	100.00	0
Bromoform			0.5000	10	2.0000	-4	5.0000	-3	10.000	-6	20.000	-4	50.000	2	75.000	1	100.00	5
Isopropylbenzene			0.5000	11	2.0000	-1	5.0000	1	10.000	-3	20.000	-4	50.000	-1	75.000	-1	100.00	-2
1,1,2,2-Tetrachloroethane			0.5000	<b>22</b>	2.0000	-5	5.0000	1	10.000	-7	20.000	-5	50.000	-3	75.000	-4	100.00	1
1,2,3-Trichloropropane			0.5000	14	2.0000	0	5.0000	0	10.000	-3	20.000	-4	50.000	-2	75.000	-4	100.00	-1
Propylbenzene			0.5000	10	2.0000	-1	5.0000	0	10.000	-3	20.000	-4	50.000	0	75.000	-1	100.00	-1
Bromobenzene			0.5000	17	2.0000	-1	5.0000	0	10.000	-3	20.000	-4	50.000	-2	75.000	-3	100.00	-4
1,3,5-Trimethylbenzene			0.5000	12	2.0000	-2	5.0000	0	10.000	-4	20.000	-5	50.000	-1	75.000	0	100.00	0
2-Chlorotoluene			0.5000	12	2.0000	1	5.0000	2	10.000	-3	20.000	-6	50.000	-1	75.000	-2	100.00	-2
4-Chlorotoluene			0.5000	11	2.0000	-2	5.0000	2	10.000	-3	20.000	-5	50.000	-1	75.000	-1	100.00	-1
tert-Butylbenzene			0.5000	12	2.0000	-1	5.0000	0	10.000	-4	20.000	-4	50.000	-1	75.000	-1	100.00	-2
1,2,4-Trimethylbenzene			0.5000	4	2.0000	0	5.0000	1	10.000	-3	20.000	-4	50.000	0	75.000	1	100.00	1
sec-Butylbenzene			0.5000	13	2.0000	-1	5.0000	0	10.000	-4	20.000	-5	50.000	0	75.000	-1	100.00	-1
para-Isopropyl Toluene			0.5000	7	2.0000	-1	5.0000	0	10.000	-4	20.000	-4	50.000	1	75.000	0	100.00	0
1,3-Dichlorobenzene			0.5000	14	2.0000	-2	5.0000	2	10.000	-3	20.000	-5	50.000	-2	75.000	-2	100.00	-2
1,4-Dichlorobenzene			0.5000	<b>22</b>	2.0000	-1	5.0000	0	10.000	-4	20.000	-6	50.000	-3	75.000	-4	100.00	-4
n-Butylbenzene			0.5000	15	2.0000	-3	5.0000	-2	10.000	-5	20.000	-5	50.000	0	75.000	0	100.00	0
1,2-Dichlorobenzene			0.5000	10	2.0000	2	5.0000	2	10.000	-4	20.000	-5	50.000	-1	75.000	-2	100.00	-2
1,2-Dibromo-3-Chloropropane			0.5000	<b>27</b>	2.0000	0	5.0000	-7	10.000	-9	20.000	-5	50.000	-4	75.000	-4	100.00	3
1,2,4-Trichlorobenzene			0.5000	10	2.0000	-1	5.0000	1	10.000	-2	20.000	-4	50.000	0	75.000	-1	100.00	-2
Hexachlorobutadiene			0.5000	10	2.0000	-6	5.0000	-9	10.000	-5	20.000	-3	50.000	5	75.000	5	100.00	4
Naphthalene			0.5000	10	2.0000	-3	5.0000	0	10.000	-3	20.000	-2	50.000	1	75.000	-2	100.00	0
1,2,3-Trichlorobenzene			0.5000	9	2.0000	0	5.0000	3	10.000	-1	20.000	-4	50.000	-1	75.000	-2	100.00	-3
Dibromofluoromethane	50.000	-1	50.000	-1	50.000	0	50.000	0	50.000	0	50.000	0	50.000	0	50.000	1	50.000	1
1,2-Dichloroethane-d4	50.000	-2	50.000	0	50.000	1	50.000	0	50.000	0	50.000	1	50.000	-1	50.000	0	50.000	1
Toluene-d8	50.000	0	50.000	0	50.000	0	50.000	0	50.000	-1	50.000	1	50.000	0	50.000	-1	50.000	0
Bromofluorobenzene	50.000	0	50.000	0	50.000	1	50.000	2	50.000	-1	50.000	0	50.000	0	50.000	-1	50.000	-1

MCT 10/21/15 [Acetone]: Separated from coeluting peak in multiple levels.

MCT 10/21/15 [1,2-Dichloropropane]: Corrected fronting or tailing peak integration in multiple levels.

MCT 10/21/15 [Iodomethane]: Corrected fronting or tailing peak integration in (nj25).

MCT 10/21/15 [Iodomethane]: ICV doesn't pass for Iodomethane

MCT 10/21/15 [tert-Butyl Alcohol (TBA)]: Rerun if sample hit less than 20ppb for TBA.

MCT 10/21/15 [2-Chloroethylvinylether]: Rerun if sample hit less than 5ppb for 2-Cleve.

MCT: 10/23/15 LW: 10/23/15 DJA: 10/26/15 KKM: 10/26/15

m=manual integration

Instrument amount =  $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$ ; AVRG=Average response factor

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955422499001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA14  
Calnum : 955422499001

Name : 8260X14W  
Cal Date : 20-OCT-2015

ICV 955422499028 (njk28 20-OCT-2015) stds: S28219 (10000X), S28220 (10000X),  
S28167 (10000X), S28246 (2500X)

ICV 955423728006 (njl06 21-OCT-2015) stds: S27267 (10000X), S28246 (2500X)

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
Freon 12	955423728006	21-OCT-2015	20.00	20.12	ug/L	1	30	
Chloromethane	955423728006	21-OCT-2015	20.00	21.56	ug/L	8	30	
Vinyl Chloride	955423728006	21-OCT-2015	20.00	19.65	ug/L	-2	20	
Bromomethane	955423728006	21-OCT-2015	20.00	16.95	ug/L	-15	30	
Chloroethane	955423728006	21-OCT-2015	20.00	19.51	ug/L	-2	30	
Trichlorofluoromethane	955423728006	21-OCT-2015	20.00	19.08	ug/L	-5	30	
Acetone	955422499028	20-OCT-2015	25.00	24.68	ug/L	-1	40	m
Freon 113	955422499028	20-OCT-2015	25.00	20.88	ug/L	-16	30	
1,1-Dichloroethene	955422499028	20-OCT-2015	25.00	24.12	ug/L	-4	20	
Methylene Chloride	955422499028	20-OCT-2015	25.00	24.71	ug/L	-1	30	
Carbon Disulfide	955422499028	20-OCT-2015	25.00	23.73	ug/L	-5	30	
MTBE	955422499028	20-OCT-2015	25.00	24.47	ug/L	-2	30	
trans-1,2-Dichloroethene	955422499028	20-OCT-2015	25.00	22.79	ug/L	-9	30	
Vinyl Acetate	955422499028	20-OCT-2015	25.00	23.17	ug/L	-7	40	
1,1-Dichloroethane	955422499028	20-OCT-2015	25.00	24.05	ug/L	-4	30	
2-Butanone	955422499028	20-OCT-2015	25.00	25.04	ug/L	0	40	
2,2-Dichloropropane	955422499028	20-OCT-2015	25.00	21.79	ug/L	-13	30	
cis-1,2-Dichloroethene	955422499028	20-OCT-2015	25.00	25.08	ug/L	0	30	
Chloroform	955422499028	20-OCT-2015	25.00	24.63	ug/L	-1	20	
Bromochloromethane	955422499028	20-OCT-2015	25.00	24.14	ug/L	-3	30	
1,1,1-Trichloroethane	955422499028	20-OCT-2015	25.00	25.01	ug/L	0	30	
1,1-Dichloropropene	955422499028	20-OCT-2015	25.00	21.55	ug/L	-14	30	
Carbon Tetrachloride	955422499028	20-OCT-2015	25.00	25.22	ug/L	1	30	
1,2-Dichloroethane	955422499028	20-OCT-2015	25.00	24.66	ug/L	-1	30	
Benzene	955422499028	20-OCT-2015	25.00	23.67	ug/L	-5	30	
Trichloroethene	955422499028	20-OCT-2015	25.00	25.16	ug/L	1	30	
1,2-Dichloropropane	955422499028	20-OCT-2015	25.00	24.68	ug/L	-1	20	
Bromodichloromethane	955422499028	20-OCT-2015	25.00	24.50	ug/L	-2	30	
Dibromomethane	955422499028	20-OCT-2015	25.00	23.78	ug/L	-5	30	
4-Methyl-2-Pentanone	955422499028	20-OCT-2015	25.00	25.11	ug/L	0	40	
cis-1,3-Dichloropropene	955422499028	20-OCT-2015	25.00	25.80	ug/L	3	30	
Toluene	955422499028	20-OCT-2015	25.00	23.93	ug/L	-4	20	
trans-1,3-Dichloropropene	955422499028	20-OCT-2015	25.00	24.36	ug/L	-3	30	
1,1,2-Trichloroethane	955422499028	20-OCT-2015	25.00	24.62	ug/L	-2	30	
2-Hexanone	955422499028	20-OCT-2015	25.00	25.90	ug/L	4	40	
1,3-Dichloropropane	955422499028	20-OCT-2015	25.00	25.04	ug/L	0	30	
Tetrachloroethene	955422499028	20-OCT-2015	25.00	24.91	ug/L	0	30	
Dibromochloromethane	955422499028	20-OCT-2015	25.00	24.22	ug/L	-3	30	
1,2-Dibromoethane	955422499028	20-OCT-2015	25.00	23.75	ug/L	-5	30	
Chlorobenzene	955422499028	20-OCT-2015	25.00	24.70	ug/L	-1	30	
1,1,1,2-Tetrachloroethane	955422499028	20-OCT-2015	25.00	23.70	ug/L	-5	30	
Ethylbenzene	955422499028	20-OCT-2015	25.00	23.87	ug/L	-5	20	
m,p-Xylenes	955422499028	20-OCT-2015	50.00	48.60	ug/L	-3	30	
o-Xylene	955422499028	20-OCT-2015	25.00	23.84	ug/L	-5	30	
Styrene	955422499028	20-OCT-2015	25.00	23.84	ug/L	-5	30	
Bromoform	955422499028	20-OCT-2015	25.00	24.68	ug/L	-1	30	
Isopropylbenzene	955422499028	20-OCT-2015	25.00	23.93	ug/L	-4	30	

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	955422499028	20-OCT-2015	25.00	24.78	ug/L	-1	30	
1,2,3-Trichloropropane	955422499028	20-OCT-2015	25.00	24.91	ug/L	0	30	
Propylbenzene	955422499028	20-OCT-2015	25.00	23.64	ug/L	-5	30	
Bromobenzene	955422499028	20-OCT-2015	25.00	24.36	ug/L	-3	30	
1,3,5-Trimethylbenzene	955422499028	20-OCT-2015	25.00	24.70	ug/L	-1	30	
2-Chlorotoluene	955422499028	20-OCT-2015	25.00	23.98	ug/L	-4	30	
4-Chlorotoluene	955422499028	20-OCT-2015	25.00	24.13	ug/L	-3	30	
tert-Butylbenzene	955422499028	20-OCT-2015	25.00	24.03	ug/L	-4	30	
1,2,4-Trimethylbenzene	955422499028	20-OCT-2015	25.00	24.04	ug/L	-4	30	
sec-Butylbenzene	955422499028	20-OCT-2015	25.00	23.81	ug/L	-5	30	
para-Isopropyl Toluene	955422499028	20-OCT-2015	25.00	23.83	ug/L	-5	30	
1,3-Dichlorobenzene	955422499028	20-OCT-2015	25.00	24.82	ug/L	-1	30	
1,4-Dichlorobenzene	955422499028	20-OCT-2015	25.00	24.84	ug/L	-1	30	
n-Butylbenzene	955422499028	20-OCT-2015	25.00	23.56	ug/L	-6	30	
1,2-Dichlorobenzene	955422499028	20-OCT-2015	25.00	25.14	ug/L	1	30	
1,2-Dibromo-3-Chloropropane	955422499028	20-OCT-2015	25.00	23.68	ug/L	-5	30	
1,2,4-Trichlorobenzene	955422499028	20-OCT-2015	25.00	24.13	ug/L	-3	30	
Hexachlorobutadiene	955422499028	20-OCT-2015	25.00	24.32	ug/L	-3	30	
Naphthalene	955422499028	20-OCT-2015	25.00	22.90	ug/L	-8	30	
1,2,3-Trichlorobenzene	955422499028	20-OCT-2015	25.00	23.84	ug/L	-5	30	

955422499028: DJA: 10/22/15 \* MCT: 10/23/15 LW: 10/23/15  
955423728006: Analyst: DJA Date: 10/22/15 Reviewer: LW Date: 10/22/15

m=manual integration

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA02                      Run Name : QC813847                      IDF : 1.0  
 Seqnum : 415467153008.3          File : bkk08                      Time : 20-NOV-2015 13:39  
 Cal : 415365033001                  Caldate : 10-SEP-2015          Caltype : WATER  
 Standards: S28219 (20000X), S28220 (20000X), S28167 (20000X), S28123 (20000X),  
 S28490 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.6293	0.7686	10.00	12.21	ug/L	22	30	0.0500	u
Chloromethane	1.0774	1.1158	10.00	10.36	ug/L	4	30	0.1000	u
Vinyl Chloride	0.7558	0.8552	10.00	11.31	ug/L	13	20	0.0500	u
Bromomethane	0.3642	0.5622	10.00	15.44	ug/L	54	30	0.0500	c+ u ***
Chloroethane	0.4235	0.5020	10.00	11.86	ug/L	19	30	0.0500	u
Trichlorofluoromethane	0.7271	0.7821	10.00	10.76	ug/L	8	30	0.0500	u
Acetone	0.3064	0.1790	12.50	7.304	ug/L	-42	40	0.0500	c- u ***
Freon 113	0.4628	0.4570	12.50	12.34	ug/L	-1	30	0.0500	u
1,1-Dichloroethene	0.4577	0.4426	12.50	12.09	ug/L	-3	20	0.0500	u
Methylene Chloride	0.8001	0.7345	12.50	11.47	ug/L	-8	30	0.0500	u
Carbon Disulfide	2.0360	1.9671	12.50	12.08	ug/L	-3	30	0.0500	u v- ***
MTBE	1.6486	1.4176	12.50	10.75	ug/L	-14	30	0.0500	u
trans-1,2-Dichloroethene	0.5544	0.5691	12.50	12.83	ug/L	3	30	0.0500	u
Vinyl Acetate	2.0003	1.7333	12.50	10.83	ug/L	-13	40	0.0500	u
1,1-Dichloroethane	1.1595	1.1006	12.50	11.86	ug/L	-5	30	0.1000	u
2-Butanone	0.4903	0.3194	12.50	8.143	ug/L	-35	40	0.0500	u
cis-1,2-Dichloroethene	0.6555	0.7040	12.50	13.42	ug/L	7	30	0.0500	u
2,2-Dichloropropane	0.5865	0.8046	12.50	17.15	ug/L	37	30	0.0500	c+ u ***
Chloroform	1.0805	1.1443	12.50	13.24	ug/L	6	20	0.0500	u
Bromochloromethane	0.3779	0.3831	12.50	12.67	ug/L	1	30	0.0500	u
1,1,1-Trichloroethane	0.7910	0.7570	12.50	11.96	ug/L	-4	30	0.0500	u
1,1-Dichloropropene	0.4943	0.4782	12.50	12.09	ug/L	-3	30	0.0500	u
Carbon Tetrachloride	0.3881	0.4568	12.50	14.71	ug/L	18	30	0.0500	u
1,2-Dichloroethane	0.5316	0.5699	12.50	13.40	ug/L	7	30	0.0500	u
Benzene	1.4995	1.5761	12.50	13.14	ug/L	5	30	0.0500	u
Trichloroethene	0.3863	0.4153	12.50	13.44	ug/L	8	30	0.0500	u
1,2-Dichloropropane	0.4659	0.4412	12.50	11.84	ug/L	-5	20	0.0500	u
Bromodichloromethane	0.5166	0.5236	12.50	12.67	ug/L	1	30	0.0500	u
Dibromomethane	0.3093	0.3512	12.50	14.19	ug/L	14	30	0.0500	u
4-Methyl-2-Pentanone	0.6693	0.5135	12.50	9.591	ug/L	-23	40	0.0500	u
cis-1,3-Dichloropropene	0.6588	0.7182	12.50	13.63	ug/L	9	30	0.0500	u
Toluene	1.6158	1.8843	12.50	14.58	ug/L	17	20	0.0500	u
trans-1,3-Dichloropropene	0.5956	0.6458	12.50	13.55	ug/L	8	30	0.0500	u
1,1,2-Trichloroethane	0.2161	0.2410	12.50	13.94	ug/L	12	30	0.0500	u
2-Hexanone	0.4665	0.3757	12.50	10.07	ug/L	-19	40	0.0500	u
1,3-Dichloropropane	0.6513	0.7264	12.50	13.94	ug/L	12	30	0.0500	u
Tetrachloroethene	0.4027	0.5381	12.50	16.70	ug/L	34	30	0.0500	c+ u ***
Dibromochloromethane	0.4661	0.5327	12.50	14.29	ug/L	14	30	0.0500	u
1,2-Dibromoethane	0.4636	0.4995	12.50	13.47	ug/L	8	30	0.0500	u
Chlorobenzene	1.1033	1.2741	12.50	14.44	ug/L	15	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.3688	0.4533	12.50	15.36	ug/L	23	30	0.0500	u
Ethylbenzene	1.7827	2.0478	12.50	14.36	ug/L	15	20	0.0500	u
m,p-Xylenes	0.6700	0.7672	25.00	28.63	ug/L	15	30	0.0500	u
o-Xylene	0.6653	0.7590	12.50	14.26	ug/L	14	30	0.0500	u
Styrene	1.1744	1.3190	12.50	14.04	ug/L	12	30	0.0500	u
Bromoform	0.3812	0.3889	12.50	12.75	ug/L	2	30	0.1000	u
Isopropylbenzene	3.2193	3.3900	12.50	13.16	ug/L	5	30	0.0500	u



Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	1.2364	1.1591	12.50	11.72	ug/L	-6	30	0.3000	u
1,2,3-Trichloropropane	0.9309	0.9896	12.50	13.29	ug/L	6	30	0.0500	u
Propylbenzene	3.7626	4.1023	12.50	13.63	ug/L	9	30	0.0500	u
Bromobenzene	0.9921	1.1923	12.50	15.02	ug/L	20	30	0.0500	u
1,3,5-Trimethylbenzene	2.3521	2.6860	12.50	14.27	ug/L	14	30	0.0500	u
2-Chlorotoluene	2.6254	2.8706	12.50	13.67	ug/L	9	30	0.0500	u
4-Chlorotoluene	2.4487	2.7690	12.50	14.14	ug/L	13	30	0.0500	u
tert-Butylbenzene	2.0742	2.2608	12.50	13.62	ug/L	9	30	0.0500	u
1,2,4-Trimethylbenzene	2.1921	2.4399	12.50	13.91	ug/L	11	30	0.0500	u
sec-Butylbenzene	3.0027	3.1875	12.50	13.27	ug/L	6	30	0.0500	u
para-Isopropyl Toluene	2.2279	2.5150	12.50	14.11	ug/L	13	30	0.0500	u
1,3-Dichlorobenzene	1.6298	1.9719	12.50	15.12	ug/L	21	30	0.0500	u
1,4-Dichlorobenzene	1.6436	1.9729	12.50	15.00	ug/L	20	30	0.0500	u
n-Butylbenzene	1.7918	2.0069	12.50	14.00	ug/L	12	30	0.0500	u
1,2-Dichlorobenzene	1.6177	1.8947	12.50	14.64	ug/L	17	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.2281	0.1743	12.50	9.553	ug/L	-24	30	0.0500	u
1,2,4-Trichlorobenzene	0.6551	0.7459	12.50	14.23	ug/L	14	30	0.0500	u
Hexachlorobutadiene	0.3528	0.4122	12.50	14.60	ug/L	17	30	0.0500	u
Naphthalene	1.7574	1.1367	12.50	8.085	ug/L	-35	30	0.0500	c- u ***
1,2,3-Trichlorobenzene	0.5648	0.5763	12.50	12.15	ug/L	-3	30	0.0500	u
Dibromofluoromethane	0.5283	0.5758	50.00	54.50	ug/L	9	30	0.0500	u
1,2-Dichloroethane-d4	0.3269	0.3839	50.00	58.72	ug/L	17	30	0.0500	u
Toluene-d8	1.1791	1.3240	50.00	56.14	ug/L	12	30	0.0500	u
Bromofluorobenzene	1.0006	1.0021	50.00	50.07	ug/L	0	30	0.0500	u

ISTD (ICAL bia20)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	786577	800061	1.71	11.09	11.08	-0.01
1,4-Difluorobenzene	1292015	1180038	-8.67	12.31	12.29	-0.02
Chlorobenzene-d5	1307506	1126447	-13.85	16.91	16.90	-0.01
1,4-Dichlorobenzene-d4	660691	600538	-9.10	20.31	20.30	-0.01

Analyst: KKM Date: 11/25/15 Reviewer: TEW Date: 11/25/15

+ = high bias -- = low bias c = CCV u = use v = ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA03 IDF : 1.0  
 Seqnum : 425468732003 File : ck103 Time : 21-NOV-2015 13:16  
 Cal : 425383715001 Caldate : 23-SEP-2015 Caltype : WATER  
 Standards: S27005 (16670X), S28295 (16670X), S28355 (16670X), S27081 (16670X),  
 S28450 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.5033	0.8485	30.00	50.58	ug/L	69	30	0.0500	!v- c+ ***
Chloromethane	0.4791	0.6711	30.00	42.02	ug/L	40	30	0.1000	c+ ***
Vinyl Chloride	0.4311	0.7053	30.00	49.08	ug/L	64	20	0.0500	c+ ***
Bromomethane	0.2497	0.3906	30.00	46.93	ug/L	56	30	0.0500	!v- c+ ***
Chloroethane	0.2498	0.3995	30.00	47.98	ug/L	60	30	0.0500	c+ ***
Trichlorofluoromethane	0.5295	0.8535	30.00	48.35	ug/L	61	30	0.0500	c+ ***
Acetone	0.2162	0.1763	30.00	24.47	ug/L	-18	40	0.0500	
Freon 113	0.4073	0.5017	30.00	36.95	ug/L	23	30	0.0500	!c+ !v-
1,1-Dichloroethene	0.3973	0.4267	30.00	32.22	ug/L	7	20	0.0500	
Methylene Chloride	0.5344	0.5939	30.00	33.34	ug/L	11	30	0.0500	
Carbon Disulfide	1.6245	1.8954	30.00	35.00	ug/L	17	30	0.0500	
MTBE	1.2784	1.3769	30.00	32.31	ug/L	8	30	0.0500	
trans-1,2-Dichloroethene	0.4588	0.5045	30.00	32.99	ug/L	10	30	0.0500	
Vinyl Acetate	0.9841	1.4457	30.00	44.07	ug/L	47	40	0.0500	c+ ***
1,1-Dichloroethane	0.8798	1.0026	30.00	34.19	ug/L	14	30	0.1000	
2-Butanone	0.3118	0.2829	30.00	27.21	ug/L	-9	40	0.0500	
2,2-Dichloropropane	0.4662	0.8021	30.00	51.61	ug/L	72	30	0.0500	c+ ***
cis-1,2-Dichloroethene	0.5338	0.6100	30.00	34.29	ug/L	14	30	0.0500	
Chloroform	0.8536	1.0180	30.00	35.78	ug/L	19	20	0.0500	
Bromochloromethane	0.2939	0.3454	30.00	35.26	ug/L	18	30	0.0500	
1,1,1-Trichloroethane	0.6192	0.7332	30.00	35.52	ug/L	18	30	0.0500	
1,1-Dichloropropene	0.3433	0.4412	30.00	38.55	ug/L	29	30	0.0500	!c+
Carbon Tetrachloride	0.2739	0.3738	30.00	40.95	ug/L	37	30	0.0500	c+ ***
1,2-Dichloroethane	0.3622	0.4578	30.00	37.92	ug/L	26	30	0.0500	!c+
Benzene	0.9679	1.1607	30.00	35.98	ug/L	20	30	0.0500	
Trichloroethene	0.2739	0.2940	30.00	32.20	ug/L	7	30	0.0500	
1,2-Dichloropropane	0.3074	0.3271	30.00	31.92	ug/L	6	20	0.0500	
Bromodichloromethane	0.3767	0.4531	30.00	36.09	ug/L	20	30	0.0500	
Dibromomethane	0.2205	0.2449	30.00	33.31	ug/L	11	30	0.0500	
4-Methyl-2-Pentanone	0.3791	0.3521	30.00	27.86	ug/L	-7	40	0.0500	
cis-1,3-Dichloropropene	0.4320	0.5243	30.00	36.41	ug/L	21	30	0.0500	!c+
Toluene	0.6077	0.7271	30.00	35.89	ug/L	20	20	0.0500	
trans-1,3-Dichloropropene	0.3965	0.4843	30.00	36.64	ug/L	22	30	0.0500	!c+
1,1,2-Trichloroethane	0.1597	0.1703	30.00	31.99	ug/L	7	30	0.0500	
2-Hexanone	0.2891	0.2453	30.00	25.46	ug/L	-15	40	0.0500	
1,3-Dichloropropane	0.4743	0.5534	30.00	35.00	ug/L	17	30	0.0500	
Tetrachloroethene	0.2550	0.3050	30.00	35.87	ug/L	20	30	0.0500	
Dibromochloromethane	0.3371	0.3854	30.00	34.29	ug/L	14	30	0.0500	
1,2-Dibromoethane	0.3278	0.3385	30.00	30.98	ug/L	3	30	0.0500	
Chlorobenzene	0.7376	0.8041	30.00	32.70	ug/L	9	30	0.3000	
1,1,1,2-Tetrachloroethane	0.2685	0.3354	30.00	37.48	ug/L	25	30	0.0500	!c+
Ethylbenzene	1.1292	1.4136	30.00	37.56	ug/L	25	20	0.0500	c+ ***
m,p-Xylenes	0.4153	0.4879	60.00	70.49	ug/L	17	30	0.0500	
o-Xylene	0.4263	0.4888	30.00	34.40	ug/L	15	30	0.0500	
Styrene	0.7560	0.8688	30.00	34.48	ug/L	15	30	0.0500	
Bromoform	0.2207	0.2482	30.00	33.74	ug/L	12	30	0.1000	
Isopropylbenzene	2.0519	2.1364	30.00	31.24	ug/L	4	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.8133	0.7597	30.00	28.02	ug/L	-7	30	0.3000	
1,2,3-Trichloropropane	0.6314	0.6899	30.00	32.78	ug/L	9	30	0.0500	
Propylbenzene	2.4531	2.7252	30.00	33.33	ug/L	11	30	0.0500	
Bromobenzene	0.6172	0.6660	30.00	32.38	ug/L	8	30	0.0500	
1,3,5-Trimethylbenzene	1.6440	1.8038	30.00	32.92	ug/L	10	30	0.0500	
2-Chlorotoluene	1.6778	1.9076	30.00	34.11	ug/L	14	30	0.0500	
4-Chlorotoluene	1.6176	1.8836	30.00	34.93	ug/L	16	30	0.0500	
tert-Butylbenzene	1.3736	1.4869	30.00	32.48	ug/L	8	30	0.0500	
1,2,4-Trimethylbenzene	1.7376	1.9233	30.00	33.21	ug/L	11	30	0.0500	
sec-Butylbenzene	2.0973	2.2763	30.00	32.56	ug/L	9	30	0.0500	
para-Isopropyl Toluene	1.6611	1.9276	30.00	34.81	ug/L	16	30	0.0500	
1,3-Dichlorobenzene	1.0815	1.2179	30.00	33.78	ug/L	13	30	0.0500	
1,4-Dichlorobenzene	1.1244	1.2108	30.00	32.31	ug/L	8	30	0.0500	
n-Butylbenzene	1.4813	1.8059	30.00	36.58	ug/L	22	30	0.0500	!c+
1,2-Dichlorobenzene	1.0687	1.1588	30.00	32.53	ug/L	8	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.1307	0.1300	30.00	29.84	ug/L	-1	30	0.0500	
1,2,4-Trichlorobenzene	0.5685	0.6310	30.00	33.30	ug/L	11	30	0.0500	
Hexachlorobutadiene	0.1797	0.2614	30.00	43.63	ug/L	45	30	0.0500	c+ ***
Naphthalene	1.5742	1.5350	30.00	29.25	ug/L	-2	30	0.0500	
1,2,3-Trichlorobenzene	0.5470	0.5853	30.00	32.10	ug/L	7	30	0.0500	
Dibromofluoromethane	0.6951	0.7323	50.00	52.68	ug/L	5	30	0.0500	
1,2-Dichloroethane-d4	0.3657	0.4598	50.00	62.86	ug/L	26	30	0.0500	!c+
Toluene-d8	1.1356	1.2499	50.00	55.04	ug/L	10	30	0.0500	
Bromofluorobenzene	0.9511	0.9684	50.00	50.91	ug/L	2	30	0.0500	

ISTD (ICAL cin24)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	497393	431294	-13.29	10.36	10.36	0.00
1,4-Difluorobenzene	895161	743905	-16.90	11.53	11.52	-0.01
Chlorobenzene-d5	871710	716255	-17.83	15.60	15.59	-0.01
1,4-Dichlorobenzene-d4	449342	410586	-8.63	18.37	18.36	-0.01

DAR 11/23/15 : single analyte reruns

CCV CCC failure

Analyst: DAR Date: 11/23/15 Reviewer: LW Date: 11/23/15

!=warning +=high bias -=low bias c=CCV v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA03                      Run Name : QC814058                      IDF : 1.0  
 Seqnum : 425468732007.1          File : ckl07                      Time : 21-NOV-2015 15:38  
 Cal : 425383715001                Caldate : 23-SEP-2015          Caltype : WATER  
 Standards: S28214 (100000X), S28450 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Dibromofluoromethane	0.6951	0.7422	50.00	53.39	ug/L	7	30	0.0500	u
1,2-Dichloroethane-d4	0.3657	0.4834	50.00	66.10	ug/L	<b>32</b>	30	0.0500	c+ u
Toluene-d8	1.1356	1.2235	50.00	53.87	ug/L	8	30	0.0500	u
Bromofluorobenzene	0.9511	1.0006	50.00	52.60	ug/L	5	30	0.0500	u

ISTD (ICAL cin24)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	497393	374595	-24.69	10.36	10.34	-0.02
1,4-Difluorobenzene	895161	666178	-25.58	11.53	11.50	-0.03
Chlorobenzene-d5	871710	654887	-24.87	15.60	15.58	-0.02
1,4-Dichlorobenzene-d4	449342	362067	-19.42	18.37	18.35	-0.02

ISTD (ICAL ckl06)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	365079	374595	2.61	10.34	10.34	0.00

DAR 11/23/15 : both round to 9.47 [general version]

Analyst: KKM                      Date: 11/25/15                      Reviewer: TEW                      Date: 11/25/15

+ = high bias    c = CCV    u = use

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA03                      Run Name : QC814353                      IDF : 1.0  
 Seqnum : 425472906009.7          File : cko09                      Time : 24-NOV-2015 15:08  
 Cal : 425383715001                Caldate : 23-SEP-2015          Caltype : WATER  
 Standards: S28219 (10000X), S28220 (10000X), S28167 (10000X), S28123 (10000X),  
 S28450 (5000X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.5033	0.4423	20.00	17.58	ug/L	-12	30	0.0500	!v- u
Chloromethane	0.4791	0.5114	20.00	21.35	ug/L	7	30	0.1000	u
Vinyl Chloride	0.4311	0.4999	20.00	23.19	ug/L	16	20	0.0500	?LOD u
Bromomethane	0.2497	0.3625	20.00	29.03	ug/L	45	30	0.0500	!v- c+ u ***
Chloroethane	0.2498	0.3074	20.00	24.61	ug/L	23	30	0.0500	u
Trichlorofluoromethane	0.5295	0.5162	20.00	19.50	ug/L	-3	30	0.0500	u
Acetone	0.2162	0.1456	25.00	16.84	ug/L	-33	40	0.0500	u
Freon 113	0.4073	0.3638	25.00	22.33	ug/L	-11	30	0.0500	!v- u
1,1-Dichloroethene	0.3973	0.3662	25.00	23.04	ug/L	-8	20	0.0500	u
Methylene Chloride	0.5344	0.5146	25.00	24.07	ug/L	-4	30	0.0500	u
Carbon Disulfide	1.6245	1.3882	25.00	21.36	ug/L	-15	30	0.0500	u
MTBE	1.2784	1.2197	25.00	23.85	ug/L	-5	30	0.0500	u
trans-1,2-Dichloroethene	0.4588	0.4230	25.00	23.05	ug/L	-8	30	0.0500	u
Vinyl Acetate	0.9841	1.2894	25.00	32.76	ug/L	31	40	0.0500	u
1,1-Dichloroethane	0.8798	0.8058	25.00	22.90	ug/L	-8	30	0.1000	u
2-Butanone	0.3118	0.2319	25.00	18.59	ug/L	-26	40	0.0500	u
cis-1,2-Dichloroethene	0.5338	0.5747	25.00	26.92	ug/L	8	30	0.0500	u
2,2-Dichloropropane	0.4662	0.6420	25.00	34.43	ug/L	38	30	0.0500	c+ u ***
Chloroform	0.8536	0.8913	25.00	26.10	ug/L	4	20	0.0500	u
Bromochloromethane	0.2939	0.3268	25.00	27.80	ug/L	11	30	0.0500	u
1,1,1-Trichloroethane	0.6192	0.6744	25.00	27.23	ug/L	9	30	0.0500	u
1,1-Dichloropropene	0.3433	0.3053	25.00	22.23	ug/L	-11	30	0.0500	u
Carbon Tetrachloride	0.2739	0.3316	25.00	30.27	ug/L	21	30	0.0500	u
1,2-Dichloroethane	0.3622	0.3977	25.00	27.45	ug/L	10	30	0.0500	u
Benzene	0.9679	0.9089	25.00	23.48	ug/L	-6	30	0.0500	u
Trichloroethene	0.2739	0.2599	25.00	23.72	ug/L	-5	30	0.0500	u
1,2-Dichloropropane	0.3074	0.2644	25.00	21.50	ug/L	-14	20	0.0500	u
Bromodichloromethane	0.3767	0.3807	25.00	25.27	ug/L	1	30	0.0500	u
Dibromomethane	0.2205	0.2244	25.00	25.44	ug/L	2	30	0.0500	u
4-Methyl-2-Pentanone	0.3791	0.2839	25.00	18.72	ug/L	-25	40	0.0500	u
cis-1,3-Dichloropropene	0.4320	0.4421	25.00	25.58	ug/L	2	30	0.0500	u
Toluene	0.6077	0.6164	25.00	25.36	ug/L	1	20	0.0500	u
trans-1,3-Dichloropropene	0.3965	0.4218	25.00	26.60	ug/L	6	30	0.0500	u
1,1,2-Trichloroethane	0.1597	0.1538	25.00	24.08	ug/L	-4	30	0.0500	u
2-Hexanone	0.2891	0.2220	25.00	19.20	ug/L	-23	40	0.0500	u
1,3-Dichloropropane	0.4743	0.4795	25.00	25.27	ug/L	1	30	0.0500	u
Tetrachloroethene	0.2550	0.2666	25.00	26.13	ug/L	5	30	0.0500	u
Dibromochloromethane	0.3371	0.3531	25.00	26.19	ug/L	5	30	0.0500	u
1,2-Dibromoethane	0.3278	0.3232	25.00	24.65	ug/L	-1	30	0.0500	u
Chlorobenzene	0.7376	0.7405	25.00	25.10	ug/L	0	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.2685	0.2745	25.00	25.56	ug/L	2	30	0.0500	u
Ethylbenzene	1.1292	1.1236	25.00	24.88	ug/L	0	20	0.0500	u
m,p-Xylenes	0.4153	0.4260	50.00	51.29	ug/L	3	30	0.0500	u
o-Xylene	0.4263	0.4143	25.00	24.30	ug/L	-3	30	0.0500	u
Styrene	0.7560	0.7303	25.00	24.15	ug/L	-3	30	0.0500	u
Bromoform	0.2207	0.2113	25.00	23.93	ug/L	-4	30	0.1000	u
Isopropylbenzene	2.0519	2.1760	25.00	26.51	ug/L	6	30	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.8133	0.7808	25.00	24.00	ug/L	-4	30	0.3000	u
1,2,3-Trichloropropane	0.6314	0.6748	25.00	26.72	ug/L	7	30	0.0500	u
Propylbenzene	2.4531	2.5723	25.00	26.22	ug/L	5	30	0.0500	u
Bromobenzene	0.6172	0.6440	25.00	26.09	ug/L	4	30	0.0500	u
1,3,5-Trimethylbenzene	1.6440	1.7983	25.00	27.35	ug/L	9	30	0.0500	u
2-Chlorotoluene	1.6778	1.7792	25.00	26.51	ug/L	6	30	0.0500	u
4-Chlorotoluene	1.6176	1.6720	25.00	25.84	ug/L	3	30	0.0500	u
tert-Butylbenzene	1.3736	1.3953	25.00	25.40	ug/L	2	30	0.0500	u
1,2,4-Trimethylbenzene	1.7376	1.7713	25.00	25.49	ug/L	2	30	0.0500	u
sec-Butylbenzene	2.0973	2.0976	25.00	25.00	ug/L	0	30	0.0500	u
para-Isopropyl Toluene	1.6611	1.7068	25.00	25.69	ug/L	3	30	0.0500	u
1,3-Dichlorobenzene	1.0815	1.0201	25.00	23.58	ug/L	-6	30	0.0500	u
1,4-Dichlorobenzene	1.1244	1.0666	25.00	23.72	ug/L	-5	30	0.0500	u
n-Butylbenzene	1.4813	1.5817	25.00	26.69	ug/L	7	30	0.0500	u
1,2-Dichlorobenzene	1.0687	0.9783	25.00	22.89	ug/L	-8	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1307	0.1255	25.00	24.00	ug/L	-4	30	0.0500	u
1,2,4-Trichlorobenzene	0.5685	0.5503	25.00	24.20	ug/L	-3	30	0.0500	u
Hexachlorobutadiene	0.1797	0.1904	25.00	26.49	ug/L	6	30	0.0500	u
Naphthalene	1.5742	1.2825	25.00	20.37	ug/L	-19	30	0.0500	u
1,2,3-Trichlorobenzene	0.5470	0.4945	25.00	22.60	ug/L	-10	30	0.0500	u
Dibromofluoromethane	0.6951	0.7484	50.00	53.84	ug/L	8	30	0.0500	u
1,2-Dichloroethane-d4	0.3657	0.3889	50.00	53.17	ug/L	6	30	0.0500	u
Toluene-d8	1.1356	1.2011	50.00	52.88	ug/L	6	30	0.0500	u
Bromofluorobenzene	0.9511	1.0110	50.00	53.15	ug/L	6	30	0.0500	u

ISTD (ICAL cin24)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	497393	627952	26.25	10.36	10.35	-0.01
1,4-Difluorobenzene	895161	1122289	25.37	11.53	11.51	-0.02
Chlorobenzene-d5	871710	1014875	16.42	15.60	15.60	0.00
1,4-Dichlorobenzene-d4	449342	472498	5.15	18.37	18.36	-0.01

Analyst: KKM Date: 11/25/15 Reviewer: TEW Date: 11/25/15

!=warning +=high bias -=low bias ?LOD=no LOD c=CCV u=use v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271668 MSVOA Water  
EPA 8260B

Inst : MSVOA14                      Run Name : QC814115                      IDF : 1.0  
 Seqnum : 955472935014.4            File : nk014                      Time : 24-NOV-2015 18:21  
 Cal : 955422499001                  Caldate : 20-OCT-2015  
 Standards: S28489 (20000X), S28220 (20000X), S28167 (20000X), S27267 (20000X),  
 S28449 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.6415	0.7963	10.00	12.41	ug/L	24	30	0.0500	u
Chloromethane	0.9510	0.7630	10.00	8.022	ug/L	-20	30	0.1000	u
Vinyl Chloride	0.9707	0.9010	10.00	9.282	ug/L	-7	20	0.0500	u
Bromomethane	0.2242	0.4043	10.00	18.04	ug/L	80	30	0.0500	c+ u ***
Chloroethane	0.5345	0.4550	10.00	8.512	ug/L	-15	30	0.0500	u
Trichlorofluoromethane	0.8274	1.0806	10.00	13.06	ug/L	31	30	0.0500	c+ u ***
Acetone	0.4156	0.3722	12.50	11.20	ug/L	-10	40	0.0500	u
Freon 113	0.4347	0.4571	12.50	13.15	ug/L	5	30	0.0500	u
1,1-Dichloroethene	0.4198	0.4298	12.50	12.80	ug/L	2	20	0.0500	u
Methylene Chloride	0.4994	0.5252	12.50	13.15	ug/L	5	30	0.0500	u
Carbon Disulfide	1.4737	1.6050	12.50	13.61	ug/L	9	30	0.0500	u
MTBE	1.6773	1.6905	12.50	12.60	ug/L	1	30	0.0500	u
trans-1,2-Dichloroethene	0.4787	0.4659	12.50	12.17	ug/L	-3	30	0.0500	u
Vinyl Acetate	1.7132	1.5000	12.50	10.94	ug/L	-12	40	0.0500	u
1,1-Dichloroethane	1.3336	1.0573	12.50	9.910	ug/L	-21	30	0.1000	u
2-Butanone	0.4886	0.3276	12.50	8.380	ug/L	-33	40	0.0500	u
cis-1,2-Dichloroethene	0.5624	0.5818	12.50	12.93	ug/L	3	30	0.0500	u
2,2-Dichloropropane	0.6571	0.9364	12.50	17.81	ug/L	42	30	0.0500	c+ u ***
Chloroform	0.8921	1.0128	12.50	14.19	ug/L	14	20	0.0500	u
Bromochloromethane	0.2490	0.2472	12.50	12.41	ug/L	-1	30	0.0500	u
1,1,1-Trichloroethane	0.7861	0.9326	12.50	14.83	ug/L	19	30	0.0500	u
1,1-Dichloropropene	0.4813	0.4779	12.50	12.41	ug/L	-1	30	0.0500	u
Carbon Tetrachloride	0.4089	0.5281	12.50	16.15	ug/L	29	30	0.0500	u
1,2-Dichloroethane	0.6367	0.5720	12.50	11.23	ug/L	-10	30	0.0500	u
Benzene	1.4017	1.4988	12.50	13.37	ug/L	7	30	0.0500	u
Trichloroethene	0.3628	0.3894	12.50	13.42	ug/L	7	30	0.0500	u
1,2-Dichloropropane	0.5064	0.3915	12.50	9.664	ug/L	-23	20	0.0500	c- u ***
Bromodichloromethane	0.4448	0.5133	12.50	14.42	ug/L	15	30	0.0500	u
Dibromomethane	0.2211	0.2308	12.50	13.05	ug/L	4	30	0.0500	u
4-Methyl-2-Pentanone	0.6446	0.4473	12.50	8.674	ug/L	-31	40	0.0500	u
cis-1,3-Dichloropropene	0.5532	0.6821	12.50	15.41	ug/L	23	30	0.0500	u
Toluene	1.6718	1.7308	12.50	12.94	ug/L	4	20	0.0500	u
trans-1,3-Dichloropropene	0.5523	0.6324	12.50	14.31	ug/L	15	30	0.0500	u
1,1,2-Trichloroethane	0.1862	0.1957	12.50	13.13	ug/L	5	30	0.0500	u
2-Hexanone	0.4951	0.3385	12.50	8.545	ug/L	-32	40	0.0500	u
1,3-Dichloropropane	0.6320	0.6934	12.50	13.71	ug/L	10	30	0.0500	u
Tetrachloroethene	0.3610	0.4022	12.50	13.93	ug/L	11	30	0.0500	u
Dibromochloromethane	0.3820	0.4102	12.50	13.43	ug/L	7	30	0.0500	u
1,2-Dibromoethane	0.3672	0.3603	12.50	12.27	ug/L	-2	30	0.0500	u
Chlorobenzene	1.0480	1.1083	12.50	13.22	ug/L	6	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.3617	0.3941	12.50	13.62	ug/L	9	30	0.0500	u
Ethylbenzene	1.9396	2.0118	12.50	12.97	ug/L	4	20	0.0500	u
m,p-Xylenes	0.7353	0.7596	25.00	25.83	ug/L	3	30	0.0500	u
o-Xylene	0.7307	0.7061	12.50	12.08	ug/L	-3	30	0.0500	u
Styrene	1.2609	1.2620	12.50	12.51	ug/L	0	30	0.0500	u
Bromoform	0.2701	0.2990	12.50	13.84	ug/L	11	30	0.1000	u
Isopropylbenzene	3.5784	3.3698	12.50	11.77	ug/L	-6	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.8496	0.8977	12.50	13.21	ug/L	6	30	0.3000	u
1,2,3-Trichloropropane	0.9817	0.9639	12.50	12.27	ug/L	-2	30	0.0500	u
Propylbenzene	4.3463	4.2376	12.50	12.19	ug/L	-3	30	0.0500	u
Bromobenzene	0.8426	0.8311	12.50	12.33	ug/L	-1	30	0.0500	u
1,3,5-Trimethylbenzene	3.0929	3.0463	12.50	12.31	ug/L	-2	30	0.0500	u
2-Chlorotoluene	2.9127	2.8540	12.50	12.25	ug/L	-2	30	0.0500	u
4-Chlorotoluene	2.7062	2.6653	12.50	12.31	ug/L	-2	30	0.0500	u
tert-Butylbenzene	2.6588	2.5561	12.50	12.02	ug/L	-4	30	0.0500	u
1,2,4-Trimethylbenzene	3.1235	3.0607	12.50	12.25	ug/L	-2	30	0.0500	u
sec-Butylbenzene	4.0353	3.9539	12.50	12.25	ug/L	-2	30	0.0500	u
para-Isopropyl Toluene	3.3656	3.3643	12.50	12.49	ug/L	0	30	0.0500	u
1,3-Dichlorobenzene	1.5874	1.6939	12.50	13.34	ug/L	7	30	0.0500	u
1,4-Dichlorobenzene	1.6381	1.7101	12.50	13.05	ug/L	4	30	0.0500	u
n-Butylbenzene	3.2103	3.3910	12.50	13.20	ug/L	6	30	0.0500	u
1,2-Dichlorobenzene	1.5518	1.5932	12.50	12.83	ug/L	3	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.2296	0.2043	12.50	11.12	ug/L	-11	30	0.0500	u
1,2,4-Trichlorobenzene	1.1989	1.2055	12.50	12.57	ug/L	1	30	0.0500	u
Hexachlorobutadiene	0.5656	0.6699	12.50	14.81	ug/L	18	30	0.0500	u
Naphthalene	3.4680	2.8062	12.50	10.11	ug/L	-19	30	0.0500	u
1,2,3-Trichlorobenzene	1.1848	1.1651	12.50	12.29	ug/L	-2	30	0.0500	u
Dibromofluoromethane	0.4527	0.5104	50.00	56.37	ug/L	13	30	0.0500	u
1,2-Dichloroethane-d4	0.4650	0.4907	50.00	52.76	ug/L	6	30	0.0500	u
Toluene-d8	1.3404	1.4587	50.00	54.41	ug/L	9	30	0.0500	u
Bromofluorobenzene	1.0165	1.0042	50.00	49.40	ug/L	-1	30	0.0500	u

ISTD (ICAL njk23)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	742664	580566	-21.83	9.49	9.47	-0.02
1,4-Difluorobenzene	1178583	887005	-24.74	10.56	10.55	-0.01
Chlorobenzene-d5	1092554	839042	-23.20	14.13	14.12	-0.01
1,4-Dichlorobenzene-d4	591395	486931	-17.66	16.56	16.55	-0.01

**CCV CCC failure**

Analyst: KKM Date: 11/25/15 Reviewer: TEW Date: 11/25/15

+ = high bias - = low bias c = CCV u = use



## Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 415467153

Date : 11/20/15  
 Sequence : MSVOA02 bkk

Reference : bia20  
 Analyzed : 09/11/15 01:28

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	786577	11.09	1292015	12.31	1307506	16.91	660691	20.31
		LOWER LIMIT	393289	10.59	646008	11.81	653753	16.41	330346	19.81
		UPPER LIMIT	1573154	11.59	2584030	12.81	2615012	17.41	1321382	20.81
008	CCV/BS	QC813847	800061	11.08	1180038	12.29	1126447	16.90	600538	20.30
009	BSD	QC813848	828398	11.08	1221675	12.29	1177547	16.90	620714	20.30
012	BLANK	QC813849	792605	11.08	1172228	12.29	1117493	16.90	570371	20.30
013	SAMPLE	271668-005	790348	11.08	1160836	12.30	1096076	16.90	565817	20.30
014	SAMPLE	271668-006	769127	11.08	1137989	12.29	1097586	16.90	562525	20.30
015	SAMPLE	271668-007	770111	11.09	1139526	12.29	1085437	16.90	552962	20.30
016	SAMPLE	271668-008	761987	11.08	1129872	12.29	1070394	16.90	530029	20.31
017	SAMPLE	271668-009	732934	11.08	1058423	12.29	1009223	16.90	524700	20.30
018	SAMPLE	271668-010	715375	11.08	1044697	12.29	992004	16.90	517115	20.30
019	SAMPLE	271668-011	705664	11.08	1050213	12.30	993323	16.90	509715	20.30
020	SAMPLE	271668-012	688946	11.07	1015017	12.29	971148	16.90	503921	20.30
021	SAMPLE	271668-013	675738	11.08	982651	12.30	946710	16.90	492420	20.30
022	SAMPLE	271668-014	689690	11.08	1020351	12.29	945636	16.90	484174	20.30
023	SAMPLE	271668-015	671354	11.08	986679	12.29	889837	16.90	481727	20.30
024	SAMPLE	271668-004	668869	11.08	978700	12.29	925572	16.90	481825	20.30
025	SAMPLE	271668-003	663569	11.08	973906	12.29	915133	16.90	476170	20.30

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 425468732

Date : 11/21/15  
 Sequence : MSVOA03 ckl

Reference : cin24  
 Analyzed : 09/24/15 02:58

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	497393	10.36	895161	11.53	871710	15.60	449342	18.37
		LOWER LIMIT	248697	9.86	447581	11.03	435855	15.10	224671	17.87
		UPPER LIMIT	994786	10.86	1790322	12.03	1743420	16.10	898684	18.87
001	IB		433836	10.34	757259	11.49	729525	15.59	404639	18.35
003	CCV		431294	10.36	743905	11.52	716255	15.59	410586	18.36
004	BS	QC813920	382084	10.35	678720	11.51	655957	15.59	377037	18.36
005	BSD	QC813940	376395	10.34	677307	11.51	664780	15.59	401810	18.36
007	CCV/LCS	QC814058	374595	10.34	666178	11.50	654887	15.58	362067	18.35
008	BLANK	QC813921	372409	10.34	673770	11.50	665993	15.59	363668	18.35
009	SAMPLE	271668-005	407323	10.35	732297	11.50	707084	15.60	383488	18.37
010	SAMPLE	271668-006	400483	10.34	720898	11.50	694790	15.59	376842	18.35
011	SAMPLE	271668-007	396616	10.34	704388	11.49	686201	15.59	374389	18.34
012	SAMPLE	271668-008	375573	10.34	676006	11.50	650623	15.59	356584	18.35
013	SAMPLE	271668-009	348751	10.34	626864	11.49	619195	15.58	336035	18.35
014	SAMPLE	271668-010	324534	10.32	566556	11.48	571306	15.59	315076	18.35
015	SAMPLE	271668-011	314964	10.33	547054	11.49	553432	15.59	311245	18.35
016	SAMPLE	271668-012	306455	10.32	519318	11.48	502576	15.59	275770	18.35
017	SAMPLE	271668-013	326204	10.33	584772	11.49	579153	15.58	318526	18.35
018	SAMPLE	271668-014	325091	10.33	576480	11.49	572374	15.59	314335	18.35
019	SAMPLE	271668-015	314486	10.33	565258	11.49	560999	15.59	310165	18.35
020	SAMPLE	271827-001	330013	10.33	573421	11.49	565444	15.59	303551	18.35
021	SAMPLE	271668-003	316696	10.33	572319	11.49	561007	15.58	304174	18.35
022	SAMPLE	271668-004	310925	10.33	551898	11.49	547658	15.58	299605	18.35

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 425468732

Date : 11/21/15  
 Sequence : MSVOA03 ckl

Reference : ckl06  
 Analyzed : 11/21/15 15:16

#	Type	Sample ID	PFLBZ	RT
		ICAL STD	365079	10.34
		LOWER LIMIT	182540	9.84
		UPPER LIMIT	730158	10.84
007	CCV/LCS	QC814058	374595	10.34
020	SAMPLE	271827-001	330013	10.33

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 425472906

Date : 11/24/15  
 Sequence : MSVOA03 cko

Reference : cin24  
 Analyzed : 09/24/15 02:58

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	497393	10.36	895161	11.53	871710	15.60	449342	18.37
		LOWER LIMIT	248697	9.86	447581	11.03	435855	15.10	224671	17.87
		UPPER LIMIT	994786	10.86	1790322	12.03	1743420	16.10	898684	18.87
001	IB		662083	10.35	1129075	11.51	1065126	15.59	554578	18.36
003	CCV		587580	10.35	998534	11.51	956495	15.60	525955	18.36
005	CCV		649057	10.36	1143689	11.52	1072747	15.60	551300	18.36
007	CCV		650891	10.35	1123378	11.51	1082495	15.60	560129	18.36
008	CCV	QC814353	657214	10.35	1154611	11.52	1072668	15.60	510032	18.36
009	CCV/LCS	QC814353	627952	10.35	1122289	11.51	1014875	15.60	472498	18.36
010	IB		602832	10.35	1098294	11.51	988962	15.59	445279	18.36
011	BLANK	QC814354	620144	10.35	1113575	11.52	990892	15.60	438378	18.36
012	MSS	271802-009	583235	10.34	1056626	11.51	986680	15.59	461767	18.36
013	SAMPLE	271802-004	589238	10.35	1066550	11.50	980937	15.59	472869	18.36
014	SAMPLE	271802-005	554294	10.35	1000333	11.50	933562	15.59	451238	18.36
015	SAMPLE	271802-006	542425	10.35	976349	11.51	914672	15.59	444629	18.36
016	SAMPLE	271802-007	520194	10.34	938049	11.50	881540	15.59	435198	18.35
017	SAMPLE	271802-008	487965	10.34	872570	11.50	827344	15.59	405840	18.36
018	SAMPLE	271802-010	456812	10.34	820890	11.50	786257	15.59	391407	18.36
019	SAMPLE	271802-011	454234	10.34	834815	11.50	776039	15.60	383308	18.36
020	SAMPLE	271668-016	440121	10.33	797721	11.49	768313	15.59	379749	18.35
021	SAMPLE	271676-002	435968	10.33	789491	11.49	759508	15.59	375065	18.35
022	SAMPLE	271676-004	419817	10.33	753583	11.49	727045	15.59	356319	18.36
023	SAMPLE	271676-001	440410	10.34	792129	11.50	761769	15.59	380785	18.36
024	SAMPLE	271636-001	440704	10.34	792768	11.50	761814	15.59	391264	18.36
025	SAMPLE	271783-008	436675	10.34	794813	11.50	755737	15.59	391561	18.36
026	MS	QC814355	437898	10.34	776502	11.50	748176	15.60	394107	18.36
027	MSD	QC814356	454735	10.34	799232	11.50	780260	15.60	422513	18.36
028	IB		457215	10.34	818953	11.50	782394	15.60	387262	18.36
029	IB		455203	10.34	808674	11.50	782301	15.60	386530	18.36
030	LOD	250531-014	433076	10.34	782837	11.50	753836	15.59	374350	18.35

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 955472935

Date : 11/24/15  
 Sequence : MSVOA14 nk0

Reference : njk23  
 Analyzed : 10/20/15 18:26

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	742664	9.49	1178583	10.56	1092554	14.13	591395	16.56
		LOWER LIMIT	371332	8.99	589292	10.06	546277	13.63	295698	16.06
		UPPER LIMIT	1485328	9.99	2357166	11.06	2185108	14.63	1182790	17.06
014	CCV/LCS	QC814115	580566	9.47	887005	10.55	839042	14.12	486931	16.55
016	BLANK	QC814116	531278	9.47	834743	10.55	808864	14.13	442686	16.55
017	SAMPLE	271732-004	523643	9.48	833269	10.56	778239	14.13	426734	16.55
018	MSS	271732-005	520156	9.48	827223	10.56	769760	14.13	423556	16.55
019	SAMPLE	271668-012	512037	9.48	817901	10.56	764885	14.13	426549	16.55
020	SAMPLE	271636-002	519676	9.48	827379	10.56	759394	14.13	423783	16.55
021	BLANK	QC814384	505652	9.48	815525	10.56	752709	14.13	415070	16.55
022	SAMPLE	271732-003	507021	9.48	807199	10.56	752297	14.13	416720	16.55
023	MS	QC814385	537079	9.48	826262	10.56	783931	14.13	460811	16.55
024	MSD	QC814386	536554	9.48	819095	10.56	784442	14.13	461919	16.55
025	IB		510202	9.48	816954	10.55	766323	14.13	427295	16.55
026	IB		560467	9.48	890001	10.55	831324	14.13	452988	16.55
027	IB		540259	9.48	868781	10.55	805762	14.13	443029	16.55

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 415365033

Instrument : MSVOA02 Begun : 09/10/15 11:53  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	bia01	IB				09/10/15 11:53	1.0	1	?t
002	bia02	IB				09/10/15 12:23	1.0	1	?t
003	bia03	IB	LOW POINT			09/10/15 13:38	1.0	1	?t
004	bia04	IB	LOW POINT			09/10/15 15:24	1.0	1	?t
005	bia05	IB	LOW POINT			09/10/15 16:55	1.0	1	?t
006	bia06	X	LOW POINT			09/10/15 18:10	1.0	1	
007	bia07	TUN	BFB			09/10/15 18:56	1.0	2	
008	bia08	TUN	BFB			09/10/15 19:11	1.0	2	
009	bia09	TUN	BFB			09/10/15 19:26	1.0	2	
010	bia10	X	IB			09/10/15 19:56	1.0	1	
011	bia11	X	IB			09/10/15 20:26	1.0	1	
012	bia12	X	IB			09/10/15 20:56	1.0	1	
013	bia13	IB	CALIB			09/10/15 21:27	1.0	1	
014	bia14	ICAL		Water		09/10/15 21:57	1.0	3 4 5 6 1	
015	bia15	ICAL		Water		09/10/15 22:42	1.0	3 4 5 6 1	
016	bia16	ICAL		Water		09/10/15 23:12	1.0	3 4 5 6 1	
017	bia17	ICAL		Water		09/10/15 23:42	1.0	3 4 5 6 1	
018	bia18	ICAL		Water		09/11/15 00:13	1.0	3 4 5 6 1	
019	bia19	ICAL		Water		09/11/15 00:43	1.0	3 4 5 6 1	
020	bia20	ICAL		Water		09/11/15 01:28	1.0	3 4 5 6 1	
021	bia21	ICAL		Water		09/11/15 01:58	1.0	3 4 5 6 1	
022	bia22	ICAL		Water		09/11/15 02:29	1.0	3 4 5 6 1	
023	bia23	ICV	GASES	Water		09/11/15 02:59	1.0	7 1	
024	bia24	ICV		Water		09/11/15 03:44	1.0	8 9 1 10	
025	bia25	IB				09/11/15 04:14	1.0	1	
026	bia26	IB				09/11/15 04:44	1.0	1	

KKM 09/15/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

Analyst: KKM Date: 09/15/15 Reviewer: LW Date: 09/16/15

Standards used: 1=S28020 2=S27180 3=S27005 4=S27823 5=S27893 6=S26571 7=S27007 8=S28013 9=S27930 10=S27929

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 415467153

Instrument : MSVOA02  
 Method : EPA 8260B

Begun : 11/20/15 09:53  
 SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	bkk01	X	HG			11/20/15 09:53	1.0	1	
002	bkk02	X	IB			11/20/15 10:23	1.0	1	
003	bkk03	TUN	BFB			11/20/15 11:08	1.0	2	
004	bkk04	X	QC813847	Water	229688	11/20/15 11:39	1.0	3 4 5 6 1	spk cc+
005	bkk05	TUN	BFB			11/20/15 12:09	1.0	2	
006	bkk06	X	QC813847	Water	229688	11/20/15 12:39	1.0	3 4 5 6 1	cc+
007	bkk07	TUN	BFB			11/20/15 13:09	1.0	2	
008	bkk08	CCV/BS	QC813847	Water	229688	11/20/15 13:39	1.0	3 4 5 6 1	
009	bkk09	BSD	QC813848	Water	229688	11/20/15 14:25	1.0	3 4 5 6 1	
010	bkk10	ICAL	A/A			11/20/15 15:10	1.0	1 7	
011	bkk11	X	A/A	Water	229688	11/20/15 15:40	1.0	1 7	
012	bkk12	BLANK	QC813849	Water	229688	11/20/15 16:10	1.0	1	
013	bkk13	SAMPLE	271668-005	Water	229688	11/20/15 16:41	1.0	1	
014	bkk14	SAMPLE	271668-006	Water	229688	11/20/15 17:11	1.0	1	combined (sediment), headspace <= 1 mL
015	bkk15	SAMPLE	271668-007	Water	229688	11/20/15 17:56	1.0	1	
016	bkk16	SAMPLE	271668-008	Water	229688	11/20/15 18:26	1.0	1	
017	bkk17	SAMPLE	271668-009	Water	229688	11/20/15 18:56	1.0	1	
018	bkk18	SAMPLE	271668-010	Water	229688	11/20/15 19:27	1.0	1	
019	bkk19	SAMPLE	271668-011	Water	229688	11/20/15 19:57	1.0	1	
020	bkk20	SAMPLE	271668-012	Water	229688	11/20/15 20:42	1.0	1	combined (sediment)
021	bkk21	SAMPLE	271668-013	Water	229688	11/20/15 21:12	1.0	1	
022	bkk22	SAMPLE	271668-014	Water	229688	11/20/15 21:43	1.0	1	
023	bkk23	SAMPLE	271668-015	Water	229688	11/20/15 22:13	1.0	1	
024	bkk24	SAMPLE	271668-004	Water	229688	11/20/15 22:43	33.33	1	foamer
025	bkk25	SAMPLE	271668-003	Water	229688	11/20/15 23:28	40.0	1	foamer
026	bkk26	X	IB			11/20/15 23:58	1.0	1	
027	bkk27	X	IB			11/21/15 00:29	1.0	1	

DJA 11/23/15 : retuned after files 3 and 6

DJA 11/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

DJA 11/23/15 : Matrix spikes were not performed for this analysis in batch 229688 due to insufficient sample amount.

Analyst: DJA Date: 11/23/15 Reviewer: LW Date: 11/23/15

Standards used: 1=S28490 2=S27825 3=S28219 4=S28220 5=S28167 6=S28123 7=S28214

Flags used: +=high bias cc=CCV CCC failure spk=5% spike rule



CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425383715

Instrument : MSVOA03 Begun : 09/23/15 11:15  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
003	cin03	IB	15PPB			09/23/15 11:15	1.0	1 2 3 4	?t
004	cin04	TUN	BFB			09/23/15 12:19	1.0	5	
005	cin05	ICV	GAS			09/23/15 12:40	1.0	6 4	
006	cin06	ICV	GAS			09/23/15 13:23	1.0	6 4	
007	cin07	TUN	BFB			09/23/15 14:28	1.0	5	
008	cin08	CCV	15PPB			09/23/15 14:49	1.0	1 2 3 4	cc-
009	cin09	IB				09/23/15 16:15	1.0	4	
010	cin10	IB				09/23/15 16:58	1.0	4	
011	cin11	X	LOWPT			09/23/15 17:19	1.0	4	
012	cin12	X	LOWPT			09/23/15 19:06	1.0	4	
013	cin13	TUN	BFB			09/23/15 20:54	1.0	5	
014	cin14	IB				09/23/15 21:15	1.0	4	
015	cin15	IB				09/23/15 21:58	1.0	4	
016	cin16	IB				09/23/15 22:41	1.0	4	
017	cin17	IB	CALIB			09/23/15 23:02	1.0	4	
018	cin18	ICAL	.25/.5PPB			09/23/15 23:45	1.0	7 1 2 3 4	
019	cin19	ICAL	.5/1PPB			09/24/15 00:07	1.0	4 7 1 2 3	
020	cin20	ICAL	2PPB			09/24/15 00:50	1.0	7 1 2 3 4	
021	cin21	ICAL	5PPB			09/24/15 01:11	1.0	4 7 1 2 3	
022	cin22	ICAL	10PPB			09/24/15 01:54	1.0	4 7 1 2 3	
023	cin23	ICAL	20PPB			09/24/15 02:37	1.0	4 7 1 2 3	
024	cin24	ICAL	50PPB			09/24/15 02:58	1.0	4 7 1 2 3	
025	cin25	ICAL	75PPB			09/24/15 03:41	1.0	4 7 1 2 3	
026	cin26	ICAL	100PPB			09/24/15 04:24	1.0	4 7 1 2 3	
027	cin27	ICV	MIX			09/24/15 04:46	1.0	8 4 9 10	
028	cin28	ICV	GAS			09/24/15 05:29	1.0	6 4	
029	cin29	IB				09/24/15 06:11	1.0	4	

DAR 09/23/15 : started on the wrong file, no data associated with files 1,2  
 DAR 09/24/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 3 through 29.  
 LW 09/25/15 : Reviewed through file 6

Analyst: DAR Date: 09/23/15 Reviewer: LW Date: 09/29/15  
 Standards used: 1=S27823 2=S27893 3=S26571 4=S27973 5=S27180 6=S27007 7=S27005 8=S27858 9=S27929 10=S27930  
 Flags used: --low bias ?t=missing tune cc=CCV CCC failure  
 Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425468732

Instrument : MSVOA03  
 Method : EPA 8260B

Begun : 11/21/15 12:12  
 SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ck101	IB				11/21/15 12:12	1.0	1	?t
002	ck102	TUN	BFB			11/21/15 12:55	1.0	2	
003	ck103	CCV				11/21/15 13:16	1.0	3 4 5 6 1	cc+
004	ck104	BS	QC813920	Water	229708	11/21/15 13:59	1.0	7 8 9 10 1	spk cc+
005	ck105	BSD	QC813940	Water	229708	11/21/15 14:33	1.0	7 8 9 10 1	spk cc+
006	ck106	ICAL	A/A	Water	229708	11/21/15 15:16	1.0	11 1	
007	ck107	CCV/LCS	QC814058	Water	229708	11/21/15 15:38	1.0	11 1	
008	ck108	BLANK	QC813921	Water	229708	11/21/15 16:21	1.0	1	
009	ck109	SAMPLE	271668-005	Water	229708	11/21/15 17:04	1.0	1	spk
010	ck110	SAMPLE	271668-006	Water	229708	11/21/15 17:25	1.0	1	spk , headspace <= 1 mL, pH > 2
011	ck111	SAMPLE	271668-007	Water	229708	11/21/15 18:08	1.0	1	spk
012	ck112	SAMPLE	271668-008	Water	229708	11/21/15 18:29	1.0	1	spk
013	ck113	SAMPLE	271668-009	Water	229708	11/21/15 19:12	1.0	1	spk
014	ck114	SAMPLE	271668-010	Water	229708	11/21/15 19:34	1.0	1	spk
015	ck115	SAMPLE	271668-011	Water	229708	11/21/15 20:17	1.0	1	spk
016	ck116	SAMPLE	271668-012	Water	229708	11/21/15 20:38	1.0	1	spk
017	ck117	SAMPLE	271668-013	Water	229708	11/21/15 21:21	1.0	1	spk
018	ck118	SAMPLE	271668-014	Water	229708	11/21/15 21:42	1.0	1	spk
019	ck119	SAMPLE	271668-015	Water	229708	11/21/15 22:25	1.0	1	spk
020	ck120	SAMPLE	271827-001	Water	229708	11/21/15 22:47	2.0	1	spk , foamer, pH > 2
021	ck121	SAMPLE	271668-003	Water	229708	11/21/15 23:30	40.0	1	spk , foamer
022	ck122	SAMPLE	271668-004	Water	229708	11/21/15 23:51	33.33	1	spk , foamer
023	ck123	X	IB			11/22/15 00:34	1.0	1	

DAR 11/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

DAR 11/23/15 : Matrix spikes were not performed for this analysis in batch 229708 due to insufficient sample amount.

Analyst: DAR Date: 11/23/15 Reviewer: LW Date: 11/23/15

Standards used: 1=S28450 2=S27825 3=S27005 4=S28295 5=S28355 6=S27081 7=S28219 8=S28220 9=S28167 10=S28123 11=S28214

Flags used: +=high bias ?t=missing tune cc=CCV CCC failure spk=5% spike rule

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425472906

Instrument : MSVOA03 Begun : 11/24/15 00:04  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	cko01	IB				11/24/15 09:46	1.0	1	?t
002	cko02	TUN	BFB			11/24/15 10:07	1.0	2	
003	cko03	CCV				11/24/15 10:50	1.0	3 4 5 6 1	cc+
004	cko04	TUN	BFB			11/24/15 12:16	1.0	2	
005	cko05	CCV				11/24/15 12:38	1.0	3 4 5 6 1	cc+
006	cko06	TUN	BFB			11/24/15 13:21	1.0	2	
007	cko07	CCV				11/24/15 14:03	1.0	3 4 5 6 1	cc+
008	cko08	CCV	QC814353	Water	229811	11/24/15 14:25	1.0	7 8 9 10 1	cc+
009	cko09	CCV/LCS	QC814353	Water	229811	11/24/15 15:08	1.0	7 8 9 10 1	
010	cko10	IB				11/24/15 15:29	1.0	1	
011	cko11	BLANK	QC814354	Water	229811	11/24/15 15:51	1.0	1	
012	cko12	MSS	271802-009	Water	229811	11/24/15 16:34	1.0	1	
013	cko13	SAMPLE	271802-004	Water	229811	11/24/15 16:55	1.0	1	
014	cko14	SAMPLE	271802-005	Water	229811	11/24/15 17:38	1.0	1	
015	cko15	SAMPLE	271802-006	Water	229811	11/24/15 17:59	1.0	1	
016	cko16	SAMPLE	271802-007	Water	229811	11/24/15 18:42	1.0	1	
017	cko17	SAMPLE	271802-008	Water	229811	11/24/15 19:04	1.0	1	
018	cko18	SAMPLE	271802-010	Water	229811	11/24/15 19:47	1.0	1	
019	cko19	SAMPLE	271802-011	Water	229811	11/24/15 20:08	1.0	1	
020	cko20	SAMPLE	271668-016	Water	229811	11/24/15 20:51	1.0	1	
021	cko21	SAMPLE	271676-002	Water	229811	11/24/15 21:12	1.0	1	
022	cko22	SAMPLE	271676-004	Water	229811	11/24/15 21:55	200.0	1	
023	cko23	SAMPLE	271676-001	Water	229811	11/24/15 22:17	5.0	1	
024	cko24	SAMPLE	271636-001	Water	229811	11/24/15 23:00	50.0	1	
025	cko25	SAMPLE	271783-008	Water	229811	11/24/15 23:21	200.0	1	
026	cko26	MS	QC814355	Water	229811	11/24/15 00:04	1.0	7 8 11 10 1	
027	cko27	MSD	QC814356	Water	229811	11/25/15 00:25	1.0	7 8 11 10 1	
028	cko28	IB				11/25/15 01:08	1.0	1	
029	cko29	IB				11/25/15 01:30	1.0	1	<<t
030	cko30	LOD	250531-014	Water	229811	11/25/15 02:13	1.0	6 1	<<t

DAR 11/24/15 : adjusted tune after file 3 and 5

DAR 11/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Analyst: DAR Date: 11/25/15 Reviewer: LW Date: 11/25/15

Standards used: 1=S28450 2=S27825 3=S27005 4=S28295 5=S28355 6=S27081 7=S28219 8=S28220 9=S28167 10=S28123 11=S28593

Flags used: +=high bias <<t=out of clock ?t=missing tune cc=CCV CCC failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 955422499

Instrument : MSVOA14 Begun : 10/20/15 09:39  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	njk01	TUN	BFB			10/20/15 09:39	1.0	1	t
002	njk02	TUN	BFB			10/20/15 09:51	1.0	1	t
003	njk03	TUN	BFB			10/20/15 10:48	1.0	1	
004	njk04	TUN	BFB			10/20/15 10:57	1.0	1	t
005	njk05	TUN	BFB			10/20/15 11:08	1.0	1	t
006	njk06	TUN	BFB			10/20/15 11:16	1.0	1	
007	njk07	TUN	BFB			10/20/15 11:26	1.0	1	t
008	njk08	TUN	BFB			10/20/15 11:36	1.0	1	
009	njk09	TUN	BFB			10/20/15 11:45	1.0	1	t
010	njk10	TUN	BFB			10/20/15 12:54	1.0	1	
011	njk11	TUN	BFB			10/20/15 13:20	1.0	1	
012	njk12	TUN	BFB			10/20/15 13:29	1.0	1	
013	njk13	X	LOW POINT			10/20/15 13:55	1.0	2	
014	njk14	X	IB			10/20/15 14:30	1.0	2	
015	njk15	X	IB			10/20/15 14:57	1.0	2	
016	njk16	IB	CALIBRATION			10/20/15 15:23	1.0	2	
017	njk17	ICAL				10/20/15 15:49	1.0	3 4 5 6 2	
018	njk18	ICAL				10/20/15 16:15	1.0	3 4 5 6 2	
019	njk19	ICAL				10/20/15 16:41	1.0	3 4 5 6 2	
020	njk20	ICAL				10/20/15 17:08	1.0	3 4 5 6 2	
021	njk21	ICAL				10/20/15 17:34	1.0	3 4 5 6 2	
022	njk22	ICAL				10/20/15 18:00	1.0	3 4 5 6 2	
023	njk23	ICAL				10/20/15 18:26	1.0	3 4 5 6 2	
024	njk24	ICAL				10/20/15 18:53	1.0	3 4 5 6 2	
025	njk25	ICAL				10/20/15 19:19	1.0	3 4 5 6 2	
026	njk26	ICV				10/20/15 19:45	1.0	7 2	
027	njk27	ICV				10/20/15 20:11	1.0	8 2	
028	njk28	ICV				10/20/15 20:38	1.0	9 10 11 2	
029	njk29	X	IB			10/20/15 21:04	1.0	2	
030	njk30	X	IB			10/20/15 21:30	1.0	2	

MCT 10/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Analyst: MCT Date: 10/21/15 Reviewer: LW Date: 10/22/15

Standards used: 1=S27180 2=S28246 3=S27004 4=S28008 5=S28355 6=S27081 7=S27267 8=S18173 9=S28219 10=S28220 11=S28167

Flags used: t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 955423728

Instrument : MSVOA14 Begun : 10/21/15 06:08  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	njl01	X	IB			10/21/15 06:08	1.0	1	
002	njl02	X	IB			10/21/15 06:34	1.0	1	
003	njl03	X	HIGH GASES			10/21/15 09:53	1.0	1	
004	njl04	X	IB			10/21/15 10:19	1.0	1	
005	njl05	TUN	BFB			10/21/15 10:43	1.0	2	
006	njl06	ICV				10/21/15 11:07	1.0	3 1	
007	njl07	TUN	BFB			10/21/15 12:16	1.0	2	
008	njl08	CCV				10/21/15 12:39	1.0	4 5 6 7 1	
009	njl09	BS	QC809187	Water	228541	10/21/15 13:28	1.0	8 9 10 11 1	
010	njl10	BSD	QC809188	Water	228541	10/21/15 13:54	1.0	8 9 10 11 1	
011	njl11	X	IB			10/21/15 14:20	1.0	1	
012	njl12	BLANK	QC809189	Water	228541	10/21/15 14:46	1.0	1	
013	njl13	SAMPLE	270754-020	Water	228541	10/21/15 15:12	1.0	1	
014	njl14	SAMPLE	270759-004	Water	228541	10/21/15 15:38	1.0	1	
015	njl15	SAMPLE	270747-005	Water	228541	10/21/15 16:05	1.0	1	
016	njl16	SAMPLE	270759-001	Water	228541	10/21/15 16:31	1.0	1	
017	njl17	SAMPLE	270759-003	Water	228541	10/21/15 16:57	1.0	1	
018	njl18	SAMPLE	270819-025	Water	228541	10/21/15 17:23	1.0	1	
019	njl19	SAMPLE	270819-026	Water	228541	10/21/15 17:49	1.0	1	
020	njl20	SAMPLE	270819-027	Water	228541	10/21/15 18:16	1.0	1	
021	njl21	SAMPLE	270819-028	Water	228541	10/21/15 18:42	1.0	1	
022	njl22	SAMPLE	270819-029	Water	228541	10/21/15 19:08	1.0	1	
023	njl23	SAMPLE	270819-030	Water	228541	10/21/15 19:34	1.0	1	
024	njl24	SAMPLE	270819-031	Water	228541	10/21/15 20:01	1.0	1	
025	njl25	SAMPLE	270819-032	Water	228541	10/21/15 20:27	1.0	1	
026	njl26	SAMPLE	270819-033	Water	228541	10/21/15 20:53	1.0	1	
027	njl27	SAMPLE	270819-034	Water	228541	10/21/15 21:20	1.0	1	
028	njl28	SAMPLE	270747-001	Water	228541	10/21/15 21:46	1.0	1	
029	njl29	SAMPLE	270747-002	Water	228541	10/21/15 22:12	1.0	1	
030	njl30	SAMPLE	270747-003	Water	228541	10/21/15 22:39	1.0	1	high SO2
031	njl31	SAMPLE	270747-004	Water	228541	10/21/15 23:05	1.0	1	
032	njl32	SAMPLE	270759-002	Water	228541	10/21/15 23:31	25.0	1	
033	njl33	X	IB			10/21/15 23:58	1.0	1	
034	njl34	X	IB			10/22/15 00:24	1.0	1	
035	njl35	X	IB			10/22/15 00:51	1.0	1	
036	njl36	X	IB			10/22/15 01:17	1.0	1	

MCT 10/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 6.

DJA 10/22/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 7 through 36.

DJA 10/22/15 : Matrix spikes were not performed for this analysis in batch 228541 due to insufficient sample amount.

Analyst: MCT Date: 10/21/15 Reviewer: LW Date: 10/23/15

Standards used: 1=S28246 2=S27180 3=S27267 4=S27004 5=S28008 6=S28355 7=S27081 8=S28219 9=S28220 10=S28167 11=S28123

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 955472935

Instrument : MSVOA14  
 Method : EPA 8260B

Begun : 11/24/15 10:15  
 SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	nk001	X	IB			11/24/15 10:15	1.0	1	
002	nk002	X	IB			11/24/15 10:41	1.0	1	
003	nk003	TUN	BFB			11/24/15 11:16	1.0	2	t
004	nk004	TUN	BFB			11/24/15 11:51	1.0	2	t
005	nk005	TUN	BFB			11/24/15 12:07	1.0	2	
006	nk006	X	QC814115	Water	229752	11/24/15 12:37	1.0	3 4 5 6 1	spk cc-
007	nk007	TUN	BFB			11/24/15 13:07	1.0	2	
008	nk008	X	QC814115	Water	229752	11/24/15 13:33	1.0	3 4 5 6 1	spk cc-
009	nk009	TUN	BFB			11/24/15 14:12	1.0	2	
010	nk010	X	QC814115	Water	229752	11/24/15 14:46	1.0	3 4 5 6 1	spk cc-
011	nk011	TUN	BFB			11/24/15 15:51	1.0	2	t
012	nk012	TUN	BFB			11/24/15 16:24	1.0	2	
013	nk013	X	QC814115	Water	229752	11/24/15 17:03	1.0	3 4 5 6 1	spk cc-
014	nk014	CCV/LCS	QC814115	Water	229752	11/24/15 18:21	1.0	3 4 5 6 1	cc-
015	nk015	X	IB			11/24/15 18:47	1.0	1	
016	nk016	BLANK	QC814116	Water	229752	11/24/15 19:13	1.0	1	cc-
017	nk017	SAMPLE	271732-004	Water	229752	11/24/15 19:40	1.0	1	cc-
018	nk018	MSS	271732-005	Water	229752	11/24/15 20:06	1.0	1	cc-
019	nk019	SAMPLE	271668-012	Water	229752	11/24/15 20:33	1.0	1	cc- , combined (sediment), headspace <= 1 mL
020	nk020	SAMPLE	271636-002	Water	229752	11/24/15 20:59	200.0	1	cc-
021	nk021	BLANK	QC814384	TCLP Leachate	229752	11/24/15 21:26	10.0	1	cc-
022	nk022	SAMPLE	271732-003	TCLP Leachate	229752	11/24/15 21:52	10.0	1	cc-
023	nk023	MS	QC814385	Water	229752	11/24/15 22:18	1.0	3 7 8 9 1	cc-
024	nk024	MSD	QC814386	Water	229752	11/24/15 22:45	1.0	3 7 8 9 1	cc- , headspace <= 1 mL
025	nk025	IB				11/24/15 23:11	1.0	1	
026	nk026	IB				11/24/15 23:38	1.0	1	
027	nk027	IB				11/25/15 00:04	1.0	1	

DJA 11/25/15 : retuned after runs 4, 6, 8, and 10

DJA 11/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

Analyst: DJA Date: 11/25/15 Reviewer: LW Date: 11/25/15

Standards used: 1=S28449 2=S27825 3=S28489 4=S28220 5=S28167 6=S27267 7=S28592 8=S28593 9=S28451

Flags used: --low bias cc=CCV CCC failure spk=5% spike rule t=tune failure

**MSVOA WATER Prepsheet**

Batch #: 201688

Dilutions prepared & pH of dilutions checked (initials/date): DJ 11/20

Prep Date: 11/20/17

For Undiluted samples, pH checked (initials/date): DJ 11/20/17

Instrument: MS

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	USP
271668-3	C	✓			3		40x	foamy				
-4	C	✓			4		33x	↓				
-5	C	✓					1x					
-6	CD	✓		<1ml				sediment				
-7	E	✓										
-8	C	✓										
-9		✓										
-10		✓										
-11	↓	✓										
-12	TF	✓						sediment				
-13	C	✓										
-14	D	✓										
-15	B	✓										

# MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): NT 11/21/15  
 For Undiluted samples, pH checked (initials/date): gsk 11/23/15

Batch #: 229202  
 Prep Date: 11/21/15  
 Instrument: MS3

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	\$Rush
1	271668-5	E	✓			1	1X	Acetone + naph c-, CS <sub>2</sub> v-				
2				2.5X < h <sub>2</sub> l		1		CS <sub>2</sub> v- w/ lit				
3						1		CS <sub>2</sub> v-				
4						1		+ PCE c+ w/ lit				
5						1		CS <sub>2</sub> v- w/ lit				
6						1						
7						1						
8						1						
9						1						
10						1						
11						1						
12						1						
13						1						
14	271827-1	D	✓		9	2x		Form				
15												
16												
17												
18												
19												
20												
21												
22												

*Punctured but did not sample due high sediment at 11/21*



# MSVOA WATER Prepsheet

Batch #: 229752  
 Prep Date: 11/24/15  
 Instrument: YS14

Dilutions prepared & pH of dilutions checked (initials/date): DSM 11/24/15  
 For Undiluted samples, pH checked (initials/date): DS 11/25/15

Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	\$ Rush
01 271636.2	B	✓			5	1	200	Acetic > UR				
8192 271660.12	AB	✓			A=ml	2	1	Acetic - CS2 v - Payer - sediment (1)				
93 271732.4	B	✓				1	1	↑ 8mM (90 TCE)				
4 ↓ 5	E	✓			< 1ml	1	1	NSS ↑ 8mM				
5 ms/msd	FGH	✓			F=1ml IK GH=2ml		1					
6 271732.3	←	✓			9		10X	TCP				
7 P BK	←	✓			8		10X	↓				
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

Date/initial & Sample Log #	Fluid PH	Tare wt. (g) before	Tare wt. (g) after	Sample wt. (g)	Vessel #	Pressure initial	Pressure final	Comments
11/17/15 Jia		Prepped 4 Lit TCLP Fluid with 80 mL of NaOH MED EMD Lot # 44280523 & 22.8 mL of Acetic Acid MED EMD Lot # 53097.						
11/20/15 Jia								
Prep 01K 271732-3 (A)	PH H <sub>2</sub> O	—	—	—	—	—	—	
		—	TCLP FILTRATION		—	—	—	
11/24/15 Jia								
P. Blank	4.97	—	—	—	—	2 20	18	
271899-1 B	✓	85.47	110.49	85.48	25.01	4 22	20	aliased 271637-1B
		Temp min = 21°C		Start time = 13:25 Jia 11/24/15				
		" = max = 23°C		Stop time = 05:30 Jia 11/25/15				

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

# MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): 2011/24  
 For Undiluted samples, pH checked (initials/date): 2011/25/15

Batch #: 2292811  
 Prep Date: 11/24  
 Instrument: 3

Sample ID	Vial	pH <2	pH >2	HS?	Dilin flask ID	RR #	DF	Comments	20% ccv?	hold	due	\$Rush
271686-1	B	✓				3	1X	Naphth C-		11/26		
271686-4	B	✓			3	2	200X	MTBE → LR (use vial 3)		11/27		
						1	1X	etn equal				
						2	5X					
271636-1	B	✓			B	1	50X	No problem		11/26		
271783-4	B	✓			12	1	200X	hit C-				
271802-4	B	✓					1X					
270531-14								COD V/C	0.0004g/500			

5 vials total  
 .814355  
 C

Laboratory Job Number 271668

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Soil

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	COMP-1-NS	Diln Fac:	0.9579
Lab ID:	271668-001	Batch#:	229633
Matrix:	Soil	Sampled:	11/13/15
Units:	ug/Kg	Received:	11/16/15
Basis:	dry	Analyzed:	11/19/15

Moisture: 12%

Analyte	Result	RL
Freon 12	ND	11
Chloromethane	ND	11
Vinyl Chloride	ND	11
Bromomethane	ND	11
Chloroethane	ND	11
Trichlorofluoromethane	ND	5.4
Acetone	ND	22
Freon 113	ND	5.4
1,1-Dichloroethene	ND	5.4
Methylene Chloride	ND	22
Carbon Disulfide	ND	5.4
MTBE	ND	5.4
trans-1,2-Dichloroethene	ND	5.4
Vinyl Acetate	ND	54
1,1-Dichloroethane	ND	5.4
2-Butanone	ND	11
cis-1,2-Dichloroethene	ND	5.4
2,2-Dichloropropane	ND	5.4
Chloroform	ND	5.4
Bromochloromethane	ND	5.4
1,1,1-Trichloroethane	ND	5.4
1,1-Dichloropropene	ND	5.4
Carbon Tetrachloride	ND	5.4
1,2-Dichloroethane	ND	5.4
Benzene	ND	5.4
Trichloroethene	ND	5.4
1,2-Dichloropropane	ND	5.4
Bromodichloromethane	ND	5.4
Dibromomethane	ND	5.4
4-Methyl-2-Pentanone	ND	11
cis-1,3-Dichloropropene	ND	5.4
Toluene	ND	5.4
trans-1,3-Dichloropropene	ND	5.4
1,1,2-Trichloroethane	ND	5.4
2-Hexanone	ND	11
1,3-Dichloropropane	ND	5.4
Tetrachloroethene	ND	5.4
Dibromochloromethane	ND	5.4
1,2-Dibromoethane	ND	5.4
Chlorobenzene	ND	5.4
1,1,1,2-Tetrachloroethane	ND	5.4
Ethylbenzene	ND	5.4
m,p-Xylenes	ND	5.4
o-Xylene	ND	5.4
Styrene	ND	5.4
Bromoform	ND	5.4
Isopropylbenzene	ND	5.4
1,1,2,2-Tetrachloroethane	ND	5.4
1,2,3-Trichloropropane	ND	5.4
Propylbenzene	ND	5.4
Bromobenzene	ND	5.4
1,3,5-Trimethylbenzene	ND	5.4

ND= Not Detected  
 RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	COMP-1-NS	Diln Fac:	0.9579
Lab ID:	271668-001	Batch#:	229633
Matrix:	Soil	Sampled:	11/13/15
Units:	ug/Kg	Received:	11/16/15
Basis:	dry	Analyzed:	11/19/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.4
4-Chlorotoluene	ND	5.4
tert-Butylbenzene	ND	5.4
1,2,4-Trimethylbenzene	ND	5.4
sec-Butylbenzene	ND	5.4
para-Isopropyl Toluene	ND	5.4
1,3-Dichlorobenzene	ND	5.4
1,4-Dichlorobenzene	ND	5.4
n-Butylbenzene	ND	5.4
1,2-Dichlorobenzene	ND	5.4
1,2-Dibromo-3-Chloropropane	ND	5.4
1,2,4-Trichlorobenzene	ND	5.4
Hexachlorobutadiene	ND	5.4
Naphthalene	ND	5.4
1,2,3-Trichlorobenzene	ND	5.4

Surrogate	%REC	Limits
Dibromofluoromethane	110	78-134
1,2-Dichloroethane-d4	129	80-138
Toluene-d8	103	80-120
Bromofluorobenzene	103	78-123

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	COMP-2-NS	Diln Fac:	0.9452
Lab ID:	271668-002	Batch#:	229633
Matrix:	Soil	Sampled:	11/13/15
Units:	ug/Kg	Received:	11/16/15
Basis:	dry	Analyzed:	11/19/15

Moisture: 12%

Analyte	Result	RL
Freon 12	ND	11
Chloromethane	ND	11
Vinyl Chloride	ND	11
Bromomethane	ND	11
Chloroethane	ND	11
Trichlorofluoromethane	ND	5.4
Acetone	ND	21
Freon 113	ND	5.4
1,1-Dichloroethene	ND	5.4
Methylene Chloride	ND	21
Carbon Disulfide	ND	5.4
MTBE	ND	5.4
trans-1,2-Dichloroethene	ND	5.4
Vinyl Acetate	ND	54
1,1-Dichloroethane	ND	5.4
2-Butanone	ND	11
cis-1,2-Dichloroethene	ND	5.4
2,2-Dichloropropane	ND	5.4
Chloroform	ND	5.4
Bromochloromethane	ND	5.4
1,1,1-Trichloroethane	ND	5.4
1,1-Dichloropropene	ND	5.4
Carbon Tetrachloride	ND	5.4
1,2-Dichloroethane	ND	5.4
Benzene	ND	5.4
Trichloroethene	ND	5.4
1,2-Dichloropropane	ND	5.4
Bromodichloromethane	ND	5.4
Dibromomethane	ND	5.4
4-Methyl-2-Pentanone	ND	11
cis-1,3-Dichloropropene	ND	5.4
Toluene	ND	5.4
trans-1,3-Dichloropropene	ND	5.4
1,1,2-Trichloroethane	ND	5.4
2-Hexanone	ND	11
1,3-Dichloropropane	ND	5.4
Tetrachloroethene	ND	5.4
Dibromochloromethane	ND	5.4
1,2-Dibromoethane	ND	5.4
Chlorobenzene	ND	5.4
1,1,1,2-Tetrachloroethane	ND	5.4
Ethylbenzene	ND	5.4
m,p-Xylenes	ND	5.4
o-Xylene	ND	5.4
Styrene	ND	5.4
Bromoform	ND	5.4
Isopropylbenzene	ND	5.4
1,1,2,2-Tetrachloroethane	ND	5.4
1,2,3-Trichloropropane	ND	5.4
Propylbenzene	ND	5.4
Bromobenzene	ND	5.4
1,3,5-Trimethylbenzene	ND	5.4

ND= Not Detected  
 RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	COMP-2-NS	Diln Fac:	0.9452
Lab ID:	271668-002	Batch#:	229633
Matrix:	Soil	Sampled:	11/13/15
Units:	ug/Kg	Received:	11/16/15
Basis:	dry	Analyzed:	11/19/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.4
4-Chlorotoluene	ND	5.4
tert-Butylbenzene	ND	5.4
1,2,4-Trimethylbenzene	ND	5.4
sec-Butylbenzene	ND	5.4
para-Isopropyl Toluene	ND	5.4
1,3-Dichlorobenzene	ND	5.4
1,4-Dichlorobenzene	ND	5.4
n-Butylbenzene	ND	5.4
1,2-Dichlorobenzene	ND	5.4
1,2-Dibromo-3-Chloropropane	ND	5.4
1,2,4-Trichlorobenzene	ND	5.4
Hexachlorobutadiene	ND	5.4
Naphthalene	ND	5.4
1,2,3-Trichlorobenzene	ND	5.4

Surrogate	%REC	Limits
Dibromofluoromethane	113	78-134
1,2-Dichloroethane-d4	127	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	103	78-123

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2



## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC813583	Batch#:	229633
Matrix:	Soil	Analyzed:	11/19/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	23.61	94	70-134
Benzene	25.00	26.98	108	80-123
Trichloroethene	25.00	25.28	101	80-128
Toluene	25.00	26.57	106	80-120
Chlorobenzene	25.00	26.11	104	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	107	78-134
1,2-Dichloroethane-d4	121	80-138
Toluene-d8	106	80-120
Bromofluorobenzene	105	78-123

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC813584	Batch#:	229633
Matrix:	Soil	Analyzed:	11/19/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC813584	Batch#:	229633
Matrix:	Soil	Analyzed:	11/19/15
Units:	ug/Kg		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	110	78-134
1,2-Dichloroethane-d4	124	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	104	78-123

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	COMP-1-NS	Basis:	dry
MSS Lab ID:	271668-001	Batch#:	229633
Matrix:	Soil	Sampled:	11/13/15
Units:	ug/Kg	Received:	11/16/15

Type: MS Diln Fac: 0.9311  
 Lab ID: QC813625 Analyzed: 11/19/15  
 Moisture: 12%

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4790	52.90	52.30	99	56-133
Benzene	<0.4749	52.90	58.94	111	57-120
Trichloroethene	<0.4562	52.90	55.20	104	49-145
Toluene	<0.3449	52.90	55.62	105	51-120
Chlorobenzene	<0.4302	52.90	51.95	98	47-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	78-134
1,2-Dichloroethane-d4	128	80-138
Toluene-d8	106	80-120
Bromofluorobenzene	108	78-123

Type: MSD Diln Fac: 0.9416  
 Lab ID: QC813626 Analyzed: 11/20/15  
 Moisture: 12%

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	53.50	49.24	92	56-133	7	46
Benzene	53.50	54.01	101	57-120	10	44
Trichloroethene	53.50	51.99	97	49-145	7	46
Toluene	53.50	50.28	94	51-120	11	47
Chlorobenzene	53.50	44.31	83	47-120	17	50

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	124	80-138
Toluene-d8	104	80-120
Bromofluorobenzene	107	78-123

RPD= Relative Percent Difference

**Initial & Continuing Calibration Data**

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Soil  
EPA 8260B

Inst : MSVOA12                      Run Name : BFB                      IDF : 1.0  
Seqnum : 885385165011              File : lio11                      Time : 24-SEP-2015 17:04

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	4033	18.21	
75	30% - 60% of mass 95	11031	49.81	
95		22147	100.00	
96	5% - 9% of mass 95	1507	6.80	
173	< 2% of mass 174	137	0.67	
174	> 50% and < 100% of mass 95	20509	92.60	
175	5% - 9% of mass 174	1495	7.29	
176	> 95% and < 101% of mass 174	20112	98.06	
177	5% - 9% of mass 176	1444	7.18	

Analyst: SJD                      Date: 09/25/15                      Reviewer: LW                      Date: 09/28/15

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Soil  
EPA 8260B

Inst : MSVOA12                      Run Name : BFB                      IDF : 1.0  
Seqnum : 885386806002              File : lip02                      Time : 25-SEP-2015 15:10

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	4765	18.55	
75	30% - 60% of mass 95	12859	50.06	
95		25688	100.00	
96	5% - 9% of mass 95	1560	6.07	
173	< 2% of mass 174	155	0.66	
174	> 50% and < 100% of mass 95	23381	91.02	
175	5% - 9% of mass 174	1711	7.32	
176	> 95% and < 101% of mass 174	22736	97.24	
177	5% - 9% of mass 176	1564	6.88	

Analyst: SJD                      Date: 09/25/15                      Reviewer: LW                      Date: 09/28/15

CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Soil  
EPA 8260B

Inst : MSVOA12                      Run Name : BFB                      IDF : 1.0  
Seqnum : 885465851002              File : lkj02                      Time : 19-NOV-2015 12:36

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	2966	20.44	
75	30% - 60% of mass 95	7698	53.06	
95		14509	100.00	
96	5% - 9% of mass 95	1177	8.11	
173	< 2% of mass 174	85	0.70	
174	> 50% and < 100% of mass 95	12076	83.23	
175	5% - 9% of mass 174	895	7.41	
176	> 95% and < 101% of mass 174	11758	97.37	
177	5% - 9% of mass 176	949	8.07	

Analyst:   NJT                        Date:   11/19/15                        Reviewer:   LW                        Date:   11/20/15



CURTIS & TOMPKINS BFB TUNE FOR 271668 MSVOA Soil  
EPA 8260B

Inst : MSVOA12                      Run Name : BFB                      IDF : 1.0  
Seqnum : 885467264002              File : lkk02                      Time : 20-NOV-2015 12:07

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	3282	21.09	
75	30% - 60% of mass 95	8155	52.41	
95		15561	100.00	
96	5% - 9% of mass 95	1034	6.64	
173	< 2% of mass 174	250	1.88	
174	> 50% and < 100% of mass 95	13331	85.67	
175	5% - 9% of mass 174	984	7.38	
176	> 95% and < 101% of mass 174	13164	98.75	
177	5% - 9% of mass 176	997	7.57	

Analyst:   NJT                        Date:   11/20/15                        Reviewer:   LW                        Date:   11/20/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 MSVOA Soil: EPA 8260B

Inst : MSVOA12  
 Calnum : 885385165001  
 Units : ug/L

Date : 24-SEP-2015 18:38  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	lio14	885385165014	2.5PPB	24-SEP-2015 18:38	S28008 (20000X), S28087 (20000X), S26571 (20000X), S28020 (5000X)
L2	lio15	885385165015	5PPB	24-SEP-2015 19:11	S28008 (10000X), S28087 (10000X), S26571 (10000X), S28020 (5000X)
L3	lio16	885385165016	10PPB	24-SEP-2015 19:45	S28008 (50000X), S28087 (50000X), S26571 (50000X), S28020 (5000X)
L4	lio17	885385165017	20PPB	24-SEP-2015 20:18	S28008 (25000X), S28087 (25000X), S26571 (25000X), S28020 (5000X)
L5	lio18	885385165018	50PPB	24-SEP-2015 20:52	S28008 (10000X), S28087 (10000X), S26571 (10000X), S28020 (5000X)
L6	lio19	885385165019	60PPB	24-SEP-2015 21:25	S28008 (8333X), S28087 (8333X), S26571 (8333X), S28020 (5000X)
L7	lio20	885385165020	75PPB	24-SEP-2015 21:58	S28008 (6667X), S28087 (6667X), S26571 (6667X), S28020 (5000X)
L8	lio21	885385165021	100PPB	24-SEP-2015 22:32	S28008 (5000X), S28087 (5000X), S26571 (5000X), S28020 (5000X)
L9	lio22	885385165022	200PPB	24-SEP-2015 23:05	S28008 (2500X), S28087 (2500X), S26571 (2500X), S28020 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.7834m	0.8017m	0.7915m	0.6786m	0.7617m	0.7482m	0.7638m	0.7656m	AVRG		1.31266		0.7618	5	15	0.05	0.99	
Chloromethane		0.8217	0.6965	0.6872	0.6460	0.6824	0.7116	0.7083	0.6923	AVRG		1.41693		0.7058	7	15	0.10	0.99	
Vinyl Chloride		0.7206	0.6552	0.6583	0.5971	0.6474	0.6649	0.6670	0.6517	AVRG		1.52028		0.6578	5	15	0.05	0.99	
Bromomethane		0.2979	0.2650m	0.2678	0.2875	0.3089	0.3230	0.3275	0.3481	AVRG		3.29792		0.3032	10	15	0.05	0.99	
Chloroethane		0.4042	0.3601	0.3665	0.3426	0.3561	0.3706	0.3743	0.3628	AVRG		2.72368		0.3672	5	15	0.05	0.99	
Trichlorofluoromethane		0.8659	0.8415	0.8686	0.7960	0.8669	0.8661	0.8841	0.8842	AVRG		1.16393		0.8592	3	15	0.05	0.99	
Acetone			0.2078	0.1798	0.1739	0.1818	0.1819	0.1872	0.1770	AVRG		5.42914		0.1842	6	15	0.05	0.99	
Freon 113		0.4019	0.4169	0.4093	0.3901	0.3469	0.4163	0.4515	0.4221	AVRG		2.45770		0.4069	7	15	0.05	0.99	
1,1-Dichloroethene		0.4337	0.3947	0.3791	0.3812	0.3836	0.4013	0.4232	0.4153	AVRG		2.49058		0.4015	5	15	0.05	0.99	
Methylene Chloride		0.5429	0.4936	0.4716	0.4607	0.4880	0.4823	0.5031	0.4881	AVRG		2.03549		0.4913	5	15	0.05	0.99	
Carbon Disulfide		1.4630	1.3984	1.3299	1.3170	1.3546	1.3890	1.4563	1.3996	AVRG		0.72022		1.3885	4	15	0.05	0.99	
MTBE		1.5659	1.4789	1.4289	1.4145	1.4917	1.4946	1.5405	1.5176	AVRG		0.67043		1.4916	3	15	0.05	0.99	
trans-1,2-Dichloroethene		0.4845	0.4657	0.4439	0.4284	0.4460	0.4423	0.4535	0.4449	AVRG		2.21651		0.4512	4	15	0.05	0.99	
Vinyl Acetate		0.9729	0.9708	0.9583	0.9492	0.9717	1.0036	1.0368	1.0422	AVRG		1.01197		0.9882	4	15	0.05	0.99	
1,1-Dichloroethane		0.9125	0.8597	0.8225	0.8024	0.8533	0.8522	0.8791	0.8674	AVRG		1.16803		0.8561	4	15	0.10	0.99	
2-Butanone		0.3150	0.3006	0.2682	0.2764	0.2845	0.2877	0.2936	0.2789	AVRG		3.47109		0.2881	5	15	0.05	0.99	
2,2-Dichloropropane		0.8206	0.7774	0.7322	0.7144	0.7155	0.7484	0.7693	0.7184	AVRG		1.33418		0.7495	5	15	0.05	0.99	
cis-1,2-Dichloroethene		0.5613	0.5126	0.4925	0.4861	0.5159	0.5108	0.5220	0.4968	AVRG		1.95222		0.5122	5	15	0.05	0.99	
Chloroform		0.8762	0.8421	0.8067	0.7942	0.8397	0.8429	0.8531	0.8229	AVRG		1.19802		0.8347	3	15	0.05	0.99	
Bromochloromethane		0.2685	0.2488	0.2424	0.2406	0.2502	0.2465	0.2530	0.2465	AVRG		4.00706		0.2496	3	15	0.05	0.99	
1,1,1-Trichloroethane		0.7879	0.7806	0.7489	0.7320	0.7191	0.7673	0.7929	0.7534	AVRG		1.31535		0.7603	4	15	0.05	0.99	
1,1-Dichloropropene		0.4889	0.4898	0.4791	0.4520	0.4362	0.4748	0.4968	0.4602	AVRG		2.11759		0.4722	4	15	0.05	0.99	
Carbon Tetrachloride		0.5086	0.4974	0.4902	0.4859	0.4458	0.4893	0.5164	0.4849	AVRG		2.04159		0.4898	4	15	0.05	0.99	
1,2-Dichloroethane		0.5028	0.4862	0.4631	0.4570	0.4709	0.4741	0.4911	0.4638	AVRG		2.10023		0.4761	3	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.4868	1.4268	1.3624	1.3388	1.3872	1.3855	1.4384	1.3632	AVRG		0.71497		1.3987	3	15	0.05	0.99	
Trichloroethene		0.3720	0.3641	0.3507	0.3455	0.3468	0.3577	0.3708	0.3507	AVRG		2.79880		0.3573	3	15	0.05	0.99	
1,2-Dichloropropane		0.3646	0.3539	0.3311	0.3276	0.3438	0.3436	0.3581	0.3484	AVRG		2.88692		0.3464	4	15	0.05	0.99	
Bromodichloromethane		0.4911	0.4684	0.4571	0.4564	0.4772	0.4771	0.4905	0.4755	AVRG		2.10892		0.4742	3	15	0.05	0.99	
Dibromomethane		0.2155	0.2073	0.1987	0.1990	0.2072	0.2072	0.2124	0.2049	AVRG		4.84206		0.2065	3	15	0.05	0.99	
4-Methyl-2-Pentanone		0.4300	0.4041	0.3930	0.4050	0.4157	0.4211	0.4356	0.4260	AVRG		2.40209		0.4163	4	15	0.05	0.99	
cis-1,3-Dichloropropene		0.6123	0.5940	0.5631	0.5655	0.5906	0.5889	0.6078	0.5867	AVRG		1.69896		0.5886	3	15	0.05	0.99	
Toluene		1.7172	1.6867	1.5974	1.5770	1.5801	1.6197	1.6538	1.5815	AVRG		0.61476		1.6267	3	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5912	0.5797	0.5554	0.5465	0.5627	0.5637	0.5767	0.5551	AVRG		1.76564		0.5664	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.1794	0.1786	0.1694	0.1685	0.1737	0.1736	0.1777	0.1717	AVRG		5.74495		0.1741	2	15	0.05	0.99	
2-Hexanone		0.3468	0.3261	0.3088	0.3200	0.3260	0.3267	0.3311	0.3231	AVRG		3.06687		0.3261	3	15	0.05	0.99	
1,3-Dichloropropane		0.5703	0.5648	0.5386	0.5355	0.5514	0.5527	0.5634	0.5467	AVRG		1.80859		0.5529	2	15	0.05	0.99	
Tetrachloroethene		0.4342	0.4371	0.4198	0.4147	0.3782	0.4196	0.4370	0.4142	AVRG		2.38464		0.4194	5	15	0.05	0.99	
Dibromochloromethane		0.4015	0.4074	0.3945	0.4022	0.4132	0.4145	0.4244	0.4139	AVRG		2.44543		0.4089	2	15	0.05	0.99	
1,2-Dibromoethane		0.3460	0.3366	0.3305	0.3314	0.3397	0.3412	0.3468	0.3402	AVRG		2.94932		0.3391	2	15	0.05	0.99	
Chlorobenzene		1.1582	1.1363	1.0864	1.0923	1.0965	1.1179	1.1418	1.1094	AVRG		0.89496		1.1174	2	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4001	0.4084	0.3909	0.3933	0.3970	0.4021	0.4119	0.4042	AVRG		2.49389		0.4010	2	15	0.05	0.99	
Ethylbenzene		1.9728	1.9596	1.8684	1.8554	1.8003	1.9332	1.9927	1.9300	AVRG		0.52245		1.9140	3	15	0.05	0.99	
m,p-Xylenes	0.8431	0.7814	0.7874	0.7455	0.7455	0.7302	0.7732	0.7964	0.7763	AVRG		1.28959		0.7754	4	15	0.05	0.99	
o-Xylene		0.7951	0.7857	0.7549	0.7606	0.7503	0.7943	0.8106	0.8028	AVRG		1.27910		0.7818	3	15	0.05	0.99	
Styrene		1.3008	1.3179	1.2760	1.2978	1.2951	1.3480	1.3815	1.3665	AVRG		0.75590		1.3229	3	15	0.05	0.99	
Bromoform		0.3279	0.3227	0.3095	0.3258	0.3290	0.3375	0.3452	0.3476	AVRG		3.02422		0.3307	4	15	0.10	0.99	
Isopropylbenzene		3.0906	3.0359	2.9219	2.8114	2.6728	2.9523	3.0907	2.9529	AVRG		0.34001		2.9411	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.7352	0.7041	0.6871	0.6842	0.6919	0.7059	0.7225	0.7023	AVRG		1.42012		0.7042	2	15	0.30	0.99	
1,2,3-Trichloropropane		0.7394	0.6949	0.6677	0.6652	0.6728	0.6827	0.7015	0.6684	AVRG		1.45655		0.6866	4	15	0.05	0.99	
Propylbenzene		3.6765	3.6655	3.5092	3.3425	3.1727	3.5180	3.6606	3.4981	AVRG		0.28528		3.5054	5	15	0.05	0.99	
Bromobenzene		0.8335	0.8178	0.7783	0.7688	0.7688	0.7827	0.8014	0.7660	AVRG		1.26634		0.7897	3	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.8379	2.8279	2.7178	2.6075	2.5051	2.7208	2.8273	2.7138	AVRG		0.36768		2.7198	4	15	0.05	0.99	
2-Chlorotoluene		2.4756	2.4419	2.3231	2.2659	2.2326	2.3521	2.4151	2.3219	AVRG		0.42490		2.3535	4	15	0.05	0.99	
4-Chlorotoluene		2.2906	2.2451	2.1546	2.1050	2.0705	2.1619	2.2139	2.1343	AVRG		0.46041		2.1720	3	15	0.05	0.99	
tert-Butylbenzene		2.4705	2.4745	2.4230	2.3094	2.1569	2.4217	2.5404	2.4576	AVRG		0.41550		2.4067	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.9578	3.0092	2.8729	2.7697	2.7217	2.8707	2.9600	2.8528	AVRG		0.34760		2.8768	3	15	0.05	0.99	
sec-Butylbenzene		3.6106	3.6432	3.5422	3.3297	3.0570	3.5493	3.7374	3.5960	AVRG		0.28505		3.5082	6	15	0.05	0.99	
para-Isopropyl Toluene		3.2148	3.2497	3.1755	3.0181	2.8075	3.1687	3.3165	3.2023	AVRG		0.31805		3.1441	5	15	0.05	0.99	
1,3-Dichlorobenzene		1.6746	1.6501	1.5846	1.5525	1.5309	1.5840	1.6215	1.5605	AVRG		0.62702		1.5949	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.6854	1.6739	1.6061	1.5839	1.5613	1.6084	1.6433	1.5830	AVRG		0.61798		1.6182	3	15	0.05	0.99	
n-Butylbenzene		2.9444	2.9670	2.8937	2.7065	2.4719	2.8195	2.9561	2.8173	AVRG		0.35435		2.8220	6	15	0.05	0.99	
1,2-Dichlorobenzene		1.6262	1.6207	1.5704	1.5555	1.5424	1.5816	1.6196	1.5523	AVRG		0.63147		1.5836	2	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.2536	0.2283	0.1982	0.2008	0.2055	0.2028	0.2104	0.1965	AVRG		4.71708		0.2120	9	15	0.05	0.99	
1,2,4-Trichlorobenzene		1.3743	1.3440	1.2765	1.2150	1.1837	1.2030	1.2234	1.1449	AVRG		0.80283		1.2456	6	15	0.05	0.99	
Hexachlorobutadiene		0.8238	0.8095	0.7915	0.7210	0.6425	0.7350	0.7827	0.7307	AVRG		1.32525		0.7546	8	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		3.3652	3.2994	3.1785	3.1378	3.1395	3.1725	3.2526	3.0687	AVRG		0.31233		3.2018	3	15	0.05	0.99	
1,2,3-Trichlorobenzene		1.3453	1.3230	1.2667	1.2074	1.1835	1.2082	1.2347	1.1480	AVRG		0.80671		1.2396	5	15	0.05	0.99	
Dibromofluoromethane	0.3990	0.3958	0.4013	0.4069	0.3913	0.3984	0.4061	0.4052	0.4079	AVRG		2.49173		0.4013	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3414	0.3335	0.3342	0.3386	0.3310	0.3330	0.3388	0.3456	0.3417	AVRG		2.96280		0.3375	1	15	0.05	0.99	
Trifluorotoluene		0.6788	0.6763	0.6518	0.6427	0.5817	0.6564	0.6893	0.6502	AVRG		1.53043		0.6534	5	15	0.05	0.99	
Toluene-d8	1.2585	1.2576	1.2739	1.2636	1.2495	1.2449	1.2457	1.2526	1.2358	AVRG		0.79772		1.2536	1	15	0.05	0.99	
Bromofluorobenzene	0.7870	0.7977	0.7918	0.7940	0.7678	0.7718	0.7765	0.7831	0.7713	AVRG		1.27821		0.7823	1	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			5.0000	3	10.000	5	20.000	4	50.000	-11	60.000	0	75.000	-2	100.00	0	200.00	0
Chloromethane			5.0000	16	10.000	-1	20.000	-3	50.000	-8	60.000	-3	75.000	1	100.00	0	200.00	-2
Vinyl Chloride			5.0000	10	10.000	0	20.000	0	50.000	-9	60.000	-2	75.000	1	100.00	1	200.00	-1
Bromomethane			5.0000	-2	10.000	-13	20.000	-12	50.000	-5	60.000	2	75.000	7	100.00	8	200.00	15
Chloroethane			5.0000	10	10.000	-2	20.000	0	50.000	-7	60.000	-3	75.000	1	100.00	2	200.00	-1
Trichlorofluoromethane			5.0000	1	10.000	-2	20.000	1	50.000	-7	60.000	1	75.000	1	100.00	3	200.00	3
Acetone					10.000	13	20.000	-2	50.000	-6	60.000	-1	75.000	-1	100.00	2	200.00	-4
Freon 113			5.0000	-1	10.000	2	20.000	1	50.000	-4	60.000	-15	75.000	2	100.00	11	200.00	4
1,1-Dichloroethene			5.0000	8	10.000	-2	20.000	-6	50.000	-5	60.000	-4	75.000	0	100.00	5	200.00	3
Methylene Chloride			5.0000	10	10.000	0	20.000	-4	50.000	-6	60.000	-1	75.000	-2	100.00	2	200.00	-1
Carbon Disulfide			5.0000	5	10.000	1	20.000	-4	50.000	-5	60.000	-2	75.000	0	100.00	5	200.00	1
MTBE			5.0000	5	10.000	-1	20.000	-4	50.000	-5	60.000	0	75.000	0	100.00	3	200.00	2
trans-1,2-Dichloroethene			5.0000	7	10.000	3	20.000	-2	50.000	-5	60.000	-1	75.000	-2	100.00	1	200.00	-1
Vinyl Acetate			5.0000	-2	10.000	-2	20.000	-3	50.000	-4	60.000	-2	75.000	2	100.00	5	200.00	5
1,1-Dichloroethane			5.0000	7	10.000	0	20.000	-4	50.000	-6	60.000	0	75.000	0	100.00	3	200.00	1
2-Butanone			5.0000	9	10.000	4	20.000	-7	50.000	-4	60.000	-1	75.000	0	100.00	2	200.00	-3
2,2-Dichloropropane			5.0000	9	10.000	4	20.000	-2	50.000	-5	60.000	-5	75.000	0	100.00	3	200.00	-4
cis-1,2-Dichloroethene			5.0000	10	10.000	0	20.000	-4	50.000	-5	60.000	1	75.000	0	100.00	2	200.00	-3
Chloroform			5.0000	5	10.000	1	20.000	-3	50.000	-5	60.000	1	75.000	1	100.00	2	200.00	-1
Bromochloromethane			5.0000	8	10.000	0	20.000	-3	50.000	-4	60.000	0	75.000	-1	100.00	1	200.00	-1
1,1,1-Trichloroethane			5.0000	4	10.000	3	20.000	-1	50.000	-4	60.000	-5	75.000	1	100.00	4	200.00	-1
1,1-Dichloropropene			5.0000	4	10.000	4	20.000	1	50.000	-4	60.000	-8	75.000	1	100.00	5	200.00	-3
Carbon Tetrachloride			5.0000	4	10.000	2	20.000	0	50.000	-1	60.000	-9	75.000	0	100.00	5	200.00	-1
1,2-Dichloroethane			5.0000	6	10.000	2	20.000	-3	50.000	-4	60.000	-1	75.000	0	100.00	3	200.00	-3
Benzene			5.0000	6	10.000	2	20.000	-3	50.000	-4	60.000	-1	75.000	-1	100.00	3	200.00	-3
Trichloroethene			5.0000	4	10.000	2	20.000	-2	50.000	-3	60.000	-3	75.000	0	100.00	4	200.00	-2
1,2-Dichloropropane			5.0000	5	10.000	2	20.000	-4	50.000	-5	60.000	-1	75.000	-1	100.00	3	200.00	1
Bromodichloromethane			5.0000	4	10.000	-1	20.000	-4	50.000	-4	60.000	1	75.000	1	100.00	3	200.00	0
Dibromomethane			5.0000	4	10.000	0	20.000	-4	50.000	-4	60.000	0	75.000	0	100.00	3	200.00	-1
4-Methyl-2-Pentanone			5.0000	3	10.000	-3	20.000	-6	50.000	-3	60.000	0	75.000	1	100.00	5	200.00	2
cis-1,3-Dichloropropene			5.0000	4	10.000	1	20.000	-4	50.000	-4	60.000	0	75.000	0	100.00	3	200.00	0
Toluene			5.0000	6	10.000	4	20.000	-2	50.000	-3	60.000	-3	75.000	0	100.00	2	200.00	-3
trans-1,3-Dichloropropene			5.0000	4	10.000	2	20.000	-2	50.000	-4	60.000	-1	75.000	0	100.00	2	200.00	-2
1,1,2-Trichloroethane			5.0000	3	10.000	3	20.000	-3	50.000	-3	60.000	0	75.000	0	100.00	2	200.00	-1
2-Hexanone			5.0000	6	10.000	0	20.000	-5	50.000	-2	60.000	0	75.000	0	100.00	2	200.00	-1
1,3-Dichloropropane			5.0000	3	10.000	2	20.000	-3	50.000	-3	60.000	0	75.000	0	100.00	2	200.00	-1
Tetrachloroethene			5.0000	4	10.000	4	20.000	0	50.000	-1	60.000	-10	75.000	0	100.00	4	200.00	-1
Dibromochloromethane			5.0000	-2	10.000	0	20.000	-4	50.000	-2	60.000	1	75.000	1	100.00	4	200.00	1
1,2-Dibromoethane			5.0000	2	10.000	-1	20.000	-3	50.000	-2	60.000	0	75.000	1	100.00	2	200.00	0
Chlorobenzene			5.0000	4	10.000	2	20.000	-3	50.000	-2	60.000	-2	75.000	0	100.00	2	200.00	-1
1,1,1,2-Tetrachloroethane			5.0000	0	10.000	2	20.000	-3	50.000	-2	60.000	-1	75.000	0	100.00	3	200.00	1
Ethylbenzene			5.0000	3	10.000	2	20.000	-2	50.000	-3	60.000	-6	75.000	1	100.00	4	200.00	1

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	5.0000	9	10.000	1	20.000	2	40.000	-4	100.00	-4	120.00	-6	150.00	0	200.00	3	400.00	0
o-Xylene			5.0000	2	10.000	1	20.000	-3	50.000	-3	60.000	-4	75.000	2	100.00	4	200.00	3
Styrene			5.0000	-2	10.000	0	20.000	-4	50.000	-2	60.000	-2	75.000	2	100.00	4	200.00	3
Bromoform			5.0000	-1	10.000	-2	20.000	-6	50.000	-1	60.000	0	75.000	2	100.00	4	200.00	5
Isopropylbenzene			5.0000	5	10.000	3	20.000	-1	50.000	-4	60.000	-9	75.000	0	100.00	5	200.00	0
1,1,2,2-Tetrachloroethane			5.0000	4	10.000	0	20.000	-2	50.000	-3	60.000	-2	75.000	0	100.00	3	200.00	0
1,2,3-Trichloropropane			5.0000	8	10.000	1	20.000	-3	50.000	-3	60.000	-2	75.000	-1	100.00	2	200.00	-3
Propylbenzene			5.0000	5	10.000	5	20.000	0	50.000	-5	60.000	-9	75.000	0	100.00	4	200.00	0
Bromobenzene			5.0000	6	10.000	4	20.000	-1	50.000	-3	60.000	-3	75.000	-1	100.00	1	200.00	-3
1,3,5-Trimethylbenzene			5.0000	4	10.000	4	20.000	0	50.000	-4	60.000	-8	75.000	0	100.00	4	200.00	0
2-Chlorotoluene			5.0000	5	10.000	4	20.000	-1	50.000	-4	60.000	-5	75.000	0	100.00	3	200.00	-1
4-Chlorotoluene			5.0000	5	10.000	3	20.000	-1	50.000	-3	60.000	-5	75.000	0	100.00	2	200.00	-2
tert-Butylbenzene			5.0000	3	10.000	3	20.000	1	50.000	-4	60.000	-10	75.000	1	100.00	6	200.00	2
1,2,4-Trimethylbenzene			5.0000	3	10.000	5	20.000	0	50.000	-4	60.000	-5	75.000	0	100.00	3	200.00	-1
sec-Butylbenzene			5.0000	3	10.000	4	20.000	1	50.000	-5	60.000	-13	75.000	1	100.00	7	200.00	3
para-Isopropyl Toluene			5.0000	2	10.000	3	20.000	1	50.000	-4	60.000	-11	75.000	1	100.00	5	200.00	2
1,3-Dichlorobenzene			5.0000	5	10.000	3	20.000	-1	50.000	-3	60.000	-4	75.000	-1	100.00	2	200.00	-2
1,4-Dichlorobenzene			5.0000	4	10.000	3	20.000	-1	50.000	-2	60.000	-4	75.000	-1	100.00	2	200.00	-2
n-Butylbenzene			5.0000	4	10.000	5	20.000	3	50.000	-4	60.000	-12	75.000	0	100.00	5	200.00	0
1,2-Dichlorobenzene			5.0000	3	10.000	2	20.000	-1	50.000	-2	60.000	-3	75.000	0	100.00	2	200.00	-2
1,2-Dibromo-3-Chloropropane			5.0000	20	10.000	8	20.000	-7	50.000	-5	60.000	-3	75.000	-4	100.00	-1	200.00	-7
1,2,4-Trichlorobenzene			5.0000	10	10.000	8	20.000	2	50.000	-2	60.000	-5	75.000	-3	100.00	-2	200.00	-8
Hexachlorobutadiene			5.0000	9	10.000	7	20.000	5	50.000	-4	60.000	-15	75.000	-3	100.00	4	200.00	-3
Naphthalene			5.0000	5	10.000	3	20.000	-1	50.000	-2	60.000	-2	75.000	-1	100.00	2	200.00	-4
1,2,3-Trichlorobenzene			5.0000	9	10.000	7	20.000	2	50.000	-3	60.000	-5	75.000	-3	100.00	0	200.00	-7
Dibromofluoromethane	50.000	-1	50.000	-1	50.000	0	50.000	1	50.000	-2	50.000	-1	50.000	1	50.000	1	50.000	2
1,2-Dichloroethane-d4	50.000	1	50.000	-1	50.000	-1	50.000	0	50.000	-2	50.000	-1	50.000	0	50.000	2	50.000	1
Trifluorotoluene			5.0000	4	10.000	4	20.000	0	50.000	-2	60.000	-11	75.000	0	100.00	5	200.00	0
Toluene-d8	50.000	0	50.000	0	50.000	2	50.000	1	50.000	0	50.000	-1	50.000	-1	50.000	0	50.000	-1
Bromofluorobenzene	50.000	1	50.000	2	50.000	1	50.000	1	50.000	-2	50.000	-1	50.000	-1	50.000	0	50.000	-1

SJD 09/25/15 [Freon 12]: Corrected automatically drawn baseline in all levels.

SJD 09/25/15 [Bromomethane]: Corrected automatically drawn baseline in 10PPB (lio16).

Analyst: SJD

Date: 09/25/15

Reviewer: LW

Date: 09/28/15

m=manual integration

Instrument amount = a0 + response \* a1 + response^2 \* a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 MSVOA Soil  
EPA 8260B

Inst : MSVOA12  
Calnum : 885385165001

Cal Date : 24-SEP-2015

ICV 885386806004 (lip04 25-SEP-2015) stds: S27929 (10000X), S27930 (10000X),  
S28013 (10000X), S27267 (10000X), S28020 (5000X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Freon 12	20.00	14.98	ug/L	-25	30	!v- m
Chloromethane	20.00	18.36	ug/L	-8	30	
Vinyl Chloride	20.00	18.30	ug/L	-8	20	
Bromomethane	20.00	19.11	ug/L	-4	30	
Chloroethane	20.00	18.77	ug/L	-6	30	
Trichlorofluoromethane	20.00	18.08	ug/L	-10	30	
Acetone	25.00	34.69	ug/L	39	40	!v+
Freon 113	25.00	20.07	ug/L	-20	30	
1,1-Dichloroethene	25.00	20.72	ug/L	-17	20	
Methylene Chloride	25.00	22.55	ug/L	-10	30	
Carbon Disulfide	25.00	19.71	ug/L	-21	30	!v-
MTBE	25.00	22.08	ug/L	-12	30	
trans-1,2-Dichloroethene	25.00	21.57	ug/L	-14	30	
Vinyl Acetate	25.00	25.34	ug/L	1	40	
1,1-Dichloroethane	25.00	23.15	ug/L	-7	30	
2-Butanone	25.00	28.77	ug/L	15	40	
2,2-Dichloropropane	25.00	25.42	ug/L	2	30	
cis-1,2-Dichloroethene	25.00	25.02	ug/L	0	30	
Chloroform	25.00	24.15	ug/L	-3	20	
Bromochloromethane	25.00	22.86	ug/L	-9	30	
1,1,1-Trichloroethane	25.00	25.00	ug/L	0	30	
1,1-Dichloropropene	25.00	22.55	ug/L	-10	30	
Carbon Tetrachloride	25.00	25.48	ug/L	2	30	
1,2-Dichloroethane	25.00	23.33	ug/L	-7	30	
Benzene	25.00	24.09	ug/L	-4	30	
Trichloroethene	25.00	25.00	ug/L	0	30	
1,2-Dichloropropane	25.00	23.84	ug/L	-5	20	
Bromodichloromethane	25.00	23.33	ug/L	-7	30	
Dibromomethane	25.00	23.90	ug/L	-4	30	
4-Methyl-2-Pentanone	25.00	25.61	ug/L	2	40	
cis-1,3-Dichloropropene	25.00	24.89	ug/L	0	30	
Toluene	25.00	25.27	ug/L	1	20	
trans-1,3-Dichloropropene	25.00	24.06	ug/L	-4	30	
1,1,2-Trichloroethane	25.00	23.82	ug/L	-5	30	
2-Hexanone	25.00	27.67	ug/L	11	40	
1,3-Dichloropropane	25.00	25.14	ug/L	1	30	
Tetrachloroethene	25.00	26.62	ug/L	6	30	
Dibromochloromethane	25.00	23.54	ug/L	-6	30	
1,2-Dibromoethane	25.00	23.98	ug/L	-4	30	
Chlorobenzene	25.00	24.78	ug/L	-1	30	
1,1,1,2-Tetrachloroethane	25.00	24.67	ug/L	-1	30	
Ethylbenzene	25.00	25.64	ug/L	3	20	
m,p-Xylenes	50.00	50.90	ug/L	2	30	
o-Xylene	25.00	24.57	ug/L	-2	30	
Styrene	25.00	24.87	ug/L	-1	30	
Bromoform	25.00	23.95	ug/L	-4	30	
Isopropylbenzene	25.00	25.94	ug/L	4	30	
1,1,2,2-Tetrachloroethane	25.00	25.51	ug/L	2	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
1,2,3-Trichloropropane	25.00	26.20	ug/L	5	30	
Propylbenzene	25.00	26.06	ug/L	4	30	
Bromobenzene	25.00	24.92	ug/L	0	30	
1,3,5-Trimethylbenzene	25.00	26.85	ug/L	7	30	
2-Chlorotoluene	25.00	25.95	ug/L	4	30	
4-Chlorotoluene	25.00	26.11	ug/L	4	30	
tert-Butylbenzene	25.00	26.16	ug/L	5	30	
1,2,4-Trimethylbenzene	25.00	25.79	ug/L	3	30	
sec-Butylbenzene	25.00	26.62	ug/L	6	30	
para-Isopropyl Toluene	25.00	26.95	ug/L	8	30	
1,3-Dichlorobenzene	25.00	26.02	ug/L	4	30	
1,4-Dichlorobenzene	25.00	26.25	ug/L	5	30	
n-Butylbenzene	25.00	28.14	ug/L	13	30	
1,2-Dichlorobenzene	25.00	25.41	ug/L	2	30	
1,2-Dibromo-3-Chloropropane	25.00	25.21	ug/L	1	30	
1,2,4-Trichlorobenzene	25.00	27.75	ug/L	11	30	
Hexachlorobutadiene	25.00	29.14	ug/L	17	30	
Naphthalene	25.00	24.08	ug/L	-4	30	
1,2,3-Trichlorobenzene	25.00	26.51	ug/L	6	30	

Analyst: SJD Date: 09/25/15 Reviewer: LW Date: 09/28/15

!=warning +=high bias -=low bias m=manual integration v=ICV



CURTIS & TOMPKINS SPIKE USER REPORT FOR 271668 MSVOA Soil  
EPA 8260B

Inst : MSVOA12                      Run Name : QC813583                      IDF : 1.0  
 Seqnum : 885465851004.4           File : lkj04                      Time : 19-NOV-2015 13:38  
 Cal : 885385165001                  Caldate : 24-SEP-2015  
 Standards: S28489 (10000X), S28220 (10000X), S28167 (10000X), S28123 (10000X),  
 S28421 (5000X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.7618	0.6224	20.00	16.34	ug/L	-18	30	0.0500	!v- m u
Chloromethane	0.7058	0.7581	20.00	21.48	ug/L	7	30	0.1000	u
Vinyl Chloride	0.6578	0.6546	20.00	19.90	ug/L	0	20	0.0500	u
Bromomethane	0.3032	0.3929	20.00	25.92	ug/L	30	30	0.0500	u
Chloroethane	0.3672	0.4232	20.00	23.05	ug/L	15	30	0.0500	u
Trichlorofluoromethane	0.8592	0.8779	20.00	20.44	ug/L	2	30	0.0500	u
Acetone	0.1842	0.2850	25.00	38.69	ug/L	55	40	0.0500	!v+ c+ u ***
Freon 113	0.4069	0.3792	25.00	23.30	ug/L	-7	30	0.0500	u
1,1-Dichloroethene	0.4015	0.3792	25.00	23.61	ug/L	-6	20	0.0500	u
Methylene Chloride	0.4913	0.5295	25.00	26.95	ug/L	8	30	0.0500	u
Carbon Disulfide	1.3885	1.4069	25.00	25.33	ug/L	1	30	0.0500	!v- u
MTBE	1.4916	1.3981	25.00	23.43	ug/L	-6	30	0.0500	u
trans-1,2-Dichloroethene	0.4512	0.4260	25.00	23.61	ug/L	-6	30	0.0500	u
Vinyl Acetate	0.9882	1.2730	25.00	32.20	ug/L	29	40	0.0500	u
1,1-Dichloroethane	0.8561	0.9679	25.00	28.26	ug/L	13	30	0.1000	u
2-Butanone	0.2881	0.3262	25.00	28.31	ug/L	13	40	0.0500	u
cis-1,2-Dichloroethene	0.5122	0.5521	25.00	26.95	ug/L	8	30	0.0500	u
2,2-Dichloropropane	0.7495	0.9319	25.00	31.08	ug/L	24	30	0.0500	u
Chloroform	0.8347	0.9429	25.00	28.24	ug/L	13	20	0.0500	u
Bromochloromethane	0.2496	0.2553	25.00	25.57	ug/L	2	30	0.0500	u
1,1,1-Trichloroethane	0.7603	0.8628	25.00	28.37	ug/L	13	30	0.0500	u
1,1-Dichloropropene	0.4722	0.4195	25.00	22.21	ug/L	-11	30	0.0500	u
Carbon Tetrachloride	0.4898	0.5536	25.00	28.25	ug/L	13	30	0.0500	u
1,2-Dichloroethane	0.4761	0.5390	25.00	28.30	ug/L	13	30	0.0500	u
Benzene	1.3987	1.5092	25.00	26.98	ug/L	8	30	0.0500	u
Trichloroethene	0.3573	0.3614	25.00	25.28	ug/L	1	30	0.0500	u
1,2-Dichloropropane	0.3464	0.3671	25.00	26.50	ug/L	6	20	0.0500	u
Bromodichloromethane	0.4742	0.5034	25.00	26.54	ug/L	6	30	0.0500	u
Dibromomethane	0.2065	0.2130	25.00	25.78	ug/L	3	30	0.0500	u
4-Methyl-2-Pentanone	0.4163	0.4051	25.00	24.33	ug/L	-3	40	0.0500	u
cis-1,3-Dichloropropene	0.5886	0.6465	25.00	27.46	ug/L	10	30	0.0500	u
Toluene	1.6267	1.7288	25.00	26.57	ug/L	6	20	0.0500	u
trans-1,3-Dichloropropene	0.5664	0.5693	25.00	25.13	ug/L	1	30	0.0500	u
1,1,2-Trichloroethane	0.1741	0.1774	25.00	25.48	ug/L	2	30	0.0500	u
2-Hexanone	0.3261	0.2970	25.00	22.77	ug/L	-9	40	0.0500	u
1,3-Dichloropropane	0.5529	0.6100	25.00	27.58	ug/L	10	30	0.0500	u
Tetrachloroethene	0.4194	0.4373	25.00	26.07	ug/L	4	30	0.0500	u
Dibromochloromethane	0.4089	0.3919	25.00	23.96	ug/L	-4	30	0.0500	u
1,2-Dibromoethane	0.3391	0.3144	25.00	23.18	ug/L	-7	30	0.0500	u
Chlorobenzene	1.1174	1.1671	25.00	26.11	ug/L	4	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.4010	0.4132	25.00	25.76	ug/L	3	30	0.0500	u
Ethylbenzene	1.9140	2.0659	25.00	26.98	ug/L	8	20	0.0500	u
m,p-Xylenes	0.7754	0.8324	50.00	53.67	ug/L	7	30	0.0500	u
o-Xylene	0.7818	0.7837	25.00	25.06	ug/L	0	30	0.0500	u
Styrene	1.3229	1.3800	25.00	26.08	ug/L	4	30	0.0500	u
Bromoform	0.3307	0.3130	25.00	23.67	ug/L	-5	30	0.1000	u
Isopropylbenzene	2.9411	3.2643	25.00	27.75	ug/L	11	30	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.7042	0.7806	25.00	27.71	ug/L	11	30	0.3000	u
1,2,3-Trichloropropane	0.6866	0.7956	25.00	28.97	ug/L	16	30	0.0500	u
Propylbenzene	3.5054	4.1204	25.00	29.39	ug/L	18	30	0.0500	u
Bromobenzene	0.7897	0.8550	25.00	27.07	ug/L	8	30	0.0500	u
1,3,5-Trimethylbenzene	2.7198	3.2542	25.00	29.91	ug/L	20	30	0.0500	u
2-Chlorotoluene	2.3535	2.8190	25.00	29.94	ug/L	20	30	0.0500	u
4-Chlorotoluene	2.1720	2.5915	25.00	29.83	ug/L	19	30	0.0500	u
tert-Butylbenzene	2.4067	2.6623	25.00	27.65	ug/L	11	30	0.0500	u
1,2,4-Trimethylbenzene	2.8768	3.0984	25.00	26.93	ug/L	8	30	0.0500	u
sec-Butylbenzene	3.5082	4.0206	25.00	28.65	ug/L	15	30	0.0500	u
para-Isopropyl Toluene	3.1441	3.5568	25.00	28.28	ug/L	13	30	0.0500	u
1,3-Dichlorobenzene	1.5949	1.7820	25.00	27.93	ug/L	12	30	0.0500	u
1,4-Dichlorobenzene	1.6182	1.8300	25.00	28.27	ug/L	13	30	0.0500	u
n-Butylbenzene	2.8220	3.2369	25.00	28.67	ug/L	15	30	0.0500	u
1,2-Dichlorobenzene	1.5836	1.7093	25.00	26.98	ug/L	8	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.2120	0.2208	25.00	26.04	ug/L	4	30	0.0500	u
1,2,4-Trichlorobenzene	1.2456	1.3290	25.00	26.67	ug/L	7	30	0.0500	u
Hexachlorobutadiene	0.7546	0.9637	25.00	31.93	ug/L	28	30	0.0500	u
Naphthalene	3.2018	2.2290	25.00	17.40	ug/L	-30	30	0.0500	u
1,2,3-Trichlorobenzene	1.2396	1.2650	25.00	25.51	ug/L	2	30	0.0500	u
Dibromofluoromethane	0.4013	0.4294	50.00	53.49	ug/L	7	30	0.0500	u
1,2-Dichloroethane-d4	0.3375	0.4088	50.00	60.56	ug/L	21	30	0.0500	u
Toluene-d8	1.2536	1.3284	50.00	52.98	ug/L	6	30	0.0500	u
Bromofluorobenzene	0.7823	0.8245	50.00	52.69	ug/L	5	30	0.0500	u

ISTD (ICAL liol8)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	305612	232053	-24.07	10.31	10.29	-0.02
1,4-Difluorobenzene	415531	319032	-23.22	11.17	11.16	-0.01
Chlorobenzene-d5	403015	318804	-20.90	14.07	14.05	-0.02
1,4-Dichlorobenzene-d4	281429	205499	-26.98	16.18	16.16	-0.02

NJT 11/19/15 [Freon 12]: Corrected fronting or tailing peak integration.  
[general version]

Analyst: NJT Date: 11/20/15 Reviewer: TEW Date: 11/20/15

!=warning +=high bias -=low bias c=CCV m>manual integration u=use v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 MSVOA Soil  
EPA 8260B

Inst : MSVOA12                      Run Name : 30PPB                      IDF : 1.0  
 Seqnum : 885467264003              File : lkk03                      Time : 20-NOV-2015 12:34  
 Cal : 885385165001                  Caldate : 24-SEP-2015  
 Standards: S28295 (16670X), S28355 (16670X), S27081 (16670X), S28421 (5000X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.7618	0.4287	30.00	16.88	ug/L	-44	30	0.0500	!v- c- m ***
Chloromethane	0.7058	0.7114	30.00	30.24	ug/L	1	30	0.1000	
Vinyl Chloride	0.6578	0.6161	30.00	28.10	ug/L	-6	20	0.0500	
Bromomethane	0.3032	0.3191	30.00	31.57	ug/L	5	30	0.0500	
Chloroethane	0.3672	0.3971	30.00	32.44	ug/L	8	30	0.0500	
Trichlorofluoromethane	0.8592	0.8913	30.00	31.12	ug/L	4	30	0.0500	
Acetone	0.1842	0.2998	30.00	48.83	ug/L	63	40	0.0500	!v+ c+ ***
Freon 113	0.4069	0.4852	30.00	35.77	ug/L	19	30	0.0500	
1,1-Dichloroethene	0.4015	0.4083	30.00	30.51	ug/L	2	20	0.0500	
Methylene Chloride	0.4913	0.5134	30.00	31.35	ug/L	4	30	0.0500	
Carbon Disulfide	1.3885	1.6230	30.00	35.07	ug/L	17	30	0.0500	!v-
MTBE	1.4916	1.6206	30.00	32.59	ug/L	9	30	0.0500	
trans-1,2-Dichloroethene	0.4512	0.4660	30.00	30.99	ug/L	3	30	0.0500	
Vinyl Acetate	0.9882	1.0604	30.00	32.19	ug/L	7	40	0.0500	
1,1-Dichloroethane	0.8561	0.9164	30.00	32.11	ug/L	7	30	0.1000	
2-Butanone	0.2881	0.3161	30.00	32.92	ug/L	10	40	0.0500	
2,2-Dichloropropane	0.7495	0.8890	30.00	35.58	ug/L	19	30	0.0500	
cis-1,2-Dichloroethene	0.5122	0.5098	30.00	29.86	ug/L	0	30	0.0500	
Chloroform	0.8347	0.9149	30.00	32.88	ug/L	10	20	0.0500	
Bromochloromethane	0.2496	0.2578	30.00	30.99	ug/L	3	30	0.0500	
1,1,1-Trichloroethane	0.7603	0.8598	30.00	33.93	ug/L	13	30	0.0500	
1,1-Dichloropropene	0.4722	0.5087	30.00	32.31	ug/L	8	30	0.0500	
Carbon Tetrachloride	0.4898	0.5635	30.00	34.51	ug/L	15	30	0.0500	
1,2-Dichloroethane	0.4761	0.5549	30.00	34.96	ug/L	17	30	0.0500	
Benzene	1.3987	1.5482	30.00	33.21	ug/L	11	30	0.0500	
Trichloroethene	0.3573	0.3596	30.00	30.19	ug/L	1	30	0.0500	
1,2-Dichloropropane	0.3464	0.3587	30.00	31.07	ug/L	4	20	0.0500	
Bromodichloromethane	0.4742	0.5030	30.00	31.82	ug/L	6	30	0.0500	
Dibromomethane	0.2065	0.2192	30.00	31.84	ug/L	6	30	0.0500	
4-Methyl-2-Pentanone	0.4163	0.4392	30.00	31.65	ug/L	5	40	0.0500	
cis-1,3-Dichloropropene	0.5886	0.6064	30.00	30.90	ug/L	3	30	0.0500	
Toluene	1.6267	1.7593	30.00	32.45	ug/L	8	20	0.0500	
trans-1,3-Dichloropropene	0.5664	0.5741	30.00	30.41	ug/L	1	30	0.0500	
1,1,2-Trichloroethane	0.1741	0.1759	30.00	30.32	ug/L	1	30	0.0500	
2-Hexanone	0.3261	0.3226	30.00	29.68	ug/L	-1	40	0.0500	
1,3-Dichloropropane	0.5529	0.6035	30.00	32.75	ug/L	9	30	0.0500	
Tetrachloroethene	0.4194	0.4281	30.00	30.63	ug/L	2	30	0.0500	
Dibromochloromethane	0.4089	0.3964	30.00	29.08	ug/L	-3	30	0.0500	
1,2-Dibromoethane	0.3391	0.3308	30.00	29.27	ug/L	-2	30	0.0500	
Chlorobenzene	1.1174	1.1261	30.00	30.23	ug/L	1	30	0.3000	
1,1,1,2-Tetrachloroethane	0.4010	0.4175	30.00	31.24	ug/L	4	30	0.0500	
Ethylbenzene	1.9140	2.0750	30.00	32.52	ug/L	8	20	0.0500	
m,p-Xylenes	0.7754	0.8343	60.00	64.56	ug/L	8	30	0.0500	
o-Xylene	0.7818	0.7874	30.00	30.21	ug/L	1	30	0.0500	
Styrene	1.3229	1.3839	30.00	31.38	ug/L	5	30	0.0500	
Bromoform	0.3307	0.3109	30.00	28.21	ug/L	-6	30	0.1000	
Isopropylbenzene	2.9411	3.3450	30.00	34.12	ug/L	14	30	0.0500	
1,1,2,2-Tetrachloroethane	0.7042	0.7644	30.00	32.57	ug/L	9	30	0.3000	

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,2,3-Trichloropropane	0.6866	0.8119	30.00	35.48	ug/L	18	30	0.0500	
Propylbenzene	3.5054	4.2680	30.00	36.53	ug/L	<b>22</b>	30	0.0500	!c+
Bromobenzene	0.7897	0.8688	30.00	33.00	ug/L	10	30	0.0500	
1,3,5-Trimethylbenzene	2.7198	3.2039	30.00	35.34	ug/L	18	30	0.0500	
2-Chlorotoluene	2.3535	2.8534	30.00	36.37	ug/L	<b>21</b>	30	0.0500	!c+
4-Chlorotoluene	2.1720	2.6325	30.00	36.36	ug/L	<b>21</b>	30	0.0500	!c+
tert-Butylbenzene	2.4067	2.6709	30.00	33.29	ug/L	11	30	0.0500	
1,2,4-Trimethylbenzene	2.8768	3.1441	30.00	32.79	ug/L	9	30	0.0500	
sec-Butylbenzene	3.5082	4.0572	30.00	34.69	ug/L	16	30	0.0500	
para-Isopropyl Toluene	3.1441	3.6177	30.00	34.52	ug/L	15	30	0.0500	
1,3-Dichlorobenzene	1.5949	1.7315	30.00	32.57	ug/L	9	30	0.0500	
1,4-Dichlorobenzene	1.6182	1.7734	30.00	32.88	ug/L	10	30	0.0500	
n-Butylbenzene	2.8220	3.2207	30.00	34.24	ug/L	14	30	0.0500	
1,2-Dichlorobenzene	1.5836	1.6504	30.00	31.27	ug/L	4	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.2120	0.2340	30.00	33.11	ug/L	10	30	0.0500	
1,2,4-Trichlorobenzene	1.2456	1.3594	30.00	32.74	ug/L	9	30	0.0500	
Hexachlorobutadiene	0.7546	0.9292	30.00	36.94	ug/L	<b>23</b>	30	0.0500	!c+
Naphthalene	3.2018	2.4371	30.00	22.84	ug/L	<b>-24</b>	30	0.0500	!c-
1,2,3-Trichlorobenzene	1.2396	1.3051	30.00	31.59	ug/L	5	30	0.0500	
Dibromofluoromethane	0.4013	0.4188	50.00	52.18	ug/L	4	30	0.0500	
1,2-Dichloroethane-d4	0.3375	0.4191	50.00	62.09	ug/L	<b>24</b>	30	0.0500	!c+
Trifluorotoluene	0.6534	0.6909	30.00	31.72	ug/L	6	30	0.0500	
Toluene-d8	1.2536	1.3119	50.00	52.33	ug/L	5	30	0.0500	
Bromofluorobenzene	0.7823	0.8395	50.00	53.65	ug/L	7	30	0.0500	

ISTD (ICAL liol8)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	305612	216962	-29.01	10.31	10.30	-0.01
1,4-Difluorobenzene	415531	301924	-27.34	11.17	11.16	-0.01
Chlorobenzene-d5	403015	299627	-25.65	14.07	14.05	-0.02
1,4-Dichlorobenzene-d4	281429	187301	-33.45	16.18	16.16	-0.02

NJT 11/20/15 [Freon 12]: Combined split peak.

Analyst: NJT Date: 11/20/15 Reviewer: LW Date: 11/20/15

!=warning +=high bias -=low bias c=CCV m>manual integration v=ICV

## Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 885465851

Date : 11/19/15  
 Sequence : MSVOA12 lkj

Reference : lio18  
 Analyzed : 09/24/15 20:52

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	305612	10.31	415531	11.17	403015	14.07	281429	16.18
		LOWER LIMIT	152806	9.81	207766	10.67	201508	13.57	140715	15.68
		UPPER LIMIT	611224	10.81	831062	11.67	806030	14.57	562858	16.68
003	CCV	30PPB	244554	10.29	337700	11.16	341299	14.06	221079	16.16
004	CCV/LCS	QC813583	232053	10.29	319032	11.16	318804	14.05	205499	16.16
006	BLANK	QC813584	213690	10.29	298039	11.16	296815	14.05	192547	16.16
007	SAMPLE	271634-013	212773	10.29	298022	11.16	295732	14.05	190946	16.16
008	SAMPLE	271634-015	222723	10.30	307186	11.16	307911	14.05	199954	16.16
009	SAMPLE	271639-001	195718	10.30	284309	11.16	249504	14.05	74558 *	16.16
010	MSS	271668-001	215343	10.29	298988	11.16	304278	14.06	200178	16.16
011	SAMPLE	271668-002	208939	10.29	296676	11.16	297298	14.05	198154	16.16
012	SAMPLE	271743-002	203831	10.30	301116	11.16	304052	14.06	192997	16.16
013	SAMPLE	271743-003	224284	10.30	330095	11.16	331247	14.06	208255	16.16
014	SAMPLE	271743-004	211237	10.30	312742	11.16	312848	14.05	197442	16.16
015	SAMPLE	271660-001	234945	10.30	321872	11.16	324035	14.06	209002	16.16
016	SAMPLE	271660-002	204621	10.30	307201	11.16	305627	14.05	192719	16.16
017	SAMPLE	271745-010	217251	10.30	313802	11.16	313307	14.05	195560	16.16
018	SAMPLE	271745-011	223906	10.29	298972	11.16	305253	14.05	199513	16.16
019	MS	QC813625	234685	10.30	325910	11.16	330904	14.05	206963	16.16

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 885467264

Date : 11/20/15  
 Sequence : MSVOA12 lkk

Reference : lio18  
 Analyzed : 09/24/15 20:52

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	305612	10.31	415531	11.17	403015	14.07	281429	16.18
		LOWER LIMIT	152806	9.81	207766	10.67	201508	13.57	140715	15.68
		UPPER LIMIT	611224	10.81	831062	11.67	806030	14.57	562858	16.68
003	CCV	30PPB	216962	10.30	301924	11.16	299627	14.05	187301	16.16
004	BS	QC813808	228108	10.29	317196	11.16	313459	14.05	200369	16.16
005	MSD	QC813626	229610	10.29	321011	11.16	322158	14.05	205428	16.16
006	BSD	QC813809	232640	10.30	320184	11.16	316530	14.06	204766	16.16

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 885385165

Instrument : MSVOA12 Begun : 09/24/15 11:24  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	lio01	IB				09/24/15 11:24	1.0	1	?t
002	lio02	TUN	BFB			09/24/15 11:55	1.0	2	
003	lio03	TUN	BFB			09/24/15 12:09	1.0	2	
004	lio04	TUN	BFB			09/24/15 12:19	1.0	2	
005	lio05	TUN	BFB			09/24/15 12:30	1.0	2	
006	lio06	TUN	BFB			09/24/15 13:04	1.0	2	
007	lio07	X	2.5PPB STD			09/24/15 13:23	1.0	1	
008	lio08	TUN	BFB			09/24/15 14:56	1.0	2	
009	lio09	TUN	BFB			09/24/15 15:27	1.0	2	
010	lio10	TUN	BFB			09/24/15 16:03	1.0	2	
011	lio11	TUN	BFB			09/24/15 17:04	1.0	2	
012	lio12	IB				09/24/15 17:32	1.0	1	
013	lio13	IB	CALIB			09/24/15 18:05	1.0	1	
014	lio14	ICAL	2.5PPB			09/24/15 18:38	1.0	3 4 5 1	
015	lio15	ICAL	5PPB			09/24/15 19:11	1.0	3 4 5 1	
016	lio16	ICAL	10PPB			09/24/15 19:45	1.0	3 4 5 1	
017	lio17	ICAL	20PPB			09/24/15 20:18	1.0	3 4 5 1	
018	lio18	ICAL	50PPB			09/24/15 20:52	1.0	3 4 5 1	
019	lio19	ICAL	60PPB			09/24/15 21:25	1.0	3 4 5 1	
020	lio20	ICAL	75PPB			09/24/15 21:58	1.0	3 4 5 1	
021	lio21	ICAL	100PPB			09/24/15 22:32	1.0	3 4 5 1	
022	lio22	ICAL	200PPB			09/24/15 23:05	1.0	3 4 5 1	
023	lio23	ICV				09/24/15 23:39	1.0	6 1	
024	lio24	ICV				09/25/15 00:13	1.0	7 8 9 1	

SJD 09/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 24.

Analyst: SJD Date: 09/25/15 Reviewer: LW Date: 09/28/15

Standards used: 1=S28020 2=S27180 3=S28008 4=S28087 5=S26571 6=S27267 7=S27929 8=S27930 9=S28013

Flags used: ?t=missing tune



CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 885386806

Instrument : MSVOA12 Begun : 09/25/15 14:46  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	lip01	IB					09/25/15 14:46	1.0	1	?t
002	lip02	TUN	BFB				09/25/15 15:10	1.0	2	
003	lip03	ICV					09/25/15 15:51	1.0	3 4 5 1	
004	lip04	ICV					09/25/15 16:48	1.0	3 4 5 6 1	
005	lip05	CCV					09/25/15 17:38	1.0	3 4 5 6 1	
006	lip06	BLANK	QC805367		Soil	227607	09/25/15 18:34	1.0	1	
007	lip07	LOD	221187-028		Soil	227607	09/25/15 19:07	1.0	7 8 9 1	
008	lip08	LOD	221187-028		Soil	227607	09/25/15 19:40	1.0	7 8 9 1	
009	lip09	LOD	221187-028		Soil	227607	09/25/15 20:13	1.0	7 8 9 1	
010	lip10	LOD	221187-028		Soil	227607	09/25/15 20:47	1.0	7 8 9 1	
011	lip11	LOD	214074-030	M	Soil	227607	09/25/15 21:20	50.0	7 8 9 1	
012	lip12	LOD	214074-030	M	Soil	227607	09/25/15 21:54	50.0	7 8 9 1	
013	lip13	LOD	214074-030	M	Soil	227607	09/25/15 22:27	50.0	7 8 9 1	
014	lip14	LOQ	267988-007	M	Soil	227607	09/25/15 23:00	50.0	7 8 9 1	
015	lip15	X	IB				09/25/15 23:34	1.0	1	
016	lip16	X	IB				09/26/15 00:07	1.0	1	
017	lip17	X	IB				09/26/15 00:41	1.0	1	
018	lip18	X	IB				09/26/15 01:14	1.0	1	
019	lip19	X	IB				09/26/15 01:48	1.0	1	

SJD 09/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 4.

KKM 09/28/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 5 through 19.

LW 09/29/15 : Prepblank for the MeOH LODs is file gip30

Analyst: KKM Date: 09/28/15 Reviewer: LW Date: 09/30/15

Standards used: 1=S28020 2=S27180 3=S27929 4=S27930 5=S28013 6=S27267 7=S26571 8=S28008 9=S28087

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 885465851

Instrument : MSVOA12 Begun : 11/19/15 12:11  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	lkj01	IB				11/19/15 12:11	1.0	1	?t
002	lkj02	TUN	BFB			11/19/15 12:36	1.0	2	
003	lkj03	CCV	30PPB			11/19/15 13:04	1.0	3 4 5 1	
004	lkj04	CCV/LCS	QC813583	Soil	229633	11/19/15 13:38	1.0	6 7 8 9 1	
005	lkj05	IB				11/19/15 14:11	1.0	1	
006	lkj06	BLANK	QC813584	Soil	229633	11/19/15 14:44	1.0	1	
007	lkj07	SAMPLE	271634-013	Soil	229633	11/19/15 15:17	0.9766	1	
008	lkj08	SAMPLE	271634-015	Soil	229633	11/19/15 15:50	0.9416	1	
009	lkj09	SAMPLE	271639-001	Miscell.	229633	11/19/15 16:23	9.259	1	
010	lkj10	MSS	271668-001	Soil	229633	11/19/15 16:57	0.9579	1	
011	lkj11	SAMPLE	271668-002	Soil	229633	11/19/15 17:30	0.9452	1	
012	lkj12	SAMPLE	271743-002	Soil	229633	11/19/15 18:03	0.9074	1	
013	lkj13	SAMPLE	271743-003	Soil	229633	11/19/15 18:36	0.8834	1	
014	lkj14	SAMPLE	271743-004	Soil	229633	11/19/15 19:10	0.956	1	
015	lkj15	SAMPLE	271660-001	Soil	229633	11/19/15 19:44	0.9747	1	
016	lkj16	SAMPLE	271660-002	Soil	229633	11/19/15 20:17	0.9785	1	
017	lkj17	SAMPLE	271745-010	Soil	229633	11/19/15 20:51	0.8897	1	
018	lkj18	SAMPLE	271745-011	Soil	229633	11/19/15 21:25	0.8913	1	3:PCE=400
019	lkj19	MS	QC813625	Soil	229633	11/19/15 21:58	0.9311	6 7 8 9 1	

NJT 11/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Analyst:  NJT  Date:  11/20/15  Reviewer:  LW  Date:  11/20/15

Standards used: 1=S28421 2=S27825 3=S28295 4=S28355 5=S27081 6=S28489 7=S28220 8=S28167 9=S28123

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 885467264

Instrument : MSVOA12 Begun : 11/20/15 11:44  
 Method : EPA 8260B SOP Version : TVH\_8260B\_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	lkk01	IB				11/20/15 11:44	1.0	1	?t
002	lkk02	TUN	BFB			11/20/15 12:07	1.0	2	
003	lkk03	CCV	30PPB			11/20/15 12:34	1.0	3 4 5 1	
004	lkk04	BS	QC813808	Soil	229678	11/20/15 13:08	1.0	6 7 8 9 1	
005	lkk05	MSD	QC813626	Soil	229633	11/20/15 13:41	0.9416	6 7 8 9 1	
006	lkk06	BSD	QC813809	Soil	229678	11/20/15 14:14	1.0	6 7 8 9 1	
007	lkk07	IB				11/20/15 14:47	1.0	1	
008	lkk08	BLANK	QC813810	Soil	229678	11/20/15 15:21	1.0	1	
009	lkk09	SAMPLE	271773-019	Soil	229678	11/20/15 15:54	1.171	1	

NJT 11/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 5.

LW 11/20/15 : Reviewed for 229633

Analyst:  NJT  Date:  11/20/15  Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Standards used: 1=S28421 2=S27825 3=S28295 4=S28355 5=S27081 6=S28489 7=S28220 8=S28167 9=S28123

Flags used: ?t=missing tune

# MSVOA SOIL PREPSHEET

Batch #: 229633

Batch #: \_\_\_\_\_

Instrument: MS12

Instrument: \_\_\_\_\_

Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	\$Rush	Prep'd by (Initials/date)
271634-13 ↓ -15	5.12 5.31	A ↓		X ↓		1 1	1X ↓	Nephel ↓ Just ↓				11/19		Zia 11/19
271637-1	0.225	A		X			200X	Wood test. Purple (11/07)				↓		↓
271639-1	0.54	A		X		1	10X	ESD ↓ (Carbon)			11/24			Zia 11/24
271743-2	5.51	↓	X											Zia 11/24
↓ -3	5.06	↓	↓											↓
↓ -4	5.23	↓	↓											↓
271668-1 MS	5.22	A		X										↓
↓ -2	5.29	↓		↓										↓
↓ -1 MS	5.37	↓		↓				QC813625						↓
↓ -1 MS0	5.31	↓		↓				↓						↓
271660-1	5.13	A		X										↓
↓ -2	5.11	↓		↓										↓
271745-8	0.100	↓		X			30X							Zia 11/14
↓ -9	↓	↓		↓										↓
↓ -10	5.02	↓		↓										↓
↓ -11	5.61	↓		↓										↓

Rev 4, Effective 12/01/14

Curtis & Tompkins, Ltd.

file:///F:/home/NOA/soil prepsheet\_nv4.xls

Laboratory Job Number 271668

ANALYTICAL REPORT

Metals

Matrix: Water

Lead			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3010A
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	229631
Matrix:	Water	Sampled:	11/13/15
Units:	ug/L	Received:	11/16/15
Diln Fac:	1.000	Prepared:	11/19/15

Field ID	Type	Lab ID	Result	RL	Analyzed
PURGE-1-NS	SAMPLE	271668-003	18	5.0	11/23/15
PURGE-2-NS	SAMPLE	271668-004	21	5.0	11/23/15
	BLANK	QC813574	ND	5.0	11/20/15

ND= Not Detected  
 RL= Reporting Limit

Batch QC Report

Lead			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3010A
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	229631
Field ID:	ZZZZZZZZZZ	Sampled:	11/05/15
MSS Lab ID:	271369-001	Received:	11/06/15
Matrix:	Water	Prepared:	11/19/15
Units:	ug/L	Analyzed:	11/20/15
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC813575		100.0	91.63	92	80-120		
BSD	QC813576		100.0	90.86	91	80-120	1	20
MS	QC813577	<1.000	100.0	82.63	83	67-120		
MSD	QC813578		100.0	82.92	83	67-120	0	23

RPD= Relative Percent Difference

## Batch QC Report

Lead			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3010A
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 6010B
Analyte:	Lead	Units:	ug/L
Field ID:	ZZZZZZZZZZ	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	229631
MSS Lab ID:	271369-001	Sampled:	11/05/15
Lab ID:	QC813579	Received:	11/06/15
Matrix:	Water	Analyzed:	11/20/15

MSS Result	MSS RL	Result	RL	% Diff	Lim
ND	5.000	ND	25.00	NC	10

NC= Not Calculated  
 ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

Lead			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3010A
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 6010B
Analyte:	Lead	Units:	ug/L
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
Type:	Post Digest Spike	Batch#:	229631
MSS Lab ID:	271369-001	Sampled:	11/05/15
Lab ID:	QC813580	Received:	11/06/15
Matrix:	Water	Analyzed:	11/20/15

MSS Result	Spiked	Result	%REC	Limits
<1.000	100.0	81.98	82	75-125

REPORTING SUMMARY FOR 271668 METALS Water  
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	P B	
271668-003	MET08	11/23/15 13:23	1.0	+	
271668-004	MET08	11/23/15 13:27	1.0	+	
QC813574	MET09	11/20/15 09:05	1.0	+	
QC813575	MET09	11/20/15 08:52	1.0	+	
QC813576	MET09	11/20/15 08:56	1.0	+	
QC813577	MET09	11/20/15 09:10	1.0	+	
QC813578	MET09	11/20/15 09:14	1.0	+	
QC813579	MET09	11/20/15 09:19	5.0	+	
QC813580	MET09	11/20/15 09:24	1.0	+	

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95466839

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/20/15 04:39  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				11/20/15 04:39	1.0		
002	met09_sn_	ICAL	L1			11/20/15 04:44	1.0	1	
003	met09_sn_	ICAL	L2			11/20/15 04:49	1.0	2	
004	met09_sn_	ICAL	L3			11/20/15 04:53	1.0	3	
005	met09_sn_	ICAL	L4			11/20/15 04:57	1.0	4	
006	met09_sn_	ICAL	L5			11/20/15 05:04	1.0	5	
007	met09_sn_	ICV				11/20/15 05:11	1.0	6	
008	met09_sn_	XCRI				11/20/15 05:21	1.0	7	
009	met09_sn_	CRI				11/20/15 05:30	1.0	7	
010	met09_sn_	ICB				11/20/15 05:34	1.0		
011	met09_sn_	ICSA				11/20/15 05:40	1.0	8	10:AL=480000
012	met09_sn_	ICSAB				11/20/15 06:02	1.0	9	5:AL=490000
013	met09_sn_	XBLANK	QC813574	Water	229631	11/20/15 07:55	1.0		
014	met09_sn_	XBS	QC813575	Water	229631	11/20/15 08:00	1.0		
015	met09_sn_	XBSD	QC813576	Water	229631	11/20/15 08:05	1.0		
016	met09_sn_	XMSS	271369-001	Water	229631	11/20/15 08:10	1.0		2:CA=220000
017	met09_sn_	XMS	QC813577	Water	229631	11/20/15 08:15	1.0		
018	met09_sn_	XMSD	QC813578	Water	229631	11/20/15 08:20	1.0		
019	met09_sn_	XSER	QC813579	Water	229631	11/20/15 08:26	5.0		
020	met09_sn_	CCV				11/20/15 08:36	1.0	10	
021	met09_sn_	XCCB				11/20/15 08:43	1.0		
022	met09_sn_	CCB				11/20/15 08:47	1.0		
023	met09_sn_	BS	QC813575	Water	229631	11/20/15 08:52	1.0		
024	met09_sn_	BSD	QC813576	Water	229631	11/20/15 08:56	1.0		
025	met09_sn_	MSS	271369-001	Water	229631	11/20/15 09:00	1.0		2:CA=210000
026	met09_sn_	BLANK	QC813574	Water	229631	11/20/15 09:05	1.0		
027	met09_sn_	MS	QC813577	Water	229631	11/20/15 09:10	1.0		
028	met09_sn_	MSD	QC813578	Water	229631	11/20/15 09:14	1.0		1:CA=220000
029	met09_sn_	SER	QC813579	Water	229631	11/20/15 09:19	5.0		
030	met09_sn_	PDS	QC813580	Water	229631	11/20/15 09:24	1.0	11 12 13	1:CA=220000
031	met09_sn_	CCV				11/20/15 09:28	1.0	10	
032	met09_sn_	XCCB				11/20/15 09:35	1.0		
033	met09_sn_	CCB				11/20/15 09:39	1.0		
034	met09_sn_	BLANK	QC813234	TCLP Leachate	229551	11/20/15 10:21	10.0		1:NA=130000
035	met09_sn_	PDS	QC813240	TCLP Leachate	229551	11/20/15 10:26	10.0	11 12 13	
036	met09_sn_	SAMPLE	271712-001	TCLP Leachate	229551	11/20/15 10:30	10.0		1:NA=120000
037	met09_sn_	SAMPLE	271712-002	TCLP Leachate	229551	11/20/15 10:35	10.0		1:NA=110000
038	met09_sn_	SAMPLE	271712-003	TCLP Leachate	229551	11/20/15 10:39	10.0		1:NA=120000
039	met09_sn_	SAMPLE	271531-001	Miscell.	229557	11/20/15 10:44	1.0		2:FE=1300000
040	met09_sn_	X	RINSE			11/20/15 10:51	1.0		
041	met09_sn_	SAMPLE	271548-001	Miscell.	229557	11/20/15 10:56	1.0		
042	met09_sn_	SAMPLE	271549-001	Miscell.	229557	11/20/15 11:00	1.0		
043	met09_sn_	MSS	271369-001	Water	229631	11/20/15 11:05	1.0		2:CA=210000
044	met09_sn_	CCV				11/20/15 11:11	1.0	10	
045	met09_sn_	XCCB				11/20/15 11:17	1.0		
046	met09_sn_	CCB				11/20/15 11:21	1.0		
047	met09_sn_	X	RINSE			11/20/15 11:27	1.0		
048	met09_sn_	SAMPLE	271626-019	Soil	229593	11/20/15 11:32	100.0		
049	met09_sn_	SAMPLE	271626-020	Soil	229593	11/20/15 11:36	100.0		
050	met09_sn_	SAMPLE	271626-019	Soil	229593	11/20/15 11:40	1.0		5:FE=330000
051	met09_sn_	SAMPLE	271626-020	Soil	229593	11/20/15 11:47	1.0		5:FE=540000
052	met09_sn_	SAMPLE	271800-001	Water	229631	11/20/15 11:53	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95466839

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/20/15 04:39  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	MSS	271668-001	Soil	229593	11/20/15 11:57	1.0		3:FE=200000
054	met09_sn_	SAMPLE	271668-002	Soil	229593	11/20/15 12:04	1.0		4:FE=490000
055	met09_sn_	SAMPLE	271729-001	Soil	229593	11/20/15 12:11	1.0		6:CA=1400000
056	met09_sn_	CCV				11/20/15 12:18	1.0	10	
057	met09_sn_	CCB				11/20/15 12:25	1.0		
058	met09_sn_	SAMPLE	271626-019	WET Leachate	229654	11/20/15 12:48	10.0		1:NA=130000
059	met09_sn_	SAMPLE	271626-020	WET Leachate	229654	11/20/15 12:52	10.0		1:NA=130000
060	met09_sn_	SAMPLE	271800-001	Water	229631	11/20/15 12:56	1.0		
061	met09_sn_	SAMPLE	271678-001	WET Leachate	229654	11/20/15 13:00	10.0		1:NA=130000
062	met09_sn_	SAMPLE	271678-002	WET Leachate	229654	11/20/15 13:05	10.0		1:NA=140000
063	met09_sn_	SAMPLE	271678-003	WET Leachate	229654	11/20/15 13:09	10.0		1:NA=150000
064	met09_sn_	SAMPLE	271678-004	WET Leachate	229654	11/20/15 13:13	10.0		1:NA=140000
065	met09_sn_	SAMPLE	271678-005	WET Leachate	229654	11/20/15 13:17	10.0		1:NA=150000
066	met09_sn_	SAMPLE	271679-001	WET Leachate	229654	11/20/15 13:21	10.0		1:NA=140000
067	met09_sn_	SAMPLE	271679-002	WET Leachate	229654	11/20/15 13:26	10.0		1:NA=150000
068	met09_sn_	CCV				11/20/15 13:30	1.0	10	
069	met09_sn_	XCCB				11/20/15 13:37	1.0		
070	met09_sn_	CCB				11/20/15 13:41	1.0		
071	met09_sn_	SAMPLE	271679-003	WET Leachate	229654	11/20/15 13:46	10.0		1:NA=140000
072	met09_sn_	SAMPLE	271679-004	WET Leachate	229654	11/20/15 13:50	10.0		1:NA=120000
073	met09_sn_	SAMPLE	271679-005	WET Leachate	229654	11/20/15 13:54	10.0		1:NA=140000
074	met09_sn_	SAMPLE	271679-006	WET Leachate	229654	11/20/15 13:58	10.0		1:NA=150000
075	met09_sn_	?SAMPLE	271724-001		229654	11/20/15 14:02	10.0		
076	met09_sn_	?SAMPLE	271725-001		229654	11/20/15 14:07	10.0		
077	met09_sn_	SAMPLE	271369-002	Water	229631	11/20/15 14:11	1.0		4:CA=450000
078	met09_sn_	SAMPLE	271369-003	Water	229631	11/20/15 14:16	1.0		3:CA=230000
079	met09_sn_	SAMPLE	271604-001	Soil	229537	11/20/15 14:20	1.0		4:CA=280000
080	met09_sn_	SAMPLE	271604-002	Soil	229537	11/20/15 14:27	1.0		4:CA=440000
081	met09_sn_	CCV				11/20/15 14:34	1.0	10	
082	met09_sn_	CCB				11/20/15 14:41	1.0		
083	met09_sn_	SAMPLE	271369-004	Water	229631	11/20/15 14:46	1.0		2:CA=240000
084	met09_sn_	SAMPLE	271604-002	Soil	229537	11/20/15 14:57	100.0		
085	met09_sn_	SAMPLE	271465-002	Water	229383	11/20/15 15:01	1.0		
086	met09_sn_	CCV				11/20/15 15:06	1.0	10	
087	met09_sn_	CCB				11/20/15 15:13	1.0		
088	met09_sn_	SAMPLE	271465-002	Water	229383	11/20/15 15:58	1.0		
089	met09_sn_	X	RINSE			11/20/15 16:02	1.0		
090	met09_sn_	MSS	271522-001	Filtrate	229486	11/20/15 16:07	100.0		
091	met09_sn_	MS	QC812975	Filtrate	229486	11/20/15 16:12	1.0		1:NA=340000
092	met09_sn_	MSD	QC812976	Filtrate	229486	11/20/15 16:16	1.0		1:NA=340000
093	met09_sn_	SAMPLE	271645-001	WET Leachate	229605	11/20/15 16:20	10.0		1:NA=130000
094	met09_sn_	SAMPLE	271333-002	Filtrate	229348	11/20/15 16:24	100.0		
095	met09_sn_	BLANK	QC812414	Filtrate	229348	11/20/15 16:30	1.0		
096	met09_sn_	BS	QC812415	Filtrate	229348	11/20/15 16:35	1.0		
097	met09_sn_	BSD	QC812416	Filtrate	229348	11/20/15 16:39	1.0		
098	met09_sn_	CCV				11/20/15 16:43	1.0	10	
099	met09_sn_	CCB				11/20/15 16:50	1.0		
100	met09_sn_	CCB				11/20/15 16:54	1.0		
101	met09_sn_	MSS	271333-004	Filtrate	229348	11/20/15 16:59	1.0		3:MG=500000
102	met09_sn_	X	RINSE			11/20/15 17:07	1.0		
103	met09_sn_	MS	QC812417	Filtrate	229348	11/20/15 17:12	1.0		3:MG=500000
104	met09_sn_	X	RINSE			11/20/15 17:19	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95466839

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/20/15 04:39  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_	MSD	QC812418	Filtrate	229348	11/20/15 17:24	1.0		3:MG=490000
106	met09_sn_	X	RINSE			11/20/15 17:32	1.0		
107	met09_sn_	SAMPLE	271333-002	Filtrate	229348	11/20/15 17:37	1.0		
108	met09_sn_	X	RINSE			11/20/15 17:45	1.0		
109	met09_sn_	SAMPLE	271333-003	Filtrate	229348	11/20/15 17:50	1.0		
110	met09_sn_	X	RINSE			11/20/15 17:57	1.0		
111	met09_sn_	CCV				11/20/15 18:02	1.0	10	
112	met09_sn_	CCB				11/20/15 18:09	1.0		
113	met09_sn_	CCB				11/20/15 18:13	1.0		
114	met09_sn_	SAMPLE	271333-005	Filtrate	229348	11/20/15 18:18	1.0		4:MG=690000
115	met09_sn_	X	RINSE			11/20/15 18:26	1.0		
116	met09_sn_	SAMPLE	271333-006	Filtrate	229348	11/20/15 18:31	1.0		2:MG=810000
117	met09_sn_	X	RINSE			11/20/15 18:40	1.0		
118	met09_sn_	SAMPLE	271333-007	Filtrate	229348	11/20/15 18:45	1.0		4:MG=740000
119	met09_sn_	X	RINSE			11/20/15 18:54	1.0		

CRT 11/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 87.

Standards used: 1=S28440 2=S28094 3=S28095 4=S28096 5=S28099 6=S28098 7=S28441 8=S28103 9=S28104 10=S28097 11=S28385  
 12=S28386 13=S27470

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95466839

Date : 11/20/15  
 Sequence : MET09 11/20/15

Reference : met09\_sn\_  
 Analyzed : 11/20/15 04:44

#	Type	Sample ID	Y A
		ICAL STD	2551789
		LOWER LIMIT	765537
		UPPER LIMIT	5103578
010	ICB		2529766
011	ICSA		2157462
012	ICSAB		2179542
020	CCV		2501443
022	CCB		2560609
023	BS	QC813575	2552718
024	BSD	QC813576	2581492
025	MSS	271369-001	2339241
026	BLANK	QC813574	2603081
027	MS	QC813577	2338703
028	MSD	QC813578	2338023
029	SER	QC813579	2546862
030	PDS	QC813580	2362590
031	CCV		2543993
033	CCB		2601026
034	BLANK	QC813234	2466082
035	PDS	QC813240	2495008
036	SAMPLE	271712-001	2424725
037	SAMPLE	271712-002	2427895
038	SAMPLE	271712-003	2460085
039	SAMPLE	271531-001	2391792
041	SAMPLE	271548-001	2638134
042	SAMPLE	271549-001	2677824
043	MSS	271369-001	2390981
044	CCV		2574857
046	CCB		2609657
048	SAMPLE	271626-019	2571652
049	SAMPLE	271626-020	2585874
050	SAMPLE	271626-019	2587202
051	SAMPLE	271626-020	2611015
052	SAMPLE	271800-001	2120653
053	MSS	271668-001	2709101
054	SAMPLE	271668-002	2481350
055	SAMPLE	271729-001	2406821
056	CCV		2541917
057	CCB		2679556
058	SAMPLE	271626-019	2461813
059	SAMPLE	271626-020	2521878
060	SAMPLE	271800-001	2478916
061	SAMPLE	271678-001	2558977
062	SAMPLE	271678-002	2504429
063	SAMPLE	271678-003	2450371
064	SAMPLE	271678-004	2475777
065	SAMPLE	271678-005	2519713
066	SAMPLE	271679-001	2546723
067	SAMPLE	271679-002	2503618
068	CCV		2577363
070	CCB		2683568

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95466839

Date : 11/20/15  
 Sequence : MET09 11/20/15

Reference : met09\_sn\_  
 Analyzed : 11/20/15 04:44

#	Type	Sample ID	Y A
071	SAMPLE	271679-003	2550430
072	SAMPLE	271679-004	2563288
073	SAMPLE	271679-005	2487202
074	SAMPLE	271679-006	2457930
077	SAMPLE	271369-002	2252177
078	SAMPLE	271369-003	2360759
079	SAMPLE	271604-001	2522233
080	SAMPLE	271604-002	2503700
081	CCV		2596113
082	CCB		2676417
083	SAMPLE	271369-004	2463496
084	SAMPLE	271604-002	2540756
085	SAMPLE	271465-002	9684264 *
086	CCV		2493630
087	CCB		2612095
088	SAMPLE	271465-002	2625391
090	MSS	271522-001	2663942
091	MS	QC812975	2408180
092	MSD	QC812976	2453099
093	SAMPLE	271645-001	2484558
094	SAMPLE	271333-002	2631338
095	BLANK	QC812414	2683977
096	BS	QC812415	2604674
097	BSD	QC812416	2604893
098	CCV		2537785
099	CCB		2623564
100	CCB		2634302
101	MSS	271333-004	2069200
103	MS	QC812417	1906373
105	MSD	QC812418	2044285
107	SAMPLE	271333-002	2335763
109	SAMPLE	271333-003	2350404
111	CCV		2510689
112	CCB		2610163
113	CCB		10172985 *
114	SAMPLE	271333-005	1897294
116	SAMPLE	271333-006	1768904
118	SAMPLE	271333-007	1855774



CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 METALS Water: EPA 6010B

Inst : MET09  
 Calnum : 95466839001  
 Units : ug/L

Date : 20-NOV-2015 04:39  
 X Axis : R

Reviewer : ---

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_95466839002		L1	20-NOV-2015 04:44	S28440
L2	met09_sn_95466839003		L2	20-NOV-2015 04:49	S28094
L3	met09_sn_95466839004		L3	20-NOV-2015 04:53	S28095
L4	met09_sn_95466839005		L4	20-NOV-2015 04:57	S28096
L5	met09_sn_95466839006		L5	20-NOV-2015 05:04	S28099

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	46.800	48.630	48.870	49.154		LOR0	0.00000	0.02035		48.363	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Lead	A	5.0000	-5	100.00	-1	1000.0	-1	10000	0		

JDB 11/20/15 [Potassium R]: Do not report K from this seq

Instrument amount = a0 + response \* a1 + response^2 \* a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 METALS Water  
EPA 6010B

Inst : MET09

Calnum : 95466839001

Cal Date : 20-NOV-2015

ICV 95466839007 (20-NOV-2015) stds: S28098

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Lead	A	5000	4806	ug/L	-4	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Water  
EPA 6010B

Inst : MET09 IDF : 1.0  
Seqnum : 95466839010 File : met09\_sn\_ Time : 20-NOV-2015 05:34  
Cal : 95466839001 Caldate : 20-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2529766	-0.86

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 271668 METALS Water  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839011      File : met09\_sn\_      IDF : 1.0  
 Cal : 95466839001      Caldate : 20-NOV-2015      Time : 20-NOV-2015 05:40  
 Standards: S28103

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	[-0.5498]	5.000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	18650	ug/L	93
Copper	A	20000	21050	ug/L	105
Manganese	A	20000	18260	ug/L	91
Nickel	A	20000	16960	ug/L	85
Vanadium	A	20000	19860	ug/L	99
Aluminum	R	500000	481800	ug/L	96
Calcium	R	500000	447900	ug/L	90
Iron	R	200000	176900	ug/L	88
Magnesium	R	500000	453000	ug/L	91
Titanium	R	20000	21450	ug/L	107

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2157462	-15.45

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 271668 METALS Water  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839012  
 Cal : 95466839001  
 Standards: S28104

File : met09\_sn\_  
 Caldate : 20-NOV-2015

IDF : 1.0  
 Time : 20-NOV-2015 06:02

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	1000	871.0	ug/L	-13	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2179542	-14.59

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 METALS Water  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839020  
 Cal : 95466839001  
 Standards: S28097

IDF : 1.0  
 Time : 20-NOV-2015 08:36

File : met09\_sn\_  
 Caldate : 20-NOV-2015

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	48.363	47.526	5000	4835	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2501443	-1.97

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Water  
EPA 6010B

Inst : MET09 IDF : 1.0  
 Seqnum : 95466839022 File : met09\_sn\_ Time : 20-NOV-2015 08:47  
 Cal : 95466839001 Caldate : 20-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2560609	0.35

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 METALS Water  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839031  
 Cal : 95466839001  
 Standards: S28097

IDF : 1.0  
 Time : 20-NOV-2015 09:28

File : met09\_sn\_  
 Caldate : 20-NOV-2015

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	48.363	46.638	5000	4744	ug/L	-5	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2543993	-0.31



CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Water  
EPA 6010B

Inst : MET09  
Seqnum : 95466839033  
Cal : 95466839001  
File : met09\_sn\_  
Caldate : 20-NOV-2015  
IDF : 1.0  
Time : 20-NOV-2015 09:39

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2601026	1.93

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85471580

Instrument : MET08  
 Method : EPA 6010B

Begun : 11/23/15 11:40  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met08_sn_6010	ICALBLK				11/23/15 11:40	1.0		
002	met08_sn_6010	ICAL	L1			11/23/15 11:44	1.0	1	
003	met08_sn_6010	ICAL	L2			11/23/15 11:47	1.0	2	
004	met08_sn_6010	ICAL	L3			11/23/15 11:49	1.0	3	
005	met08_sn_6010	ICAL	L4			11/23/15 11:52	1.0	4	
006	met08_sn_6010	ICAL	L5			11/23/15 11:55	1.0	5	
007	met08_sn_6010	ICV				11/23/15 11:57	1.0	6	
008	met08_sn_6010	X				11/23/15 12:13	1.0	6	
009	met08_sn_6010	CRI				11/23/15 12:19	1.0	7	
010	met08_sn_6010	ICB				11/23/15 12:26	1.0		
011	met08_sn_6010	ICSA				11/23/15 12:30	1.0	8	10:AL=550000
012	met08_sn_6010	ICSAB				11/23/15 13:14	1.0	9	
013	met08_sn_6010	SAMPLE	271668-003	Water	229631	11/23/15 13:23	1.0		
014	met08_sn_6010	SAMPLE	271668-004	Water	229631	11/23/15 13:27	1.0		1:NA=260000
015	met08_sn_6010	SAMPLE	271760-001	Water	229631	11/23/15 13:30	1.0		
016	met08_sn_6010	X	RINSE			11/23/15 13:33	1.0		
017	met08_sn_6010	SAMPLE	271340-003	Filtrate	229652	11/23/15 13:37	1.0		3:CA=240000
018	met08_sn_6010	SAMPLE	271340-010	Filtrate	229652	11/23/15 13:40	1.0		3:CA=280000
019	met08_sn_6010	SAMPLE	271340-012	Filtrate	229652	11/23/15 13:43	1.0		3:CA=250000
020	met08_sn_6010	X	RINSE			11/23/15 13:47	1.0		
021	met08_sn_6010	SAMPLE	271631-001	Filtrate	229652	11/23/15 13:50	1.0		2:NA=280000
022	met08_sn_6010	SAMPLE	271631-002	Filtrate	229652	11/23/15 13:54	1.0		1:NA=210000
023	met08_sn_6010	CCV				11/23/15 13:57	1.0	10	
024	met08_sn_6010	CCB				11/23/15 14:00	1.0		
025	met08_sn_6010	SAMPLE	271631-003	Filtrate	229652	11/23/15 14:03	1.0		1:NA=110000
026	met08_sn_6010	SAMPLE	271631-004	Filtrate	229652	11/23/15 14:07	1.0		2:NA=190000
027	met08_sn_6010	SAMPLE	271631-005	Filtrate	229652	11/23/15 14:10	100.0		
028	met08_sn_6010	SAMPLE	271631-006	Filtrate	229652	11/23/15 14:13	100.0		
029	met08_sn_6010	X	RINSE			11/23/15 14:17	1.0		
030	met08_sn_6010	SAMPLE	271795-025	Soil	229684	11/23/15 14:20	1.0		4:FE=430000
031	met08_sn_6010	SAMPLE	271795-026	Soil	229684	11/23/15 14:22	1.0		4:FE=360000
032	met08_sn_6010	SAMPLE	271795-027	Soil	229684	11/23/15 14:24	1.0		5:FE=420000
033	met08_sn_6010	SAMPLE	271795-028	Soil	229684	11/23/15 14:26	1.0		4:FE=380000
034	met08_sn_6010	SAMPLE	271795-029	Soil	229684	11/23/15 14:29	1.0		4:FE=450000
035	met08_sn_6010	CCV				11/23/15 14:31	1.0	10	
036	met08_sn_6010	CCB				11/23/15 14:34	1.0		
037	met08_sn_6010	SAMPLE	271795-030	Soil	229684	11/23/15 14:37	1.0		2:FE=240000
038	met08_sn_6010	X	RINSE			11/23/15 14:40	1.0		
039	met08_sn_6010	BLANK	QC813477	Wipe	229608	11/23/15 14:43	1.0		
040	met08_sn_6010	BS	QC813478	Wipe	229608	11/23/15 14:47	1.0		6:FE=110000
041	met08_sn_6010	BSD	QC813479	Wipe	229608	11/23/15 14:51	1.0		6:FE=110000
042	met08_sn_6010	SAMPLE	271658-001	Wipe	229608	11/23/15 14:55	1.0		
043	met08_sn_6010	SAMPLE	271658-002	Wipe	229608	11/23/15 14:57	1.0		
044	met08_sn_6010	SAMPLE	271658-003	Wipe	229608	11/23/15 14:59	1.0		
045	met08_sn_6010	SAMPLE	271658-004	Wipe	229608	11/23/15 15:02	1.0		
046	met08_sn_6010	SAMPLE	271658-005	Wipe	229608	11/23/15 15:04	1.0		
047	met08_sn_6010	CCV				11/23/15 15:06	1.0	10	
048	met08_sn_6010	CCB				11/23/15 15:10	1.0		
049	met08_sn_6010	SAMPLE	271658-006	Wipe	229608	11/23/15 15:18	1.0		
050	met08_sn_6010	SAMPLE	271658-007	Wipe	229608	11/23/15 15:21	1.0		
051	met08_sn_6010	X	RINSE			11/23/15 15:25	1.0		
052	met08_sn_6010	BLANK	QC813880	Filtrate	229695	11/23/15 15:28	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85471580

Instrument : MET08  
 Method : EPA 6010B

Begun : 11/23/15 11:40  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
053	met08_sn_6010	BS	QC813881	Filtrate	229695	11/23/15 15:32	1.0	
054	met08_sn_6010	BSD	QC813882	Filtrate	229695	11/23/15 15:34	1.0	
055	met08_sn_6010	MSS	271369-001	Filtrate	229695	11/23/15 15:36	1.0	2:CA=210000
056	met08_sn_6010	MS	QC813883	Filtrate	229695	11/23/15 15:40	1.0	1:CA=220000
057	met08_sn_6010	MSD	QC813884	Filtrate	229695	11/23/15 15:42	1.0	1:CA=220000
058	met08_sn_6010	SER	QC813885	Filtrate	229695	11/23/15 15:44	5.0	
059	met08_sn_6010	XCCV				11/23/15 15:48	1.0	10
060	met08_sn_6010	CCV				11/23/15 15:54	1.0	10
061	met08_sn_6010	CCB				11/23/15 15:57	1.0	
062	met08_sn_6010	SAMPLE	271333-007	Filtrate	229348	11/23/15 16:01	1.0	3:MG=850000
063	met08_sn_6010	X	RINSE			11/23/15 16:05	1.0	
064	met08_sn_6010	SAMPLE	271333-006	Filtrate	229348	11/23/15 16:08	1.0	2:MG=930000
065	met08_sn_6010	X	RINSE			11/23/15 16:12	1.0	
066	met08_sn_6010	PDS	QC813886	Filtrate	229695	11/23/15 16:16	1.0	11 12 13
067	met08_sn_6010	SAMPLE	271303-001	Filtrate	229695	11/23/15 16:18	1.0	2:MG=620000
068	met08_sn_6010	X	RINSE			11/23/15 16:23	1.0	
069	met08_sn_6010	SAMPLE	271303-002	Filtrate	229695	11/23/15 16:26	1.0	3:MG=990000
070	met08_sn_6010	X	RINSE			11/23/15 16:30	1.0	
071	met08_sn_6010	X	RINSE			11/23/15 16:34	1.0	
072	met08_sn_6010	CCV				11/23/15 16:37	1.0	10
073	met08_sn_6010	CCB				11/23/15 16:40	1.0	
074	met08_sn_6010	CCV				11/23/15 16:46	1.0	10
075	met08_sn_6010	CCB				11/23/15 16:49	1.0	

JDB 11/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs ??? through ???.

NCD 11/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 61.

Standards used: 1=S28440 2=S28094 3=S28095 4=S28096 5=S28099 6=S28098 7=S28441 8=S28103 9=S28104 10=S28097 11=S28385  
 12=S28386 13=S27470

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85471580

Date : 11/23/15  
 Sequence : MET08 11/23/15

Reference : met08\_sn\_6010  
 Analyzed : 11/23/15 11:44

#	Type	Sample ID	Y A
		ICAL STD	15578159
		LOWER LIMIT	4673448
		UPPER LIMIT	31156318
010	ICB		15631192
011	ICSA		13443947
012	ICSAB		13453469
013	SAMPLE	271668-003	14533512
014	SAMPLE	271668-004	14259209
017	SAMPLE	271340-003	14322938
018	SAMPLE	271340-010	14128874
019	SAMPLE	271340-012	14174817
021	SAMPLE	271631-001	14076054
022	SAMPLE	271631-002	14569834
023	CCV		15036718
024	CCB		15668298
025	SAMPLE	271631-003	14816101
026	SAMPLE	271631-004	13758590
027	SAMPLE	271631-005	15627040
028	SAMPLE	271631-006	15671053
030	SAMPLE	271795-025	14356681
031	SAMPLE	271795-026	14384484
032	SAMPLE	271795-027	14521646
033	SAMPLE	271795-028	14720236
034	SAMPLE	271795-029	14281246
035	CCV		15172065
036	CCB		15566329
037	SAMPLE	271795-030	14952650
039	BLANK	QC813477	15998758
040	BS	QC813478	14519613
041	BSD	QC813479	14435913
042	SAMPLE	271658-001	15168946
043	SAMPLE	271658-002	14919089
044	SAMPLE	271658-003	15146381
045	SAMPLE	271658-004	15105757
046	SAMPLE	271658-005	15204636
047	CCV		15070604
048	CCB		15761780
049	SAMPLE	271658-006	15223589
050	SAMPLE	271658-007	15113420
052	BLANK	QC813880	15713327
053	BS	QC813881	15232002
054	BSD	QC813882	15414422
055	MSS	271369-001	14016960
056	MS	QC813883	14084161
057	MSD	QC813884	14073364
058	SER	QC813885	14847549
060	CCV		14727576
061	CCB		15451312
062	SAMPLE	271333-007	11045275
064	SAMPLE	271333-006	10734375
066	PDS	QC813886	13859515

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85471580

Date : 11/23/15  
 Sequence : MET08 11/23/15

Reference : met08\_sn\_6010  
 Analyzed : 11/23/15 11:44

#	Type	Sample ID	Y A
067	SAMPLE	271303-001	11451595
069	SAMPLE	271303-002	11097094
072	CCV		14395599
073	CCB		15159997
074	CCV		15141925
075	CCB		15186171

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 METALS Water: EPA 6010B

Inst : MET08  
 Calnum : 85471580001  
 Units : ug/L

Date : 23-NOV-2015 11:40  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met08_sn_6010	85471580002	L1	23-NOV-2015 11:44	S28440
L2	met08_sn_6010	85471580003	L2	23-NOV-2015 11:47	S28094
L3	met08_sn_6010	85471580004	L3	23-NOV-2015 11:49	S28095
L4	met08_sn_6010	85471580005	L4	23-NOV-2015 11:52	S28096
L5	met08_sn_6010	85471580006	L5	23-NOV-2015 11:55	S28099

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	24.040	27.147	26.570	27.855		LOR0	0.00000	0.03592		26.403	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Lead	A	5.0000	-14	100.00	-2	1000.0	-5	10000	0		

Instrument amount = a0 + response \* a1 + response^2 \* a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 METALS Water  
EPA 6010B

Inst : MET08

Calnum : 85471580001

Cal Date : 23-NOV-2015

ICV 85471580007 (23-NOV-2015) stds: S28098

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Lead	A	5000	4883	ug/L	-2	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Water  
EPA 6010B

Inst : MET08  
Seqnum : 85471580010  
Cal : 85471580001  
File : met08\_sn\_6010  
Caldate : 23-NOV-2015  
IDF : 1.0  
Time : 23-NOV-2015 12:26

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	4.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	15578159	15631192	0.34



CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 271668 METALS Water  
EPA 6010B

Inst : MET08  
 Seqnum : 85471580011 File : met08\_sn\_6010  
 Cal : 85471580001 Caldate : 23-NOV-2015  
 Standards: S28103

IDF : 1.0  
 Time : 23-NOV-2015 12:30

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	[-0.5592]	5.000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	19810	ug/L	99
Copper	A	20000	21370	ug/L	107
Manganese	A	20000	18960	ug/L	95
Nickel	A	20000	18380	ug/L	92
Vanadium	A	20000	20690	ug/L	103
Aluminum	R	500000	551200	ug/L	110
Calcium	R	500000	524300	ug/L	105
Iron	R	200000	206100	ug/L	103
Magnesium	R	500000	538900	ug/L	108
Titanium	R	20000	21880	ug/L	109

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	15578159	13443947	-13.70

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 271668 METALS Water  
EPA 6010B

Inst : MET08  
 Seqnum : 85471580012  
 Cal : 85471580001  
 Standards: S28104  
 File : met08\_sn\_6010  
 Caldate : 23-NOV-2015  
 IDF : 1.0  
 Time : 23-NOV-2015 13:14

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	1000	844.6	ug/L	-16	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	15578159	13453469	-13.64

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 METALS Water  
EPA 6010B

Inst : MET08 IDF : 1.0  
 Seqnum : 85471580023 File : met08\_sn\_6010 Time : 23-NOV-2015 13:57  
 Cal : 85471580001 Caldate : 23-NOV-2015  
 Standards: S28097

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	26.403	26.073	5000	4682	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	15578159	15036718	-3.48

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Water  
EPA 6010B

Inst : MET08 IDF : 1.0  
 Seqnum : 85471580024 File : met08\_sn\_6010 Time : 23-NOV-2015 14:00  
 Cal : 85471580001 Caldate : 23-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	4.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	15578159	15668298	0.58

SAMPLE PREPARATION SUMMARY

Batch # : 229631  
 Started By : RFC  
 Method : 3010A  
 Spike #1 ID : S28385

Prep Date : 19-NOV-2015 11:15  
 Spike #2 ID : S28386

Analysis : ICP  
 Finished By : RFC  
 Units : mL  
 Spike #3 ID : S27470

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
271369-001		Water	50	50	1	1.0						6010	
271369-002		Water	50	50	1	1.0						6010	
271369-003		Water	50	50	1	1.0						6010	
271369-004		Water	50	50	1	1.0						6010	
271369-005		Water	50	50	1	1.0						6010	
271369-006		Water	50	50	1	1.0						6010	
271369-007		Water	50	50	1	1.0						6010	
271369-008		Water	50	50	1	1.0						6010	
271369-009		Water	50	50	1	1.0						6010	
271369-010		Water	50	50	1	1.0						6010	
271369-011		Water	50	50	1	1.0						6010	
271369-012		Water	50	50	1	1.0						6010	
271668-003		Water	50	50	1	1.0						6010	
271668-004		Water	50	50	1	1.0						6010	
271760-001		Water	50	50	1	1.0						HARDNESS	
271800-001		Water	50	50	1	1.0						6010	Prepped 19-NOV-2015 17:35
QC813574	BLANK	Water	50	50	1	1.0							
QC813575	BS	Water	50	50	1	1.0		.5	.5	.5			
QC813576	BSD	Water	50	50	1	1.0		.5	.5	.5			
QC813577	MS	Water	50	50	1	1.0		.5	.5	.5			
QC813578	MSD	Water	50	50	1	1.0		.5	.5	.5			
QC813579	SER	Water	50	50	1	1.0							
QC813580	PDS	Water	50	50	1	1.0							

Analyst: CRT

Date: 11/20/15

Reviewer: PRW

Date: 11/20/15

Water Digestion for ICP

Curtis & Tompkins, Ltd.

LIMS Batch #: 229631  
 Digested by: RFC  
 Date Digested: 11/19/15

Digestion Method  EPA 3010a for ICP  
 EPA 200.7  
 BK3746 Page 27

Lvl	Sample #	Container ID	Sample (mL)	Volume	Final Volume (mL)	Filtered? (Y/N)	ID	Comments
	BLANK		50	50	50	Y	QC813574	
	BS		50	50	50	Y		
	BSD		50	50	50	Y		
	MS		50	50	50	Y		
	MSD		50	50	50	Y		
III	271269-001	J	50	50	50	Y		MSS
	-002		50	50	50	Y		
	-003		50	50	50	Y		
	-004		50	50	50	Y		
	-005		50	50	50	Y		
	-006		50	50	50	Y		
	-007		50	50	50	Y		
	-008		50	50	50	Y		
	-009		50	50	50	Y		
	-010		50	50	50	Y		
	-011		50	50	50	Y		
	-012		50	50	50	Y		
	271668-003	G	50	50	50	Y		
	-004		50	50	50	Y		
	271760-001	D	50	50	50	Y		
20	271800-001	G	50	50	50	Y		
	IL		50	50	50	Y		
	ADDED @ 17:35 11/19/15							

0.50 mL of spike solution (Std1) was added to all spikes  
 0.50 mL of spike solution (Std2) was added to all spikes  
 0.50 mL of spike solution (Std3) was added to all spikes

Digestion Temperature (°C), Block and Probe Location  
 Digestion begun at (time) 11:15  
 Digestion ended at (time) 18:30

Conc. HNO3 or 1:1 HNO3  
 Conc. HCl or 1:1 HCl

Reagent ID or LIMS # SCP228141 Initials / Date RFC 11/19/15

Digestion tubes, lot # S28385 S28386 S27470 A20

Continued from page 2

Prep Chemist / Date 11/19/15

Laboratory Job Number 271668

ANALYTICAL REPORT

Metals

Matrix: Soil

Lead			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3050B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	229593
Matrix:	Soil	Sampled:	11/13/15
Units:	mg/Kg	Received:	11/16/15
Basis:	dry	Prepared:	11/18/15
Diln Fac:	1.000		

Field ID	Type	Lab ID	Result	RL	Moisture	Analyzed
COMP-1-NS	SAMPLE	271668-001	1.6	0.29	12%	11/20/15
COMP-2-NS	SAMPLE	271668-002	2.1	0.27	12%	11/20/15
	BLANK	QC813406	ND	0.25		11/19/15

ND= Not Detected  
 RL= Reporting Limit



**Batch QC Report**

<b>Lead</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3050B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	5.000
Field ID:	COMP-1-NS	Batch#:	229593
MSS Lab ID:	271668-001	Sampled:	11/13/15
Matrix:	Soil	Received:	11/16/15
Units:	mg/Kg	Prepared:	11/18/15
Basis:	dry	Analyzed:	11/19/15

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
BS	QC813407		50.00	47.00	94	80-120			
BSD	QC813408		50.00	45.45	91	80-120		3	20
MS	QC813409	1.643	56.82	52.87	90	53-125	12%		
MSD	QC813410		54.63	52.34	93	53-125	12%	3	42

RPD= Relative Percent Difference

**Batch QC Report**

<b>Lead</b>			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3050B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 6010B
Analyte:	Lead	Basis:	dry
Field ID:	COMP-1-NS	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	229593
MSS Lab ID:	271668-001	Sampled:	11/13/15
Lab ID:	QC813411	Received:	11/16/15
Matrix:	Soil	Analyzed:	11/19/15
Units:	mg/Kg		

<b>MSS Result</b>	<b>MSS RL</b>	<b>Result</b>	<b>RL</b>	<b>Moisture %</b>	<b>Diff</b>	<b>Lim</b>
1.643	0.2929	1.464 J	1.464	12%	NC	10

J= Estimated value  
 NC= Not Calculated  
 RL= Reporting Limit

## Batch QC Report

Lead			
Lab #:	271668	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3050B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 6010B
Analyte:	Lead	Basis:	dry
Field ID:	COMP-1-NS	Diln Fac:	1.000
Type:	Post Digest Spike	Batch#:	229593
MSS Lab ID:	271668-001	Sampled:	11/13/15
Lab ID:	QC813412	Received:	11/16/15
Matrix:	Soil	Analyzed:	11/19/15
Units:	mg/Kg		

MSS Result	Spiked	Result	%REC	Limits	Moisture
1.643	5.858	6.668	86	75-125	12%

REPORTING SUMMARY FOR 271668 METALS Soil  
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	P B	
271668-001	MET09	11/19/15 21:43	1.0		
271668-001	MET09	11/20/15 11:57	1.0	+	
271668-002	MET08	11/20/15 10:07	1.0		
271668-002	MET09	11/20/15 12:04	1.0	+	
QC813406	MET09	11/19/15 20:37	1.0	+	
QC813407	MET09	11/19/15 21:34	5.0	+	
QC813408	MET09	11/19/15 21:39	5.0	+	
QC813409	MET09	11/19/15 21:49	5.0	+	
QC813410	MET09	11/19/15 21:57	5.0	+	
QC813411	MET09	11/19/15 22:05	5.0	+	
QC813412	MET09	11/19/15 22:09	1.0	+	

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95465436

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/19/15 05:16  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				11/19/15 05:16	1.0		
002	met09_sn_	ICAL	L1			11/19/15 05:21	1.0	1	
003	met09_sn_	ICAL	L2			11/19/15 05:27	1.0	2	
004	met09_sn_	ICAL	L3			11/19/15 05:31	1.0	3	
005	met09_sn_	ICAL	L4			11/19/15 05:35	1.0	4	
006	met09_sn_	ICAL	L5			11/19/15 05:42	1.0	5	
007	met09_sn_	XICV				11/19/15 05:48	1.0	6	
008	met09_sn_	ICV				11/19/15 06:00	1.0	6	
009	met09_sn_	XCRI				11/19/15 06:08	1.0	7	
010	met09_sn_	CRI				11/19/15 06:14	1.0	7	
011	met09_sn_	ICB				11/19/15 06:19	1.0		
012	met09_sn_	ICSA				11/19/15 06:26	1.0	8	10:AL=490000
013	met09_sn_	ICSAB				11/19/15 08:42	1.0	9	5:AL=490000
014	met09_sn_	BLANK	QC813487	Water	229610	11/19/15 09:02	1.0		
015	met09_sn_	BS	QC813488	Water	229610	11/19/15 09:07	1.0		
016	met09_sn_	BSD	QC813489	Water	229610	11/19/15 09:12	1.0		
017	met09_sn_	MSS	271752-001	Water	229610	11/19/15 09:16	1.0		2:NA=140000
018	met09_sn_	MS	QC813490	Water	229610	11/19/15 09:21	1.0		1:NA=150000
019	met09_sn_	MSD	QC813491	Water	229610	11/19/15 09:25	1.0		1:NA=150000
020	met09_sn_	SER	QC813492	Water	229610	11/19/15 09:29	5.0		
021	met09_sn_	PDS	QC813493	Water	229610	11/19/15 09:34	1.0	10 11 12	1:NA=140000
022	met09_sn_	SAMPLE	271768-002	Water	229610	11/19/15 09:38	1.0		1:K=320000
023	met09_sn_	SAMPLE	271770-001	Water	229610	11/19/15 09:46	1.0		1:SR=1500
024	met09_sn_	CCV				11/19/15 09:51	1.0	13	
025	met09_sn_	CCB				11/19/15 09:58	1.0		
026	met09_sn_	SAMPLE	271727-001	Soil	229558	11/19/15 10:03	1.0		6:CA=750000
027	met09_sn_	SAMPLE	271727-002	Soil	229558	11/19/15 10:10	1.0		6:FE=590000
028	met09_sn_	SAMPLE	271727-003	Soil	229558	11/19/15 10:17	1.0		6:CA=470000
029	met09_sn_	SAMPLE	271554-001	Soil	229501	11/19/15 10:28	1.0		3:FE=270000
030	met09_sn_	SAMPLE	271554-002	Soil	229501	11/19/15 10:34	1.0		3:FE=270000
031	met09_sn_	SAMPLE	271554-001	Soil	229501	11/19/15 10:41	1.0		3:FE=260000
032	met09_sn_	SAMPLE	271554-002	Soil	229501	11/19/15 10:48	1.0		3:FE=270000
033	met09_sn_	X	RINSE			11/19/15 10:55	1.0		
034	met09_sn_	BLANK	QC813462	TCLP Leachate	229604	11/19/15 11:00	10.0		1:NA=130000
035	met09_sn_	XCCV				11/19/15 11:05	1.0	13	
036	met09_sn_	CCV				11/19/15 11:11	1.0	13	
037	met09_sn_	CCB				11/19/15 11:18	1.0		
038	met09_sn_	BS	QC813463	TCLP Leachate	229604	11/19/15 11:23	1.0		
039	met09_sn_	BSD	QC813464	TCLP Leachate	229604	11/19/15 11:27	1.0		
040	met09_sn_	SAMPLE	271553-001	TCLP Leachate	229604	11/19/15 11:31	10.0		1:NA=130000
041	met09_sn_	X	RINSE			11/19/15 11:37	1.0		
042	met09_sn_	BLANK	QC813469	WET Leachate	229605	11/19/15 11:42	10.0		1:NA=110000
043	met09_sn_	BS	QC813470	WET Leachate	229605	11/19/15 11:47	1.0		
044	met09_sn_	BSD	QC813471	WET Leachate	229605	11/19/15 11:51	1.0		
045	met09_sn_	MSS	271604-001	WET Leachate	229605	11/19/15 11:55	10.0		1:NA=110000
046	met09_sn_	MS	QC813472	WET Leachate	229605	11/19/15 11:59	10.0		
047	met09_sn_	MSD	QC813473	WET Leachate	229605	11/19/15 12:03	10.0		
048	met09_sn_	CCV				11/19/15 12:07	1.0	13	
049	met09_sn_	CCB				11/19/15 12:14	1.0		
050	met09_sn_	SAMPLE	271643-001	WET Leachate	229605	11/19/15 12:19	10.0		1:NA=120000
051	met09_sn_	SAMPLE	271655-001	WET Leachate	229605	11/19/15 12:24	10.0		1:NA=110000
052	met09_sn_	SAMPLE	271655-002	WET Leachate	229605	11/19/15 12:28	10.0		1:NA=120000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95465436

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/19/15 05:16  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	SAMPLE	271655-003	WET Leachate	229605	11/19/15 12:32	10.0		1:NA=130000
054	met09_sn_	SAMPLE	271655-004	WET Leachate	229605	11/19/15 12:36	10.0		1:NA=120000
055	met09_sn_	SAMPLE	271655-005	WET Leachate	229605	11/19/15 12:40	10.0		1:NA=130000
056	met09_sn_	SAMPLE	271655-006	WET Leachate	229605	11/19/15 12:45	10.0		1:NA=120000
057	met09_sn_	SAMPLE	271655-007	WET Leachate	229605	11/19/15 12:49	10.0		1:NA=120000
058	met09_sn_	SAMPLE	271663-001	WET Leachate	229605	11/19/15 12:53	10.0		1:NA=110000
059	met09_sn_	SAMPLE	271663-002	WET Leachate	229605	11/19/15 12:57	10.0		
060	met09_sn_	CCV				11/19/15 13:01	1.0	13	
061	met09_sn_	CCB				11/19/15 13:08	1.0		
062	met09_sn_	SAMPLE	271786-001	WET Leachate	229605	11/19/15 13:13	10.0		
063	met09_sn_	X	RINSE			11/19/15 13:17	1.0		
064	met09_sn_	BLANK	QC813413	Soil	229595	11/19/15 13:22	1.0		
065	met09_sn_	BS	QC813414	Soil	229595	11/19/15 13:27	10.0		
066	met09_sn_	BSD	QC813415	Soil	229595	11/19/15 13:32	10.0		
067	met09_sn_	MSS	271382-016	Soil	229595	11/19/15 13:36	1.0		5:CA=2500000
068	met09_sn_	MS	QC813416	Soil	229595	11/19/15 13:43	10.0		1:CA=530000
069	met09_sn_	MSD	QC813417	Soil	229595	11/19/15 13:51	10.0		1:CA=470000
070	met09_sn_	CCV				11/19/15 13:58	1.0	13	
071	met09_sn_	CCB				11/19/15 14:05	1.0		
072	met09_sn_	BLANK	QC812966	Water	229485	11/19/15 14:27	1.0		
073	met09_sn_	BS	QC812967	Water	229485	11/19/15 14:32	1.0		
074	met09_sn_	BSD	QC812968	Water	229485	11/19/15 14:36	1.0		
075	met09_sn_	MSS	271382-013	Water	229485	11/19/15 14:40	1.0		3:MG=190000
076	met09_sn_	X	RINSE			11/19/15 14:49	1.0		
077	met09_sn_	MSS	271382-013	Water	229485	11/19/15 14:54	100.0		
078	met09_sn_	MS	QC812969	Water	229485	11/19/15 14:59	1.0		3:MG=210000
079	met09_sn_	MSD	QC812970	Water	229485	11/19/15 15:07	1.0		3:MG=210000
080	met09_sn_	SAMPLE	271414-001	Water	229485	11/19/15 15:14	1.0		2:CA=530000
081	met09_sn_	SAMPLE	271414-002	Water	229485	11/19/15 15:19	1.0		
082	met09_sn_	CCV				11/19/15 15:23	1.0	13	
083	met09_sn_	CCB				11/19/15 15:30	1.0		
084	met09_sn_	SAMPLE	271665-001	WET Leachate	229605	11/19/15 15:35	10.0		
085	met09_sn_	SAMPLE	271558-001	Water	229485	11/19/15 15:39	1.0		5:MG=860000
086	met09_sn_	SAMPLE	271579-002	Water	229485	11/19/15 15:47	1.0		
087	met09_sn_	SAMPLE	271597-001	Water	229485	11/19/15 15:51	1.0		
088	met09_sn_	SAMPLE	271605-001	Water	229485	11/19/15 15:55	1.0		
089	met09_sn_	SAMPLE	271605-002	Water	229485	11/19/15 16:00	1.0		
090	met09_sn_	SAMPLE	271605-003	Water	229485	11/19/15 16:05	1.0		
091	met09_sn_	X	RINSE			11/19/15 16:10	1.0		
092	met09_sn_	SAMPLE	271417-003	Water	229382	11/19/15 16:15	1.0		
093	met09_sn_	SAMPLE	271417-004	Water	229382	11/19/15 16:19	1.0		
094	met09_sn_	CCV				11/19/15 16:24	1.0	13	
095	met09_sn_	CCB				11/19/15 16:30	1.0		
096	met09_sn_	CCB				11/19/15 16:34	1.0		
097	met09_sn_	SAMPLE	271417-006	Water	229382	11/19/15 16:40	1.0		
098	met09_sn_	SAMPLE	271417-007	Water	229382	11/19/15 16:44	1.0		
099	met09_sn_	SAMPLE	271417-008	Water	229382	11/19/15 16:49	1.0		
100	met09_sn_	SAMPLE	271417-009	Water	229382	11/19/15 16:53	1.0		
101	met09_sn_	SAMPLE	271417-010	Water	229382	11/19/15 16:58	1.0		3:MG=320000
102	met09_sn_	SAMPLE	271417-011	Water	229382	11/19/15 17:06	1.0		
103	met09_sn_	SAMPLE	271417-013	Water	229382	11/19/15 17:10	1.0		
104	met09_sn_	BS	QC812973	Filtrate	229486	11/19/15 17:14	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95465436

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/19/15 05:16  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
105	met09_sn_	BSD	QC812974	Filtrate	229486	11/19/15 17:18	1.0	
106	met09_sn_	SAMPLE	271417-014	Water	229382	11/19/15 17:22	1.0	
107	met09_sn_	CCV				11/19/15 17:26	1.0	13
108	met09_sn_	CCB				11/19/15 17:33	1.0	
109	met09_sn_	X	RINSE			11/19/15 17:38	1.0	
110	met09_sn_	BLANK	QC811363	Water	229090	11/19/15 17:43	1.0	
111	met09_sn_	SAMPLE	271158-002	Water	229090	11/19/15 17:49	5.0	1:ZN=150000
112	met09_sn_	X	RINSE			11/19/15 17:57	1.0	
113	met09_sn_	SAMPLE	271158-003	Water	229090	11/19/15 18:02	5.0	1:ZN=150000
114	met09_sn_	X	RINSE			11/19/15 18:11	1.0	
115	met09_sn_	SAMPLE	271158-004	Water	229090	11/19/15 18:16	5.0	1:ZN=150000
116	met09_sn_	X	RINSE			11/19/15 18:25	1.0	
117	met09_sn_	SAMPLE	271366-001	Water	229432	11/19/15 18:30	1.0	
118	met09_sn_	X	RINSE			11/19/15 18:34	1.0	
119	met09_sn_	CCV				11/19/15 18:39	1.0	13
120	met09_sn_	CCB				11/19/15 18:46	1.0	
121	met09_sn_	CCB				11/19/15 18:50	1.0	
122	met09_sn_	SAMPLE	271492-001	Soil	229435	11/19/15 18:55	1.0	
123	met09_sn_	MSS	271465-001	Water	229383	11/19/15 19:02	1.0	
124	met09_sn_	SAMPLE	271465-002	Water	229383	11/19/15 19:07	1.0	
125	met09_sn_	SAMPLE	271465-003	Water	229383	11/19/15 19:11	1.0	
126	met09_sn_	SAMPLE	271465-004	Water	229383	11/19/15 19:16	1.0	
127	met09_sn_	SAMPLE	271465-005	Water	229383	11/19/15 19:20	1.0	
128	met09_sn_	SAMPLE	271465-006	Water	229383	11/19/15 19:24	1.0	
129	met09_sn_	SAMPLE	271465-007	Water	229383	11/19/15 19:28	1.0	
130	met09_sn_	SAMPLE	271465-008	Water	229383	11/19/15 19:32	1.0	
131	met09_sn_	SAMPLE	271465-009	Water	229383	11/19/15 19:37	1.0	
132	met09_sn_	CCV				11/19/15 19:41	1.0	13
133	met09_sn_	CCB				11/19/15 19:48	1.0	
134	met09_sn_	SAMPLE	271465-010	Water	229383	11/19/15 19:53	1.0	
135	met09_sn_	SAMPLE	271465-011	Water	229383	11/19/15 19:57	1.0	
136	met09_sn_	SAMPLE	271465-012	Water	229383	11/19/15 20:01	1.0	
137	met09_sn_	SAMPLE	271465-013	Water	229383	11/19/15 20:06	1.0	
138	met09_sn_	SAMPLE	271465-014	Water	229383	11/19/15 20:11	1.0	
139	met09_sn_	SAMPLE	271465-018	Water	229383	11/19/15 20:15	1.0	
140	met09_sn_	SAMPLE	271366-001	Water	229432	11/19/15 20:21	1.0	
141	met09_sn_	SAMPLE	271492-001	Soil	229435	11/19/15 20:25	1.0	
142	met09_sn_	X	RINSE			11/19/15 20:32	1.0	
143	met09_sn_	BLANK	QC813406	Soil	229593	11/19/15 20:37	1.0	
144	met09_sn_	CCV				11/19/15 21:22	1.0	13
145	met09_sn_	CCB				11/19/15 21:28	1.0	
146	met09_sn_	BS	QC813407	Soil	229593	11/19/15 21:34	5.0	
147	met09_sn_	BSD	QC813408	Soil	229593	11/19/15 21:39	5.0	
148	met09_sn_	MSS	271668-001	Soil	229593	11/19/15 21:43	1.0	3:FE=200000
149	met09_sn_	MS	QC813409	Soil	229593	11/19/15 21:49	5.0	
150	met09_sn_	MSD	QC813410	Soil	229593	11/19/15 21:57	5.0	
151	met09_sn_	SER	QC813411	Soil	229593	11/19/15 22:05	5.0	
152	met09_sn_	PDS	QC813412	Soil	229593	11/19/15 22:09	1.0	10 11 12 3:FE=200000
153	met09_sn_	SAMPLE	271626-007	Soil	229593	11/19/15 22:16	1.0	3:FE=430000
154	met09_sn_	SAMPLE	271626-009	Soil	229593	11/19/15 22:23	1.0	3:FE=320000
155	met09_sn_	SAMPLE	271626-011	Soil	229593	11/19/15 22:29	1.0	3:FE=230000
156	met09_sn_	CCV				11/19/15 22:36	1.0	13



CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95465436

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/19/15 05:16  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
157	met09_sn_	CCB				11/19/15 22:43	1.0	
158	met09_sn_	SAMPLE	271626-012	Soil	229593	11/19/15 22:48	1.0	2:FE=270000
159	met09_sn_	SAMPLE	271626-013	Soil	229593	11/19/15 22:55	1.0	2:FE=340000
160	met09_sn_	SAMPLE	271626-014	Soil	229593	11/19/15 23:02	1.0	5:FE=330000
161	met09_sn_	SAMPLE	271626-015	Soil	229593	11/19/15 23:08	1.0	3:FE=400000
162	met09_sn_	SAMPLE	271626-016	Soil	229593	11/19/15 23:15	1.0	4:FE=270000
163	met09_sn_	SAMPLE	271626-017	Soil	229593	11/19/15 23:22	1.0	5:FE=310000
164	met09_sn_	SAMPLE	271626-018	Soil	229593	11/19/15 23:29	1.0	3:FE=390000
165	met09_sn_	SAMPLE	271626-019	Soil	229593	11/19/15 23:36	1.0	5:FE=320000
166	met09_sn_	SAMPLE	271626-020	Soil	229593	11/19/15 23:42	1.0	5:FE=530000
167	met09_sn_	SAMPLE	271642-006	Soil	229593	11/19/15 23:49	1.0	5:FE=400000
168	met09_sn_	CCV				11/19/15 23:56	1.0	13
169	met09_sn_	CCB				11/20/15 00:03	1.0	
170	met09_sn_	SAMPLE	271729-001	Soil	229593	11/20/15 00:08	1.0	5:CA=1400000
171	met09_sn_	XSAMPLE	271729-001	Soil	229593	11/20/15 00:15	1.0	
172	met09_sn_	X	RINSE			11/20/15 00:20	1.0	
173	met09_sn_	SAMPLE	271604-001	TCLP Leachate	229551	11/20/15 00:25	10.0	1:NA=170000
174	met09_sn_	MS	QC813237	TCLP Leachate	229551	11/20/15 00:29	10.0	
175	met09_sn_	MSD	QC813238	TCLP Leachate	229551	11/20/15 00:33	10.0	
176	met09_sn_	SER	QC813239	TCLP Leachate	229551	11/20/15 00:37	50.0	
177	met09_sn_	SAMPLE	271604-002	TCLP Leachate	229551	11/20/15 00:47	10.0	1:NA=180000
178	met09_sn_	SAMPLE	271678-004	TCLP Leachate	229551	11/20/15 00:52	10.0	1:NA=170000
179	met09_sn_	CCV				11/20/15 00:56	1.0	13
180	met09_sn_	CCB				11/20/15 01:03	1.0	
181	met09_sn_	CCB				11/20/15 01:07	1.0	
182	met09_sn_	SAMPLE	271678-005	TCLP Leachate	229551	11/20/15 01:12	10.0	1:NA=180000
183	met09_sn_	SAMPLE	271679-001	TCLP Leachate	229551	11/20/15 01:16	10.0	1:NA=170000
184	met09_sn_	SAMPLE	271679-004	TCLP Leachate	229551	11/20/15 01:20	10.0	1:NA=170000
185	met09_sn_	?SAMPLE	271667-001		229551	11/20/15 01:26	10.0	
186	met09_sn_	?SAMPLE	271724-001		229551	11/20/15 01:31	10.0	
187	met09_sn_	?SAMPLE	271725-001		229551	11/20/15 01:36	10.0	
188	met09_sn_	SAMPLE	271604-002	WET Leachate	229605	11/20/15 01:41	10.0	1:NA=170000
189	met09_sn_	SAMPLE	271645-001	WET Leachate	229605	11/20/15 01:45	10.0	1:NA=170000
190	met09_sn_	SAMPLE	271384-003	Filtrate	229486	11/20/15 01:50	100.0	
191	met09_sn_	MSS	271522-001	Filtrate	229486	11/20/15 01:54	100.0	
192	met09_sn_	CCV				11/20/15 01:59	1.0	13
193	met09_sn_	CCB				11/20/15 02:06	1.0	
194	met09_sn_	MS	QC812975	Filtrate	229486	11/20/15 02:11	1.0	
195	met09_sn_	MSD	QC812976	Filtrate	229486	11/20/15 02:15	1.0	
196	met09_sn_	SAMPLE	271586-001	Filtrate	229486	11/20/15 02:19	1.0	
197	met09_sn_	SAMPLE	271586-002	Filtrate	229486	11/20/15 02:24	1.0	
198	met09_sn_	SAMPLE	271384-003	Filtrate	229486	11/20/15 02:28	1.0	4:MG=590000
199	met09_sn_	X	RINSE			11/20/15 02:36	1.0	
200	met09_sn_	X	RINSE			11/20/15 02:41	1.0	
201	met09_sn_	X	RINSE			11/20/15 02:46	1.0	
202	met09_sn_	CCV				11/20/15 02:51	1.0	13
203	met09_sn_	XCCB				11/20/15 02:57	1.0	
204	met09_sn_	CCB				11/20/15 03:01	1.0	

NCD 11/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 61.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95465436

Instrument : MET09                      Begun                      : 11/19/15 05:16  
Method       : EPA 6010B                 SOP Version       : icp metals\_rv17

CRT 11/20/15 : I verified that the vials loaded on the instrument matched the  
sequence data entry, for runs 62 through 204.

Standards used: 1=S28440 2=S28094 3=S28095 4=S28096 5=S28099 6=S28098 7=S28441 8=S28103 9=S28104 10=S28385 11=S28386  
12=S27470 13=S28097

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95465436

Date : 11/19/15  
 Sequence : MET09 11/19/15

Reference : met09\_sn\_  
 Analyzed : 11/19/15 05:21

#	Type	Sample ID	Y A
		ICAL STD	2326467
		LOWER LIMIT	697940
		UPPER LIMIT	4652935
011	ICB		2306670
012	ICSA		2035933
013	ICSAB		2005597
014	BLANK	QC813487	2439664
015	BS	QC813488	2398034
016	BSD	QC813489	2371420
017	MSS	271752-001	2225243
018	MS	QC813490	2245670
019	MSD	QC813491	2268699
020	SER	QC813492	2307713
021	PDS	QC813493	2238967
022	SAMPLE	271768-002	2236489
023	SAMPLE	271770-001	2226775
024	CCV		2362732
025	CCB		2389310
026	SAMPLE	271727-001	2309413
027	SAMPLE	271727-002	2458057
028	SAMPLE	271727-003	2361755
029	SAMPLE	271554-001	2476893
030	SAMPLE	271554-002	2467017
031	SAMPLE	271554-001	2493347
032	SAMPLE	271554-002	2447537
034	BLANK	QC813462	2291751
036	CCV		2349060
037	CCB		2481995
038	BS	QC813463	2367748
039	BSD	QC813464	2380948
040	SAMPLE	271553-001	2340253
042	BLANK	QC813469	2303111
043	BS	QC813470	2353909
044	BSD	QC813471	2421693
045	MSS	271604-001	2292983
046	MS	QC813472	2340290
047	MSD	QC813473	2315456
048	CCV		2352505
049	CCB		2418645
050	SAMPLE	271643-001	2331652
051	SAMPLE	271655-001	2381663
052	SAMPLE	271655-002	2370030
053	SAMPLE	271655-003	2357933
054	SAMPLE	271655-004	2307689
055	SAMPLE	271655-005	2336324
056	SAMPLE	271655-006	2384190
057	SAMPLE	271655-007	2377808
058	SAMPLE	271663-001	2338529
059	SAMPLE	271663-002	2407983
060	CCV		2391288
061	CCB		2480327

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95465436

Date : 11/19/15  
 Sequence : MET09 11/19/15

Reference : met09\_sn\_  
 Analyzed : 11/19/15 05:21

#	Type	Sample ID	Y A
062	SAMPLE	271786-001	2365721
064	BLANK	QC813413	2448605
065	BS	QC813414	2420250
066	BSD	QC813415	2423890
067	MSS	271382-016	2151057
068	MS	QC813416	2298299
069	MSD	QC813417	2303344
070	CCV		2429514
071	CCB		2496965
072	BLANK	QC812966	2529966
073	BS	QC812967	2467868
074	BSD	QC812968	2451851
075	MSS	271382-013	2112236
077	MSS	271382-013	2479131
078	MS	QC812969	2132915
079	MSD	QC812970	2149929
082	CCV		2452702
083	CCB		2429548
084	SAMPLE	271665-001	2311910
085	SAMPLE	271558-001	1607976
087	SAMPLE	271597-001	2453795
088	SAMPLE	271605-001	2410878
089	SAMPLE	271605-002	2406381
090	SAMPLE	271605-003	2428134
092	SAMPLE	271417-003	2485423
093	SAMPLE	271417-004	2549121
094	CCV		2466175
095	CCB		2537370
096	CCB		2513952
097	SAMPLE	271417-006	2561805
098	SAMPLE	271417-007	2548576
099	SAMPLE	271417-008	2542772
100	SAMPLE	271417-009	2578957
101	SAMPLE	271417-010	1974890
102	SAMPLE	271417-011	2522467
103	SAMPLE	271417-013	2523680
104	BS	QC812973	2470572
105	BSD	QC812974	2473646
106	SAMPLE	271417-014	2537614
107	CCV		2423321
108	CCB		2519693
110	BLANK	QC811363	2517220
111	SAMPLE	271158-002	2553652
113	SAMPLE	271158-003	2586658
115	SAMPLE	271158-004	2591637
117	SAMPLE	271366-001	2393888
119	CCV		2482518
120	CCB		2549447
121	CCB		2561253
122	SAMPLE	271492-001	2545608
123	MSS	271465-001	2603527
124	SAMPLE	271465-002	2615990

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95465436

Date : 11/19/15  
 Sequence : MET09 11/19/15

Reference : met09\_sn\_  
 Analyzed : 11/19/15 05:21

#	Type	Sample ID	Y A
125	SAMPLE	271465-003	2564632
126	SAMPLE	271465-004	2499092
127	SAMPLE	271465-005	2575188
128	SAMPLE	271465-006	2603126
129	SAMPLE	271465-007	2562378
130	SAMPLE	271465-008	2568553
131	SAMPLE	271465-009	2517729
132	CCV		2420680
133	CCB		2478954
134	SAMPLE	271465-010	2579499
135	SAMPLE	271465-011	2577846
136	SAMPLE	271465-012	2504551
137	SAMPLE	271465-013	2558234
138	SAMPLE	271465-014	2546132
139	SAMPLE	271465-018	2548695
140	SAMPLE	271366-001	2369705
141	SAMPLE	271492-001	2537713
143	BLANK	QC813406	2563858
144	CCV		2389840
145	CCB		2467352
146	BS	QC813407	2386123
147	BSD	QC813408	2408675
148	MSS	271668-001	2454036
149	MS	QC813409	2399315
150	MSD	QC813410	2405786
151	SER	QC813411	2471569
152	PDS	QC813412	2461181
153	SAMPLE	271626-007	2702743
154	SAMPLE	271626-009	2596235
155	SAMPLE	271626-011	2500399
156	CCV		2434584
157	CCB		2558703
158	SAMPLE	271626-012	2668219
159	SAMPLE	271626-013	2748884
160	SAMPLE	271626-014	2643439
161	SAMPLE	271626-015	2474089
162	SAMPLE	271626-016	2560051
163	SAMPLE	271626-017	2621521
164	SAMPLE	271626-018	2647455
165	SAMPLE	271626-019	2502831
166	SAMPLE	271626-020	2497034
167	SAMPLE	271642-006	2683178
168	CCV		2465716
169	CCB		2518993
170	SAMPLE	271729-001	2255926
173	SAMPLE	271604-001	2372339
174	MS	QC813237	2340763
175	MSD	QC813238	2411679
176	SER	QC813239	2509465
177	SAMPLE	271604-002	2422323
178	SAMPLE	271678-004	2428594
179	CCV		2425993

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95465436

Date : 11/19/15  
 Sequence : MET09 11/19/15

Reference : met09\_sn\_  
 Analyzed : 11/19/15 05:21

#	Type	Sample ID	Y A
180	CCB		2535400
181	CCB		2493058
182	SAMPLE	271678-005	2385956
183	SAMPLE	271679-001	2418721
184	SAMPLE	271679-004	2385358
188	SAMPLE	271604-002	2380347
189	SAMPLE	271645-001	2401491
190	SAMPLE	271384-003	2477048
191	MSS	271522-001	2526541
192	CCV		2438745
193	CCB		2519169
194	MS	QC812975	2303102
195	MSD	QC812976	2349168
196	SAMPLE	271586-001	2419156
197	SAMPLE	271586-002	2420848
198	SAMPLE	271384-003	1785700
202	CCV		2408812
204	CCB		2524742

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 METALS Soil: EPA 6010B

Inst : MET09  
 Calnum : 95465436001  
 Units : ug/L

Date : 19-NOV-2015 05:16  
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_95465436002		L1	19-NOV-2015 05:21	S28440
L2	met09_sn_95465436003		L2	19-NOV-2015 05:27	S28094
L3	met09_sn_95465436004		L3	19-NOV-2015 05:31	S28095
L4	met09_sn_95465436005		L4	19-NOV-2015 05:35	S28096
L5	met09_sn_95465436006		L5	19-NOV-2015 05:42	S28099

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	49.740	47.719	48.413	47.347		LOR0	0.00000	0.02112		48.305	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Lead	A	5.0000	5	100.00	1	1000.0	2	10000	0		

NCD 11/19/15 : Do not report K from this cal

Instrument amount = a0 + response \* a1 + response^2 \* a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09

Calnum : 95465436001

Cal Date : 19-NOV-2015

ICV 95465436008 (19-NOV-2015) stds: S28098

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Lead	A	5000	4828	ug/L	-3	10	



CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09 IDF : 1.0  
 Seqnum : 95465436011 File : met09\_sn\_ Time : 19-NOV-2015 06:19  
 Cal : 95465436001 Caldate : 19-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2306670	-0.85

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95465436012  
 Cal : 95465436001  
 Standards: S28103

IDF : 1.0  
 Time : 19-NOV-2015 06:26

File : met09\_sn\_  
 Caldate : 19-NOV-2015

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	[-2.543]	5.000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	18940	ug/L	95
Copper	A	20000	21300	ug/L	106
Manganese	A	20000	18660	ug/L	93
Nickel	A	20000	17190	ug/L	86
Vanadium	A	20000	19900	ug/L	100
Aluminum	R	500000	486300	ug/L	97
Calcium	R	500000	463300	ug/L	93
Iron	R	200000	182500	ug/L	91
Magnesium	R	500000	468300	ug/L	94
Titanium	R	20000	21370	ug/L	107

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2035933	-12.49

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95465436013  
 Cal : 95465436001  
 Standards: S28104

File : met09\_sn\_  
 Caldate : 19-NOV-2015

IDF : 1.0  
 Time : 19-NOV-2015 08:42

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	1000	922.4	ug/L	-8	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2005597	-13.79

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95465436132  
 Cal : 95465436001  
 Standards: S28097

IDF : 1.0  
 Time : 19-NOV-2015 19:41

File : met09\_sn\_  
 Caldate : 19-NOV-2015

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	48.305	46.632	5000	4923	ug/L	-2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2420680	4.05

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09 IDF : 1.0  
 Seqnum : 95465436133 File : met09\_sn\_ Time : 19-NOV-2015 19:48  
 Cal : 95465436001 Caldate : 19-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2478954	6.55

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95465436144  
 Cal : 95465436001  
 Standards: S28097

IDF : 1.0  
 Time : 19-NOV-2015 21:22

File : met09\_sn\_  
 Caldate : 19-NOV-2015

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	48.305	45.243	5000	4777	ug/L	-4	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2389840	2.72

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09 IDF : 1.0  
 Seqnum : 95465436145 File : met09\_sn\_ Time : 19-NOV-2015 21:28  
 Cal : 95465436001 Caldate : 19-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2467352	6.06

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95465436156  
 Cal : 95465436001  
 Standards: S28097

IDF : 1.0  
 Time : 19-NOV-2015 22:36

File : met09\_sn\_  
 Caldate : 19-NOV-2015

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	48.305	44.287	5000	4676	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2434584	4.65



CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09 IDF : 1.0  
 Seqnum : 95465436157 File : met09\_sn\_ Time : 19-NOV-2015 22:43  
 Cal : 95465436001 Caldate : 19-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2326467	2558703	9.98

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95466839

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/20/15 04:39  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				11/20/15 04:39	1.0		
002	met09_sn_	ICAL	L1			11/20/15 04:44	1.0	1	
003	met09_sn_	ICAL	L2			11/20/15 04:49	1.0	2	
004	met09_sn_	ICAL	L3			11/20/15 04:53	1.0	3	
005	met09_sn_	ICAL	L4			11/20/15 04:57	1.0	4	
006	met09_sn_	ICAL	L5			11/20/15 05:04	1.0	5	
007	met09_sn_	ICV				11/20/15 05:11	1.0	6	
008	met09_sn_	XCRI				11/20/15 05:21	1.0	7	
009	met09_sn_	CRI				11/20/15 05:30	1.0	7	
010	met09_sn_	ICB				11/20/15 05:34	1.0		
011	met09_sn_	ICSA				11/20/15 05:40	1.0	8	10:AL=480000
012	met09_sn_	ICSAB				11/20/15 06:02	1.0	9	5:AL=490000
013	met09_sn_	XBLANK	QC813574	Water	229631	11/20/15 07:55	1.0		
014	met09_sn_	XBS	QC813575	Water	229631	11/20/15 08:00	1.0		
015	met09_sn_	XBSD	QC813576	Water	229631	11/20/15 08:05	1.0		
016	met09_sn_	XMSS	271369-001	Water	229631	11/20/15 08:10	1.0		2:CA=220000
017	met09_sn_	XMS	QC813577	Water	229631	11/20/15 08:15	1.0		
018	met09_sn_	XMSD	QC813578	Water	229631	11/20/15 08:20	1.0		
019	met09_sn_	XSER	QC813579	Water	229631	11/20/15 08:26	5.0		
020	met09_sn_	CCV				11/20/15 08:36	1.0	10	
021	met09_sn_	XCCB				11/20/15 08:43	1.0		
022	met09_sn_	CCB				11/20/15 08:47	1.0		
023	met09_sn_	BS	QC813575	Water	229631	11/20/15 08:52	1.0		
024	met09_sn_	BSD	QC813576	Water	229631	11/20/15 08:56	1.0		
025	met09_sn_	MSS	271369-001	Water	229631	11/20/15 09:00	1.0		2:CA=210000
026	met09_sn_	BLANK	QC813574	Water	229631	11/20/15 09:05	1.0		
027	met09_sn_	MS	QC813577	Water	229631	11/20/15 09:10	1.0		
028	met09_sn_	MSD	QC813578	Water	229631	11/20/15 09:14	1.0		1:CA=220000
029	met09_sn_	SER	QC813579	Water	229631	11/20/15 09:19	5.0		
030	met09_sn_	PDS	QC813580	Water	229631	11/20/15 09:24	1.0	11 12 13	1:CA=220000
031	met09_sn_	CCV				11/20/15 09:28	1.0	10	
032	met09_sn_	XCCB				11/20/15 09:35	1.0		
033	met09_sn_	CCB				11/20/15 09:39	1.0		
034	met09_sn_	BLANK	QC813234	TCLP Leachate	229551	11/20/15 10:21	10.0		1:NA=130000
035	met09_sn_	PDS	QC813240	TCLP Leachate	229551	11/20/15 10:26	10.0	11 12 13	
036	met09_sn_	SAMPLE	271712-001	TCLP Leachate	229551	11/20/15 10:30	10.0		1:NA=120000
037	met09_sn_	SAMPLE	271712-002	TCLP Leachate	229551	11/20/15 10:35	10.0		1:NA=110000
038	met09_sn_	SAMPLE	271712-003	TCLP Leachate	229551	11/20/15 10:39	10.0		1:NA=120000
039	met09_sn_	SAMPLE	271531-001	Miscell.	229557	11/20/15 10:44	1.0		2:FE=1300000
040	met09_sn_	X	RINSE			11/20/15 10:51	1.0		
041	met09_sn_	SAMPLE	271548-001	Miscell.	229557	11/20/15 10:56	1.0		
042	met09_sn_	SAMPLE	271549-001	Miscell.	229557	11/20/15 11:00	1.0		
043	met09_sn_	MSS	271369-001	Water	229631	11/20/15 11:05	1.0		2:CA=210000
044	met09_sn_	CCV				11/20/15 11:11	1.0	10	
045	met09_sn_	XCCB				11/20/15 11:17	1.0		
046	met09_sn_	CCB				11/20/15 11:21	1.0		
047	met09_sn_	X	RINSE			11/20/15 11:27	1.0		
048	met09_sn_	SAMPLE	271626-019	Soil	229593	11/20/15 11:32	100.0		
049	met09_sn_	SAMPLE	271626-020	Soil	229593	11/20/15 11:36	100.0		
050	met09_sn_	SAMPLE	271626-019	Soil	229593	11/20/15 11:40	1.0		5:FE=330000
051	met09_sn_	SAMPLE	271626-020	Soil	229593	11/20/15 11:47	1.0		5:FE=540000
052	met09_sn_	SAMPLE	271800-001	Water	229631	11/20/15 11:53	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95466839

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/20/15 04:39  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	MSS	271668-001	Soil	229593	11/20/15 11:57	1.0		3:FE=200000
054	met09_sn_	SAMPLE	271668-002	Soil	229593	11/20/15 12:04	1.0		4:FE=490000
055	met09_sn_	SAMPLE	271729-001	Soil	229593	11/20/15 12:11	1.0		6:CA=1400000
056	met09_sn_	CCV				11/20/15 12:18	1.0	10	
057	met09_sn_	CCB				11/20/15 12:25	1.0		
058	met09_sn_	SAMPLE	271626-019	WET Leachate	229654	11/20/15 12:48	10.0		1:NA=130000
059	met09_sn_	SAMPLE	271626-020	WET Leachate	229654	11/20/15 12:52	10.0		1:NA=130000
060	met09_sn_	SAMPLE	271800-001	Water	229631	11/20/15 12:56	1.0		
061	met09_sn_	SAMPLE	271678-001	WET Leachate	229654	11/20/15 13:00	10.0		1:NA=130000
062	met09_sn_	SAMPLE	271678-002	WET Leachate	229654	11/20/15 13:05	10.0		1:NA=140000
063	met09_sn_	SAMPLE	271678-003	WET Leachate	229654	11/20/15 13:09	10.0		1:NA=150000
064	met09_sn_	SAMPLE	271678-004	WET Leachate	229654	11/20/15 13:13	10.0		1:NA=140000
065	met09_sn_	SAMPLE	271678-005	WET Leachate	229654	11/20/15 13:17	10.0		1:NA=150000
066	met09_sn_	SAMPLE	271679-001	WET Leachate	229654	11/20/15 13:21	10.0		1:NA=140000
067	met09_sn_	SAMPLE	271679-002	WET Leachate	229654	11/20/15 13:26	10.0		1:NA=150000
068	met09_sn_	CCV				11/20/15 13:30	1.0	10	
069	met09_sn_	XCCB				11/20/15 13:37	1.0		
070	met09_sn_	CCB				11/20/15 13:41	1.0		
071	met09_sn_	SAMPLE	271679-003	WET Leachate	229654	11/20/15 13:46	10.0		1:NA=140000
072	met09_sn_	SAMPLE	271679-004	WET Leachate	229654	11/20/15 13:50	10.0		1:NA=120000
073	met09_sn_	SAMPLE	271679-005	WET Leachate	229654	11/20/15 13:54	10.0		1:NA=140000
074	met09_sn_	SAMPLE	271679-006	WET Leachate	229654	11/20/15 13:58	10.0		1:NA=150000
075	met09_sn_	?SAMPLE	271724-001		229654	11/20/15 14:02	10.0		
076	met09_sn_	?SAMPLE	271725-001		229654	11/20/15 14:07	10.0		
077	met09_sn_	SAMPLE	271369-002	Water	229631	11/20/15 14:11	1.0		4:CA=450000
078	met09_sn_	SAMPLE	271369-003	Water	229631	11/20/15 14:16	1.0		3:CA=230000
079	met09_sn_	SAMPLE	271604-001	Soil	229537	11/20/15 14:20	1.0		4:CA=280000
080	met09_sn_	SAMPLE	271604-002	Soil	229537	11/20/15 14:27	1.0		4:CA=440000
081	met09_sn_	CCV				11/20/15 14:34	1.0	10	
082	met09_sn_	CCB				11/20/15 14:41	1.0		
083	met09_sn_	SAMPLE	271369-004	Water	229631	11/20/15 14:46	1.0		2:CA=240000
084	met09_sn_	SAMPLE	271604-002	Soil	229537	11/20/15 14:57	100.0		
085	met09_sn_	SAMPLE	271465-002	Water	229383	11/20/15 15:01	1.0		
086	met09_sn_	CCV				11/20/15 15:06	1.0	10	
087	met09_sn_	CCB				11/20/15 15:13	1.0		
088	met09_sn_	SAMPLE	271465-002	Water	229383	11/20/15 15:58	1.0		
089	met09_sn_	X	RINSE			11/20/15 16:02	1.0		
090	met09_sn_	MSS	271522-001	Filtrate	229486	11/20/15 16:07	100.0		
091	met09_sn_	MS	QC812975	Filtrate	229486	11/20/15 16:12	1.0		1:NA=340000
092	met09_sn_	MSD	QC812976	Filtrate	229486	11/20/15 16:16	1.0		1:NA=340000
093	met09_sn_	SAMPLE	271645-001	WET Leachate	229605	11/20/15 16:20	10.0		1:NA=130000
094	met09_sn_	SAMPLE	271333-002	Filtrate	229348	11/20/15 16:24	100.0		
095	met09_sn_	BLANK	QC812414	Filtrate	229348	11/20/15 16:30	1.0		
096	met09_sn_	BS	QC812415	Filtrate	229348	11/20/15 16:35	1.0		
097	met09_sn_	BSD	QC812416	Filtrate	229348	11/20/15 16:39	1.0		
098	met09_sn_	CCV				11/20/15 16:43	1.0	10	
099	met09_sn_	CCB				11/20/15 16:50	1.0		
100	met09_sn_	CCB				11/20/15 16:54	1.0		
101	met09_sn_	MSS	271333-004	Filtrate	229348	11/20/15 16:59	1.0		3:MG=500000
102	met09_sn_	X	RINSE			11/20/15 17:07	1.0		
103	met09_sn_	MS	QC812417	Filtrate	229348	11/20/15 17:12	1.0		3:MG=500000
104	met09_sn_	X	RINSE			11/20/15 17:19	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95466839

Instrument : MET09  
 Method : EPA 6010B

Begun : 11/20/15 04:39  
 SOP Version : icp metals\_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_	MSD	QC812418	Filtrate	229348	11/20/15 17:24	1.0		3:MG=490000
106	met09_sn_	X	RINSE			11/20/15 17:32	1.0		
107	met09_sn_	SAMPLE	271333-002	Filtrate	229348	11/20/15 17:37	1.0		
108	met09_sn_	X	RINSE			11/20/15 17:45	1.0		
109	met09_sn_	SAMPLE	271333-003	Filtrate	229348	11/20/15 17:50	1.0		
110	met09_sn_	X	RINSE			11/20/15 17:57	1.0		
111	met09_sn_	CCV				11/20/15 18:02	1.0	10	
112	met09_sn_	CCB				11/20/15 18:09	1.0		
113	met09_sn_	CCB				11/20/15 18:13	1.0		
114	met09_sn_	SAMPLE	271333-005	Filtrate	229348	11/20/15 18:18	1.0		4:MG=690000
115	met09_sn_	X	RINSE			11/20/15 18:26	1.0		
116	met09_sn_	SAMPLE	271333-006	Filtrate	229348	11/20/15 18:31	1.0		2:MG=810000
117	met09_sn_	X	RINSE			11/20/15 18:40	1.0		
118	met09_sn_	SAMPLE	271333-007	Filtrate	229348	11/20/15 18:45	1.0		4:MG=740000
119	met09_sn_	X	RINSE			11/20/15 18:54	1.0		

CRT 11/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 87.

Standards used: 1=S28440 2=S28094 3=S28095 4=S28096 5=S28099 6=S28098 7=S28441 8=S28103 9=S28104 10=S28097 11=S28385  
 12=S28386 13=S27470

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95466839

Date : 11/20/15  
 Sequence : MET09 11/20/15

Reference : met09\_sn\_  
 Analyzed : 11/20/15 04:44

#	Type	Sample ID	Y A
		ICAL STD	2551789
		LOWER LIMIT	765537
		UPPER LIMIT	5103578
010	ICB		2529766
011	ICSA		2157462
012	ICSAB		2179542
020	CCV		2501443
022	CCB		2560609
023	BS	QC813575	2552718
024	BSD	QC813576	2581492
025	MSS	271369-001	2339241
026	BLANK	QC813574	2603081
027	MS	QC813577	2338703
028	MSD	QC813578	2338023
029	SER	QC813579	2546862
030	PDS	QC813580	2362590
031	CCV		2543993
033	CCB		2601026
034	BLANK	QC813234	2466082
035	PDS	QC813240	2495008
036	SAMPLE	271712-001	2424725
037	SAMPLE	271712-002	2427895
038	SAMPLE	271712-003	2460085
039	SAMPLE	271531-001	2391792
041	SAMPLE	271548-001	2638134
042	SAMPLE	271549-001	2677824
043	MSS	271369-001	2390981
044	CCV		2574857
046	CCB		2609657
048	SAMPLE	271626-019	2571652
049	SAMPLE	271626-020	2585874
050	SAMPLE	271626-019	2587202
051	SAMPLE	271626-020	2611015
052	SAMPLE	271800-001	2120653
053	MSS	271668-001	2709101
054	SAMPLE	271668-002	2481350
055	SAMPLE	271729-001	2406821
056	CCV		2541917
057	CCB		2679556
058	SAMPLE	271626-019	2461813
059	SAMPLE	271626-020	2521878
060	SAMPLE	271800-001	2478916
061	SAMPLE	271678-001	2558977
062	SAMPLE	271678-002	2504429
063	SAMPLE	271678-003	2450371
064	SAMPLE	271678-004	2475777
065	SAMPLE	271678-005	2519713
066	SAMPLE	271679-001	2546723
067	SAMPLE	271679-002	2503618
068	CCV		2577363
070	CCB		2683568

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95466839

Date : 11/20/15  
 Sequence : MET09 11/20/15

Reference : met09\_sn\_  
 Analyzed : 11/20/15 04:44

#	Type	Sample ID	Y A
071	SAMPLE	271679-003	2550430
072	SAMPLE	271679-004	2563288
073	SAMPLE	271679-005	2487202
074	SAMPLE	271679-006	2457930
077	SAMPLE	271369-002	2252177
078	SAMPLE	271369-003	2360759
079	SAMPLE	271604-001	2522233
080	SAMPLE	271604-002	2503700
081	CCV		2596113
082	CCB		2676417
083	SAMPLE	271369-004	2463496
084	SAMPLE	271604-002	2540756
085	SAMPLE	271465-002	9684264 *
086	CCV		2493630
087	CCB		2612095
088	SAMPLE	271465-002	2625391
090	MSS	271522-001	2663942
091	MS	QC812975	2408180
092	MSD	QC812976	2453099
093	SAMPLE	271645-001	2484558
094	SAMPLE	271333-002	2631338
095	BLANK	QC812414	2683977
096	BS	QC812415	2604674
097	BSD	QC812416	2604893
098	CCV		2537785
099	CCB		2623564
100	CCB		2634302
101	MSS	271333-004	2069200
103	MS	QC812417	1906373
105	MSD	QC812418	2044285
107	SAMPLE	271333-002	2335763
109	SAMPLE	271333-003	2350404
111	CCV		2510689
112	CCB		2610163
113	CCB		10172985 *
114	SAMPLE	271333-005	1897294
116	SAMPLE	271333-006	1768904
118	SAMPLE	271333-007	1855774

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271668 METALS Soil: EPA 6010B

Inst : MET09  
 Calnum : 95466839001  
 Units : ug/L

Date : 20-NOV-2015 04:39  
 X Axis : R

Reviewer : ---

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_95466839002		L1	20-NOV-2015 04:44	S28440
L2	met09_sn_95466839003		L2	20-NOV-2015 04:49	S28094
L3	met09_sn_95466839004		L3	20-NOV-2015 04:53	S28095
L4	met09_sn_95466839005		L4	20-NOV-2015 04:57	S28096
L5	met09_sn_95466839006		L5	20-NOV-2015 05:04	S28099

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	46.800	48.630	48.870	49.154		LOR0	0.00000	0.02035		48.363	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Lead	A	5.0000	-5	100.00	-1	1000.0	-1	10000	0		

JDB 11/20/15 [Potassium R]: Do not report K from this seq

Instrument amount = a0 + response \* a1 + response^2 \* a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09

Calnum : 95466839001

Cal Date : 20-NOV-2015

ICV 95466839007 (20-NOV-2015) stds: S28098

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Lead	A	5000	4806	ug/L	-4	10	



CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09 IDF : 1.0  
 Seqnum : 95466839010 File : met09\_sn\_ Time : 20-NOV-2015 05:34  
 Cal : 95466839001 Caldate : 20-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2529766	-0.86

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839011  
 Cal : 95466839001  
 Standards: S28103

IDF : 1.0  
 Time : 20-NOV-2015 05:40

File : met09\_sn\_  
 Caldate : 20-NOV-2015

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	[-0.5498]	5.000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	18650	ug/L	93
Copper	A	20000	21050	ug/L	105
Manganese	A	20000	18260	ug/L	91
Nickel	A	20000	16960	ug/L	85
Vanadium	A	20000	19860	ug/L	99
Aluminum	R	500000	481800	ug/L	96
Calcium	R	500000	447900	ug/L	90
Iron	R	200000	176900	ug/L	88
Magnesium	R	500000	453000	ug/L	91
Titanium	R	20000	21450	ug/L	107

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2157462	-15.45

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839012  
 Cal : 95466839001  
 Standards: S28104  
 File : met09\_sn\_  
 Caldate : 20-NOV-2015  
 IDF : 1.0  
 Time : 20-NOV-2015 06:02

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	1000	871.0	ug/L	-13	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2179542	-14.59

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839044  
 Cal : 95466839001  
 Standards: S28097

IDF : 1.0  
 Time : 20-NOV-2015 11:11

File : met09\_sn\_  
 Caldate : 20-NOV-2015

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	48.363	46.433	5000	4723	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2574857	0.90

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839046  
 Cal : 95466839001  
 File : met09\_sn\_  
 Caldate : 20-NOV-2015  
 IDF : 1.0  
 Time : 20-NOV-2015 11:21

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2609657	2.27

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09  
 Seqnum : 95466839056  
 Cal : 95466839001  
 Standards: S28097

IDF : 1.0  
 Time : 20-NOV-2015 12:18

File : met09\_sn\_  
 Caldate : 20-NOV-2015

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	48.363	46.378	5000	4718	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2541917	-0.39

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 271668 METALS Soil  
EPA 6010B

Inst : MET09 IDF : 1.0  
 Seqnum : 95466839057 File : met09\_sn\_ Time : 20-NOV-2015 12:25  
 Cal : 95466839001 Caldate : 20-NOV-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2551789	2679556	5.01

SAMPLE PREPARATION SUMMARY

Batch # : 229593  
 Started By : RFC  
 Method : 3050B  
 Spike #1 ID : S26660

Prep Date : 18-NOV-2015 14:05  
 Spike #2 ID : S26661

Analysis : ICP  
 Finished By : RFC  
 Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
271626-007		Soil	1.09	50	1	45.87						6010	
271626-009		Soil	.93	50	1	53.76						6010	
271626-011		Soil	1.1	50	1	45.45						6010	
271626-012		Soil	1.03	50	1	48.54						6010	
271626-013		Soil	1.03	50	1	48.54						6010	
271626-014		Soil	1.01	50	1	49.50						6010	
271626-015		Soil	.96	50	1	52.08						6010	
271626-016		Soil	1.03	50	1	48.54						6010	
271626-017		Soil	1.02	50	1	49.02						6010	
271626-018		Soil	1.07	50	1	46.73						6010	
271626-019		Soil	1.07	50	1	46.73						6010	
271626-020		Soil	1.03	50	1	48.54						6010	
271642-006		Soil	.92	50	1	54.35						6010	
271668-001		Soil	.97	50	1	51.55						6010	
271668-002		Soil	1.07	50	1	46.73						6010	
271729-001		Soil	.96	50	1	52.08						6010	
QC813406	BLANK	Soil	1	50	1	50.0							
QC813407	BS	Soil	1	50	1	50.0	.5	.5					
QC813408	BSD	Soil	1	50	1	50.0	.5	.5					
QC813409	MS	Soil	1	50	1	50.0	.5	.5					
QC813410	MSD	Soil	1.04	50	1	48.08	.5	.5					
QC813411	SER	Soil	.97	50	1	51.55							
QC813412	PDS	Soil	.97	50	1	51.55							

Analyst: CRT

Date: 11/20/15

Reviewer: JDB

Date: 11/20/15



Soil Digestion for ICP & ICP-MS

Curtis & Tompkins, Ltd.

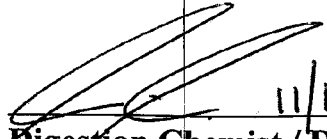
LIMS Batch #: 229593  
 Date Digested: 11/18/15  
 Digested by: RFC

Scale Used  Metals Prep  
 Digestion Method  EPA 3050b

BK3738  
 Page 68

Lvl.	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Filtered? (y/n)	ID	Comments
	BLANK		0	50	Y	QC813406	
	BS		0	50			-407
	BSD		0	50			-408
	MS		1.00	50			-409
5	MSD		1.04	50			-410
II	271626-007	B	1.09	50			
	-009	B	0.93	50			
	-011	B	1.10	50			
	-012	B	1.03	50			
10	-013	B	1.03	50			
	-014	B	1.01	50			
	-015	B	0.96	50			
	-016	B	1.03	50			
	-017	B	1.02	50			
15	-018	B	1.07	50			
	-019	A	1.07	50			COMP 271626-001-003@4K
	-020	A	1.03	50			-004-006 ↓
	271642-006	B	0.92	50			
III	271668-001	B	0.97	50			MSS
20	-002	B	1.07	50			
II	271729-001	B	0.96	50			
				50			
				50			
				50			
				50			

Digestion tubes, lot#	SCP228141	Initials / Dat	RFC 11/18/15
0.50 mL of spike solution (Std1) was added to all spikes	S26660		
0.50 mL of spike solution (Std2) was added to all spikes	S26661		
Digestion Temperature (°C), Block and Probe Location	93° C19		
Digestion begun at (time)	14:05		
1:1 HNO3	JTB113071		
concentrated HNO3	JTB113071		
3mL 30% hydrogen peroxide	FS152097		
concentrated HCl	FS4115050		
Digestion ended at (time)	17:20		
<input type="checkbox"/> filtered	WHAT9669435		
Relinquished to ICP group	ICP		

  
 11/18/15  
 Digestion Chemist / Date

Continued from page 0  
 Continued on page \_\_\_\_\_

Reviewed Online / See LIMS

Laboratory Job Number 271668

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Percent Moisture Summary Report

Batch: 229509  
 Date: 11/16/15  
 Method: CLP SOW 390  
 Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
271612-001	11.3113	18.3317	17.9630	95	5
271653-002	11.0603	17.0841	16.4815	90	10
271668-001	10.9009	17.4576	16.6765	88	12
271668-002	11.3714	16.9195	16.2624	88	12
271672-001	11.3006	16.8257	16.0787	86	14
271672-002	11.1507	17.8865	16.9131	86	14
271672-003	11.0013	16.8839	15.9416	84	16
271672-004	11.3655	18.5978	17.4822	85	15
271672-005	11.4510	17.8031	17.0781	89	11
271672-006	11.3502	18.0474	17.2276	88	12
271672-007	10.8404	17.5912	16.1270	78	22
271672-008	11.3129	17.2007	16.0624	81	19
271672-009	11.0345	19.1703	17.9362	85	15
271672-010	11.3590	16.4399	15.7286	86	14
271672-011	11.3150	18.1234	17.2177	87	13
271672-012	10.9578	17.1046	16.4416	89	11
QC813069	11.3522	17.2809	16.5534	88	12
of 271653-002			RPD:	2.6%	20.4%
QC813070	11.3149	17.4995	16.6556	86	14
of 271668-002			RPD:	2.1%	14.1%

Moisture LOG

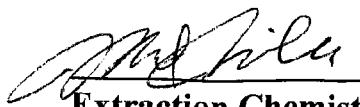
Curtis & Tompkins, Ltd.

LIMS Batch #: 229509  
 Date: 11-16-15

Page: 44  
 Benchbook#: BK 3723  
 Scale Used  
 Leachates Analytical

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	18	11.1999	∅	11.1994	
271612-001 D	95	11.3113	18.3317	17.9630	
271653-002 N	40	11.0003	17.0841	16.4815	
271668-001 B	21	10.9009	17.4576	16.6765	
5 ↓ -002 B	93	11.3714	16.9195	16.2624	
271672-001 A	27	11.3006	16.8257	16.0787	
↑ -002	48	11.1507	17.8865	16.9131	
-003	3	11.0013	16.8839	15.9416	
-004	94	11.3655	18.5978	17.4822	
10 -005	29	11.4510	17.8031	17.0781	
-006	41	11.3502	18.0474	17.2276	
-007	90	10.8404	17.5912	16.1270	
-008	87	11.3129	17.2007	16.0624	
-009	73	11.0345	19.1703	17.9362	
15 -010	30	11.3590	16.4399	15.7286	
-011	88	11.3150	18.1234	17.2177	
↓ -012 ↓	7	10.9578	17.1046	16.4416	
271653-002 N	74	11.3522	17.2809	16.5834	Sdwp QC 813069
271668-002 B	12	11.3149	17.4995	16.6556	↓ QC 813070
20					

Date/ Time IN: 11-16-15 2200  
 Temp (C) IN: 104  
 Date/ Time OUT: 11-17-15 13:00  
 Temp (C) OUT: 104

 11-16-15  
 Extraction Chemist Date

Reviewed Online / See LIMS

PROJECT

FE 163 METTLER

Notebook No. BK 2394

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Continued From Page

ARD  
10/29

DATE	ANALYST	0.2000	100.0000	SET#
10-26-15	MV	0.2001	100.0001	9907
10-27-15	MV	0.2000	100.0001	9907
10-28-15	ARD	0.2001	100.0000	9907
10-29-15	MV	0.2001	100.0000	9907
10-30-15	ARD	0.2000	99.9998	9907
10-31-15	MV	0.2000	99.9999	9907
11-1-15	VV	0.2001	99.9990	#9907
11-3-15	MV	0.2000	99.9998	9907
11-4-15	ARD	0.2001	100.0002	9907
11-5-15	MV	0.2001	100.0000	9907
11-6-15	MV	0.2000	100.0001	9907
11-7-15	MV	0.2000	100.0001	9907
11-9-15	MV	0.2001	100.0002	9907
11-10-15	MV	0.2001	100.0001	9907
11-12-15	MV	0.2000	100.0000	9907
11-16-15	MV	0.2000	99.9991	9907
11-17-15	ARD	0.2001	100.0000	9907

Continued on Page

Read and Understood By

Signed

Date

Signed

Date



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 1 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

**Sample Identification**

<u>Lab Sample #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>By</u>	<u>Date Submitted</u>	<u>By</u>
B5K0213-01	516 RB 6026 Hanzel - N ---ROUTINE---	Liquid	10/30/15 12:40	Lisa Dernbach/	11/03/15 09:20	FedEx
B5K0213-02	516 RB 6027 MW - 4B ---ROUTINE---	Liquid	10/30/15 14:00	Lisa Dernbach/	11/03/15 09:20	FedEx
B5K0213-03	516 RB 6028 MW - 4A ---ROUTINE---	Liquid	10/30/15 13:45	Lisa Dernbach/	11/03/15 09:20	FedEx
B5K0213-04	516 RB 6029 EW - 4B ---ROUTINE---	Liquid	10/30/15 14:25	Lisa Dernbach/	11/03/15 09:20	FedEx
B5K0213-05	516 RB 6030 EW - 4A ---ROUTINE---	Liquid	10/30/15 14:45	Lisa Dernbach/	11/03/15 09:20	FedEx



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 2 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

### Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

### Laboratory Reference Number

## B5K0213-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
516 RB 6026 Hanzel - N	Liquid	10/30/15 12:40	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
<b>Diesel Range Organics by EPA 8015</b>								
DRO (C10-C28)	ND	5.0	0.78	mg/L	EPA 8015B	11/06/15 12:05	jhr	
ORO (C29-C44)	4.3	5.0	2.2	mg/L	EPA 8015B	11/06/15 12:05	jhr	J
Surrogate: o-Terphenyl	66.9	% 45-127			EPA 8015B	11/06/15 12:05	jhr	
Surrogate: n-Triacontane	58.8	% 41-118			EPA 8015B	11/06/15 12:05	jhr	
<b>Gasoline Range Organics by EPA 8015</b>								
Gasoline Range Organics	ND	0.050	0.024	mg/L	EPA 8015B	11/03/15 21:42	jes	
Surrogate: a,a,a-Trifluorotoluene	57.9	% 10-110			EPA 8015B	11/03/15 21:42	jes	
<b>Volatile Organic Compounds by EPA 8260B</b>								
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,1-Dichloroethane	ND	0.50	0.098	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,1-Dichloropropene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,2-Dichloroethane	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,2-Dichloropropane	ND	0.50	0.19	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,3-Dichloropropane	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 20:11	jes	
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L	EPA 8260B	11/04/15 20:11	jes	
2,2-Dichloropropane	ND	0.50	0.49	ug/L	EPA 8260B	11/04/15 20:11	jes	
2-Butanone(MEK)	ND	3.0	1.2	ug/L	EPA 8260B	11/04/15 20:11	jes	
2-Chlorotoluene	ND	0.50	0.092	ug/L	EPA 8260B	11/04/15 20:11	jes	
4-Chlorotoluene	ND	0.50	0.095	ug/L	EPA 8260B	11/04/15 20:11	jes	
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L	EPA 8260B	11/04/15 20:11	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 3 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

### Laboratory Reference Number

## B5K0213-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
516 RB 6026 Hanzel - N	Liquid	10/30/15 12:40	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Acrolein	ND	10	1.1	ug/L	EPA 8260B	11/04/15 20:11	jes	
Acrylonitrile	ND	10	1.2	ug/L	EPA 8260B	11/04/15 20:11	jes	
Benzene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 20:11	jes	
Bromobenzene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 20:11	jes	
Bromochloromethane	ND	0.50	0.33	ug/L	EPA 8260B	11/04/15 20:11	jes	
Bromodichloromethane	ND	0.50	0.11	ug/L	EPA 8260B	11/04/15 20:11	jes	
Bromoform	ND	1.0	0.50	ug/L	EPA 8260B	11/04/15 20:11	jes	
Bromomethane	ND	0.50	0.48	ug/L	EPA 8260B	11/04/15 20:11	jes	
Carbon Tetrachloride	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 20:11	jes	
Chlorobenzene	ND	0.50	0.23	ug/L	EPA 8260B	11/04/15 20:11	jes	
Chloroethane	ND	0.50	0.35	ug/L	EPA 8260B	11/04/15 20:11	jes	
Chloroform	ND	0.50	0.46	ug/L	EPA 8260B	11/04/15 20:11	jes	
Chloromethane	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 20:11	jes	
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 20:11	jes	
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L	EPA 8260B	11/04/15 20:11	jes	
Dibromochloromethane	ND	0.50	0.37	ug/L	EPA 8260B	11/04/15 20:11	jes	
Dibromomethane	ND	0.50	0.16	ug/L	EPA 8260B	11/04/15 20:11	jes	
Dichlorodifluoromethane	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 20:11	jes	
Ethylbenzene	ND	0.50	0.26	ug/L	EPA 8260B	11/04/15 20:11	jes	
Hexachlorobutadiene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 20:11	jes	
Isopropylbenzene	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 20:11	jes	
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L	EPA 8260B	11/04/15 20:11	jes	
Methylene Chloride	ND	3.0	0.15	ug/L	EPA 8260B	11/04/15 20:11	jes	
Naphthalene	ND	0.50	0.44	ug/L	EPA 8260B	11/04/15 20:11	jes	
n-Butylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 20:11	jes	
n-Propylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 20:11	jes	
sec-Butylbenzene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 20:11	jes	
Styrene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 20:11	jes	
tert-Butylbenzene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 20:11	jes	
Tetrachloroethene	1.9	0.50	0.23	ug/L	EPA 8260B	11/04/15 20:11	jes	
Toluene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 20:11	jes	
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L	EPA 8260B	11/04/15 20:11	jes	
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L	EPA 8260B	11/04/15 20:11	jes	





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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 4 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-01**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6026 Hanzel - N	Liquid	10/30/15 12:40	11/03/15 9:20

<u>Analyte(s)</u>	<u>Result</u>	<u>RDL</u>	<u>MDL</u>	<u>Units</u>	<u>Method</u>	<u>Analysis Date</u>	<u>Analyst</u>	<u>Flag</u>
Volatile Organic Compounds by EPA 8260B								
Trichloroethene	ND	0.50	0.25	ug/L	EPA 8260B	11/04/15 20:11	jes	
Trichlorofluoromethane	ND	5.0	0.16	ug/L	EPA 8260B	11/04/15 20:11	jes	
Vinyl Chloride	ND	0.50	0.13	ug/L	EPA 8260B	11/04/15 20:11	jes	
Xylenes (m+p)	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 20:11	jes	
Xylenes (ortho)	ND	0.50	0.41	ug/L	EPA 8260B	11/04/15 20:11	jes	
Diisopropyl ether	ND	3.0	0.30	ug/L	EPA 8260B	11/04/15 20:11	jes	
Ethyl tert-butyl ether	ND	3.0	0.29	ug/L	EPA 8260B	11/04/15 20:11	jes	
tert-Amyl Methyl Ether	ND	3.0	0.37	ug/L	EPA 8260B	11/04/15 20:11	jes	
Tert-butyl alcohol	ND	50	2.1	ug/L	EPA 8260B	11/04/15 20:11	jes	
Surrogate: 1,2-Dichloroethane-d4	96.9	% 80-120			EPA 8260B	11/04/15 20:11	jes	
Surrogate: Bromofluorobenzene	97.2	% 80-120			EPA 8260B	11/04/15 20:11	jes	
Surrogate: Toluene-d8	92.5	% 80-120			EPA 8260B	11/04/15 20:11	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 5 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

### Laboratory Reference Number

## B5K0213-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
516 RB 6027 MW - 4B	Liquid	10/30/15 14:00	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
<b>Diesel Range Organics by EPA 8015</b>								
DRO (C10-C28)	ND	5.0	0.78	mg/L	EPA 8015B	11/05/15 18:55	jhr	
ORO (C29-C44)	ND	5.0	2.2	mg/L	EPA 8015B	11/05/15 18:55	jhr	
Surrogate: <i>o</i> -Terphenyl	94.3	% 45-127			EPA 8015B	11/05/15 18:55	jhr	
Surrogate: <i>n</i> -Triacontane	83.8	% 41-118			EPA 8015B	11/05/15 18:55	jhr	
<b>Gasoline Range Organics by EPA 8015</b>								
Gasoline Range Organics	0.081	0.050	0.024	mg/L	EPA 8015B	11/03/15 22:16	jes	NHCno
Surrogate: <i>a,a,a</i> -Trifluorotoluene	69.1	% 10-110			EPA 8015B	11/03/15 22:16	jes	
<b>Volatile Organic Compounds by EPA 8260B</b>								
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,1-Dichloroethane	ND	0.50	0.098	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,1-Dichloropropene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,2-Dichloroethane	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,2-Dichloropropane	ND	0.50	0.19	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,3-Dichloropropane	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 20:41	jes	
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L	EPA 8260B	11/04/15 20:41	jes	
2,2-Dichloropropane	ND	0.50	0.49	ug/L	EPA 8260B	11/04/15 20:41	jes	
2-Butanone(MEK)	ND	3.0	1.2	ug/L	EPA 8260B	11/04/15 20:41	jes	
2-Chlorotoluene	ND	0.50	0.092	ug/L	EPA 8260B	11/04/15 20:41	jes	
4-Chlorotoluene	ND	0.50	0.095	ug/L	EPA 8260B	11/04/15 20:41	jes	
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L	EPA 8260B	11/04/15 20:41	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 6 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-02**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6027 MW - 4B	Liquid	10/30/15 14:00	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Acrolein	ND	10	1.1	ug/L	EPA 8260B	11/04/15 20:41	jes	
Acrylonitrile	ND	10	1.2	ug/L	EPA 8260B	11/04/15 20:41	jes	
Benzene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 20:41	jes	
Bromobenzene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 20:41	jes	
Bromochloromethane	ND	0.50	0.33	ug/L	EPA 8260B	11/04/15 20:41	jes	
Bromodichloromethane	ND	0.50	0.11	ug/L	EPA 8260B	11/04/15 20:41	jes	
Bromoform	ND	1.0	0.50	ug/L	EPA 8260B	11/04/15 20:41	jes	
Bromomethane	ND	0.50	0.48	ug/L	EPA 8260B	11/04/15 20:41	jes	
Carbon Tetrachloride	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 20:41	jes	
Chlorobenzene	ND	0.50	0.23	ug/L	EPA 8260B	11/04/15 20:41	jes	
Chloroethane	ND	0.50	0.35	ug/L	EPA 8260B	11/04/15 20:41	jes	
Chloroform	ND	0.50	0.46	ug/L	EPA 8260B	11/04/15 20:41	jes	
Chloromethane	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 20:41	jes	
cis-1,2-Dichloroethene	2.1	0.50	0.18	ug/L	EPA 8260B	11/04/15 20:41	jes	
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L	EPA 8260B	11/04/15 20:41	jes	
Dibromochloromethane	ND	0.50	0.37	ug/L	EPA 8260B	11/04/15 20:41	jes	
Dibromomethane	ND	0.50	0.16	ug/L	EPA 8260B	11/04/15 20:41	jes	
Dichlorodifluoromethane	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 20:41	jes	
Ethylbenzene	ND	0.50	0.26	ug/L	EPA 8260B	11/04/15 20:41	jes	
Hexachlorobutadiene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 20:41	jes	
Isopropylbenzene	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 20:41	jes	
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L	EPA 8260B	11/04/15 20:41	jes	
Methylene Chloride	ND	3.0	0.15	ug/L	EPA 8260B	11/04/15 20:41	jes	
Naphthalene	ND	0.50	0.44	ug/L	EPA 8260B	11/04/15 20:41	jes	
n-Butylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 20:41	jes	
n-Propylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 20:41	jes	
sec-Butylbenzene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 20:41	jes	
Styrene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 20:41	jes	
tert-Butylbenzene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 20:41	jes	
Tetrachloroethene	150	5.0	2.3	ug/L	EPA 8260B	11/07/15 10:49	eec	
Toluene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 20:41	jes	
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L	EPA 8260B	11/04/15 20:41	jes	
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L	EPA 8260B	11/04/15 20:41	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 7 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

### Laboratory Reference Number

**B5K0213-02**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6027 MW - 4B	Liquid	10/30/15 14:00	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Trichloroethene	5.4	0.50	0.25	ug/L	EPA 8260B	11/04/15 20:41	jes	
Trichlorofluoromethane	ND	5.0	0.16	ug/L	EPA 8260B	11/04/15 20:41	jes	
Vinyl Chloride	ND	0.50	0.13	ug/L	EPA 8260B	11/04/15 20:41	jes	
Xylenes (m+p)	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 20:41	jes	
Xylenes (ortho)	ND	0.50	0.41	ug/L	EPA 8260B	11/04/15 20:41	jes	
Diisopropyl ether	ND	3.0	0.30	ug/L	EPA 8260B	11/04/15 20:41	jes	
Ethyl tert-butyl ether	ND	3.0	0.29	ug/L	EPA 8260B	11/04/15 20:41	jes	
tert-Amyl Methyl Ether	ND	3.0	0.37	ug/L	EPA 8260B	11/04/15 20:41	jes	
Tert-butyl alcohol	ND	50	2.1	ug/L	EPA 8260B	11/04/15 20:41	jes	
Surrogate: 1,2-Dichloroethane-d4	95.8	% 80-120			EPA 8260B	11/07/15 10:49	eec	
Surrogate: 1,2-Dichloroethane-d4	96.0	% 80-120			EPA 8260B	11/04/15 20:41	jes	
Surrogate: Bromofluorobenzene	96.8	% 80-120			EPA 8260B	11/07/15 10:49	eec	
Surrogate: Bromofluorobenzene	98.3	% 80-120			EPA 8260B	11/04/15 20:41	jes	
Surrogate: Toluene-d8	90.9	% 80-120			EPA 8260B	11/07/15 10:49	eec	
Surrogate: Toluene-d8	90.7	% 80-120			EPA 8260B	11/04/15 20:41	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 8 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

Report Date: 09-Nov-2015

Work Order Number: **B5K0213**

Received on Ice (Y/N): Yes Temp: 5 °C

### Laboratory Reference Number

## B5K0213-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
516 RB 6028 MW - 4A	Liquid	10/30/15 13:45	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
<b>Diesel Range Organics by EPA 8015</b>								
DRO (C10-C28)	ND	5.0	0.78	mg/L	EPA 8015B	11/05/15 19:19	jhr	
ORO (C29-C44)	ND	5.0	2.2	mg/L	EPA 8015B	11/05/15 19:19	jhr	
Surrogate: <i>o</i> -Terphenyl	72.8	% 45-127			EPA 8015B	11/05/15 19:19	jhr	
Surrogate: <i>n</i> -Triacontane	66.5	% 41-118			EPA 8015B	11/05/15 19:19	jhr	
<b>Gasoline Range Organics by EPA 8015</b>								
Gasoline Range Organics	0.024	0.050	0.024	mg/L	EPA 8015B	11/03/15 22:49	jes	J
Surrogate: <i>a,a,a</i> -Trifluorotoluene	59.0	% 10-110			EPA 8015B	11/03/15 22:49	jes	
<b>Volatile Organic Compounds by EPA 8260B</b>								
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,1-Dichloroethane	ND	0.50	0.098	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,1-Dichloropropene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,2-Dichloroethane	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,2-Dichloropropane	ND	0.50	0.19	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,3-Dichloropropane	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 21:11	jes	
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L	EPA 8260B	11/04/15 21:11	jes	
2,2-Dichloropropane	ND	0.50	0.49	ug/L	EPA 8260B	11/04/15 21:11	jes	
2-Butanone(MEK)	ND	3.0	1.2	ug/L	EPA 8260B	11/04/15 21:11	jes	
2-Chlorotoluene	ND	0.50	0.092	ug/L	EPA 8260B	11/04/15 21:11	jes	
4-Chlorotoluene	ND	0.50	0.095	ug/L	EPA 8260B	11/04/15 21:11	jes	
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L	EPA 8260B	11/04/15 21:11	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 9 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-03**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6028 MW - 4A	Liquid	10/30/15 13:45	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Acrolein	ND	10	1.1	ug/L	EPA 8260B	11/04/15 21:11	jes	
Acrylonitrile	ND	10	1.2	ug/L	EPA 8260B	11/04/15 21:11	jes	
Benzene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 21:11	jes	
Bromobenzene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 21:11	jes	
Bromochloromethane	ND	0.50	0.33	ug/L	EPA 8260B	11/04/15 21:11	jes	
Bromodichloromethane	ND	0.50	0.11	ug/L	EPA 8260B	11/04/15 21:11	jes	
Bromoform	ND	1.0	0.50	ug/L	EPA 8260B	11/04/15 21:11	jes	
Bromomethane	ND	0.50	0.48	ug/L	EPA 8260B	11/04/15 21:11	jes	
Carbon Tetrachloride	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 21:11	jes	
Chlorobenzene	ND	0.50	0.23	ug/L	EPA 8260B	11/04/15 21:11	jes	
Chloroethane	ND	0.50	0.35	ug/L	EPA 8260B	11/04/15 21:11	jes	
Chloroform	ND	0.50	0.46	ug/L	EPA 8260B	11/04/15 21:11	jes	
Chloromethane	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 21:11	jes	
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 21:11	jes	
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L	EPA 8260B	11/04/15 21:11	jes	
Dibromochloromethane	ND	0.50	0.37	ug/L	EPA 8260B	11/04/15 21:11	jes	
Dibromomethane	ND	0.50	0.16	ug/L	EPA 8260B	11/04/15 21:11	jes	
Dichlorodifluoromethane	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 21:11	jes	
Ethylbenzene	ND	0.50	0.26	ug/L	EPA 8260B	11/04/15 21:11	jes	
Hexachlorobutadiene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 21:11	jes	
Isopropylbenzene	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 21:11	jes	
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L	EPA 8260B	11/04/15 21:11	jes	
Methylene Chloride	ND	3.0	0.15	ug/L	EPA 8260B	11/04/15 21:11	jes	
Naphthalene	ND	0.50	0.44	ug/L	EPA 8260B	11/04/15 21:11	jes	
n-Butylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 21:11	jes	
n-Propylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 21:11	jes	
sec-Butylbenzene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 21:11	jes	
Styrene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 21:11	jes	
tert-Butylbenzene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 21:11	jes	
Tetrachloroethene	14	0.50	0.23	ug/L	EPA 8260B	11/04/15 21:11	jes	
Toluene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 21:11	jes	
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L	EPA 8260B	11/04/15 21:11	jes	
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L	EPA 8260B	11/04/15 21:11	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 10 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-03**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6028 MW - 4A	Liquid	10/30/15 13:45	11/03/15 9:20

<u>Analyte(s)</u>	<u>Result</u>	<u>RDL</u>	<u>MDL</u>	<u>Units</u>	<u>Method</u>	<u>Analysis Date</u>	<u>Analyst</u>	<u>Flag</u>
Volatile Organic Compounds by EPA 8260B								
Trichloroethene	0.46	0.50	0.25	ug/L	EPA 8260B	11/04/15 21:11	jes	J
Trichlorofluoromethane	ND	5.0	0.16	ug/L	EPA 8260B	11/04/15 21:11	jes	
Vinyl Chloride	ND	0.50	0.13	ug/L	EPA 8260B	11/04/15 21:11	jes	
Xylenes (m+p)	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 21:11	jes	
Xylenes (ortho)	ND	0.50	0.41	ug/L	EPA 8260B	11/04/15 21:11	jes	
Diisopropyl ether	ND	3.0	0.30	ug/L	EPA 8260B	11/04/15 21:11	jes	
Ethyl tert-butyl ether	ND	3.0	0.29	ug/L	EPA 8260B	11/04/15 21:11	jes	
tert-Amyl Methyl Ether	ND	3.0	0.37	ug/L	EPA 8260B	11/04/15 21:11	jes	
Tert-butyl alcohol	ND	50	2.1	ug/L	EPA 8260B	11/04/15 21:11	jes	
Surrogate: 1,2-Dichloroethane-d4	97.5	% 80-120			EPA 8260B	11/04/15 21:11	jes	
Surrogate: Bromofluorobenzene	99.4	% 80-120			EPA 8260B	11/04/15 21:11	jes	
Surrogate: Toluene-d8	91.0	% 80-120			EPA 8260B	11/04/15 21:11	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
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Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 11 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

### Laboratory Reference Number

## B5K0213-04

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
516 RB 6029 EW - 4B	Liquid	10/30/15 14:25	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
<b>Diesel Range Organics by EPA 8015</b>								
DRO (C10-C28)	ND	5.0	0.78	mg/L	EPA 8015B	11/05/15 19:43	jhr	
ORO (C29-C44)	ND	5.0	2.2	mg/L	EPA 8015B	11/05/15 19:43	jhr	
Surrogate: o-Terphenyl	94.8	% 45-127			EPA 8015B	11/05/15 19:43	jhr	
Surrogate: n-Triacontane	81.3	% 41-118			EPA 8015B	11/05/15 19:43	jhr	
<b>Gasoline Range Organics by EPA 8015</b>								
Gasoline Range Organics	ND	0.050	0.024	mg/L	EPA 8015B	11/03/15 23:23	jes	
Surrogate: a,a,a-Trifluorotoluene	55.7	% 10-110			EPA 8015B	11/03/15 23:23	jes	
<b>Volatile Organic Compounds by EPA 8260B</b>								
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,1-Dichloroethane	ND	0.50	0.098	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,1-Dichloropropene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,2-Dichloroethane	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,2-Dichloropropane	ND	0.50	0.19	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,3-Dichloropropane	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 21:41	jes	
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L	EPA 8260B	11/04/15 21:41	jes	
2,2-Dichloropropane	ND	0.50	0.49	ug/L	EPA 8260B	11/04/15 21:41	jes	
2-Butanone(MEK)	1.2	3.0	1.2	ug/L	EPA 8260B	11/04/15 21:41	jes	J
2-Chlorotoluene	ND	0.50	0.092	ug/L	EPA 8260B	11/04/15 21:41	jes	
4-Chlorotoluene	ND	0.50	0.095	ug/L	EPA 8260B	11/04/15 21:41	jes	
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L	EPA 8260B	11/04/15 21:41	jes	





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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 12 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-04**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6029 EW - 4B	Liquid	10/30/15 14:25	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Acrolein	ND	10	1.1	ug/L	EPA 8260B	11/04/15 21:41	jes	
Acrylonitrile	ND	10	1.2	ug/L	EPA 8260B	11/04/15 21:41	jes	
Benzene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 21:41	jes	
Bromobenzene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 21:41	jes	
Bromochloromethane	ND	0.50	0.33	ug/L	EPA 8260B	11/04/15 21:41	jes	
Bromodichloromethane	ND	0.50	0.11	ug/L	EPA 8260B	11/04/15 21:41	jes	
Bromoform	ND	1.0	0.50	ug/L	EPA 8260B	11/04/15 21:41	jes	
Bromomethane	ND	0.50	0.48	ug/L	EPA 8260B	11/04/15 21:41	jes	
Carbon Tetrachloride	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 21:41	jes	
Chlorobenzene	ND	0.50	0.23	ug/L	EPA 8260B	11/04/15 21:41	jes	
Chloroethane	ND	0.50	0.35	ug/L	EPA 8260B	11/04/15 21:41	jes	
Chloroform	ND	0.50	0.46	ug/L	EPA 8260B	11/04/15 21:41	jes	
Chloromethane	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 21:41	jes	
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 21:41	jes	
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L	EPA 8260B	11/04/15 21:41	jes	
Dibromochloromethane	ND	0.50	0.37	ug/L	EPA 8260B	11/04/15 21:41	jes	
Dibromomethane	ND	0.50	0.16	ug/L	EPA 8260B	11/04/15 21:41	jes	
Dichlorodifluoromethane	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 21:41	jes	
Ethylbenzene	ND	0.50	0.26	ug/L	EPA 8260B	11/04/15 21:41	jes	
Hexachlorobutadiene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 21:41	jes	
Isopropylbenzene	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 21:41	jes	
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L	EPA 8260B	11/04/15 21:41	jes	
Methylene Chloride	ND	3.0	0.15	ug/L	EPA 8260B	11/04/15 21:41	jes	
Naphthalene	ND	0.50	0.44	ug/L	EPA 8260B	11/04/15 21:41	jes	
n-Butylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 21:41	jes	
n-Propylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 21:41	jes	
sec-Butylbenzene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 21:41	jes	
Styrene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 21:41	jes	
tert-Butylbenzene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 21:41	jes	
Tetrachloroethene	0.49	0.50	0.23	ug/L	EPA 8260B	11/04/15 21:41	jes	J
Toluene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 21:41	jes	
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L	EPA 8260B	11/04/15 21:41	jes	
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L	EPA 8260B	11/04/15 21:41	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 13 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-04**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6029 EW - 4B	Liquid	10/30/15 14:25	11/03/15 9:20

<u>Analyte(s)</u>	<u>Result</u>	<u>RDL</u>	<u>MDL</u>	<u>Units</u>	<u>Method</u>	<u>Analysis Date</u>	<u>Analyst</u>	<u>Flag</u>
Volatile Organic Compounds by EPA 8260B								
Trichloroethene	ND	0.50	0.25	ug/L	EPA 8260B	11/04/15 21:41	jes	
Trichlorofluoromethane	ND	5.0	0.16	ug/L	EPA 8260B	11/04/15 21:41	jes	
Vinyl Chloride	ND	0.50	0.13	ug/L	EPA 8260B	11/04/15 21:41	jes	
Xylenes (m+p)	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 21:41	jes	
Xylenes (ortho)	ND	0.50	0.41	ug/L	EPA 8260B	11/04/15 21:41	jes	
Diisopropyl ether	ND	3.0	0.30	ug/L	EPA 8260B	11/04/15 21:41	jes	
Ethyl tert-butyl ether	ND	3.0	0.29	ug/L	EPA 8260B	11/04/15 21:41	jes	
tert-Amyl Methyl Ether	ND	3.0	0.37	ug/L	EPA 8260B	11/04/15 21:41	jes	
Tert-butyl alcohol	ND	50	2.1	ug/L	EPA 8260B	11/04/15 21:41	jes	
Surrogate: 1,2-Dichloroethane-d4	99.6	% 80-120			EPA 8260B	11/04/15 21:41	jes	
Surrogate: Bromofluorobenzene	95.8	% 80-120			EPA 8260B	11/04/15 21:41	jes	
Surrogate: Toluene-d8	93.0	% 80-120			EPA 8260B	11/04/15 21:41	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 14 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

Report Date: 09-Nov-2015

**Work Order Number: B5K0213**

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-05**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6030 EW - 4A	Liquid	10/30/15 14:45	11/03/15 9:20

<b>Analyte(s)</b>	<b>Result</b>	<b>RDL</b>	<b>MDL</b>	<b>Units</b>	<b>Method</b>	<b>Analysis Date</b>	<b>Analyst</b>	<b>Flag</b>
<b>Diesel Range Organics by EPA 8015</b>								
DRO (C10-C28)	ND	5.0	0.78	mg/L	EPA 8015B	11/05/15 20:07	jhr	
ORO (C29-C44)	ND	5.0	2.2	mg/L	EPA 8015B	11/05/15 20:07	jhr	
Surrogate: o-Terphenyl	68.5	% 45-127			EPA 8015B	11/05/15 20:07	jhr	
Surrogate: n-Triacontane	63.0	% 41-118			EPA 8015B	11/05/15 20:07	jhr	
<b>Gasoline Range Organics by EPA 8015</b>								
Gasoline Range Organics	ND	0.050	0.024	mg/L	EPA 8015B	11/03/15 23:57	jes	
Surrogate: a,a,a-Trifluorotoluene	56.2	% 10-110			EPA 8015B	11/03/15 23:57	jes	
<b>Volatile Organic Compounds by EPA 8260B</b>								
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,1-Dichloroethane	ND	0.50	0.098	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,1-Dichloropropene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,2-Dichloroethane	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,2-Dichloropropane	ND	0.50	0.19	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,3-Dichloropropane	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 22:12	jes	
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L	EPA 8260B	11/04/15 22:12	jes	
2,2-Dichloropropane	ND	0.50	0.49	ug/L	EPA 8260B	11/04/15 22:12	jes	
2-Butanone(MEK)	ND	3.0	1.2	ug/L	EPA 8260B	11/04/15 22:12	jes	
2-Chlorotoluene	ND	0.50	0.092	ug/L	EPA 8260B	11/04/15 22:12	jes	
4-Chlorotoluene	ND	0.50	0.095	ug/L	EPA 8260B	11/04/15 22:12	jes	
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L	EPA 8260B	11/04/15 22:12	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 15 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-05**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6030 EW - 4A	Liquid	10/30/15 14:45	11/03/15 9:20

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 8260B								
Acrolein	ND	10	1.1	ug/L	EPA 8260B	11/04/15 22:12	jes	
Acrylonitrile	ND	10	1.2	ug/L	EPA 8260B	11/04/15 22:12	jes	
Benzene	ND	0.50	0.14	ug/L	EPA 8260B	11/04/15 22:12	jes	
Bromobenzene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 22:12	jes	
Bromochloromethane	ND	0.50	0.33	ug/L	EPA 8260B	11/04/15 22:12	jes	
Bromodichloromethane	ND	0.50	0.11	ug/L	EPA 8260B	11/04/15 22:12	jes	
Bromoform	ND	1.0	0.50	ug/L	EPA 8260B	11/04/15 22:12	jes	
Bromomethane	ND	0.50	0.48	ug/L	EPA 8260B	11/04/15 22:12	jes	
Carbon Tetrachloride	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 22:12	jes	
Chlorobenzene	ND	0.50	0.23	ug/L	EPA 8260B	11/04/15 22:12	jes	
Chloroethane	ND	0.50	0.35	ug/L	EPA 8260B	11/04/15 22:12	jes	
Chloroform	ND	0.50	0.46	ug/L	EPA 8260B	11/04/15 22:12	jes	
Chloromethane	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 22:12	jes	
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 22:12	jes	
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L	EPA 8260B	11/04/15 22:12	jes	
Dibromochloromethane	ND	0.50	0.37	ug/L	EPA 8260B	11/04/15 22:12	jes	
Dibromomethane	ND	0.50	0.16	ug/L	EPA 8260B	11/04/15 22:12	jes	
Dichlorodifluoromethane	ND	0.50	0.18	ug/L	EPA 8260B	11/04/15 22:12	jes	
Ethylbenzene	ND	0.50	0.26	ug/L	EPA 8260B	11/04/15 22:12	jes	
Hexachlorobutadiene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 22:12	jes	
Isopropylbenzene	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 22:12	jes	
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L	EPA 8260B	11/04/15 22:12	jes	
Methylene Chloride	ND	3.0	0.15	ug/L	EPA 8260B	11/04/15 22:12	jes	
Naphthalene	ND	0.50	0.44	ug/L	EPA 8260B	11/04/15 22:12	jes	
n-Butylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 22:12	jes	
n-Propylbenzene	ND	0.50	0.15	ug/L	EPA 8260B	11/04/15 22:12	jes	
sec-Butylbenzene	ND	0.50	0.12	ug/L	EPA 8260B	11/04/15 22:12	jes	
Styrene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 22:12	jes	
tert-Butylbenzene	ND	0.50	0.21	ug/L	EPA 8260B	11/04/15 22:12	jes	
Tetrachloroethene	ND	0.50	0.23	ug/L	EPA 8260B	11/04/15 22:12	jes	
Toluene	ND	0.50	0.22	ug/L	EPA 8260B	11/04/15 22:12	jes	
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L	EPA 8260B	11/04/15 22:12	jes	
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L	EPA 8260B	11/04/15 22:12	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 16 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Laboratory Reference Number

**B5K0213-05**

<u>Sample Description</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
516 RB 6030 EW - 4A	Liquid	10/30/15 14:45	11/03/15 9:20

<u>Analyte(s)</u>	<u>Result</u>	<u>RDL</u>	<u>MDL</u>	<u>Units</u>	<u>Method</u>	<u>Analysis Date</u>	<u>Analyst</u>	<u>Flag</u>
Volatile Organic Compounds by EPA 8260B								
Trichloroethene	ND	0.50	0.25	ug/L	EPA 8260B	11/04/15 22:12	jes	
Trichlorofluoromethane	ND	5.0	0.16	ug/L	EPA 8260B	11/04/15 22:12	jes	
Vinyl Chloride	ND	0.50	0.13	ug/L	EPA 8260B	11/04/15 22:12	jes	
Xylenes (m+p)	ND	0.50	0.36	ug/L	EPA 8260B	11/04/15 22:12	jes	
Xylenes (ortho)	ND	0.50	0.41	ug/L	EPA 8260B	11/04/15 22:12	jes	
Diisopropyl ether	ND	3.0	0.30	ug/L	EPA 8260B	11/04/15 22:12	jes	
Ethyl tert-butyl ether	ND	3.0	0.29	ug/L	EPA 8260B	11/04/15 22:12	jes	
tert-Amyl Methyl Ether	ND	3.0	0.37	ug/L	EPA 8260B	11/04/15 22:12	jes	
Tert-butyl alcohol	ND	50	2.1	ug/L	EPA 8260B	11/04/15 22:12	jes	
Surrogate: 1,2-Dichloroethane-d4	97.4	% 80-120			EPA 8260B	11/04/15 22:12	jes	
Surrogate: Bromofluorobenzene	98.1	% 80-120			EPA 8260B	11/04/15 22:12	jes	
Surrogate: Toluene-d8	92.5	% 80-120			EPA 8260B	11/04/15 22:12	jes	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 17 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

### Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

## Diesel Range Organics by EPA 8015 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	RPD	RPD Limit	Flag
<b>Batch 5K04106 - Microextraction</b>									
<b>Blank (5K04106-BLK1)</b>					Prepared & Analyzed: 11/05/15				
DRO (C10-C28)	ND	5.0	0.78	mg/L					
ORO (C29-C44)	ND	5.0	2.2	mg/L					
Surrogate: o-Terphenyl	2.1			mg/L	2.14	96.0		45-127	
Surrogate: n-Triacontane	1.1			mg/L	1.57	71.1		41-118	
<b>LCS (5K04106-BS1)</b>					Prepared: 11/05/15 Analyzed: 11/06/15				
DRO (C10-C28)	28.9	5.0	0.78	mg/L	28.6	101		47-124	
ORO (C29-C44)	27.5	5.0	2.2	mg/L	28.6	96.2		50-119	
Surrogate: o-Terphenyl	2.2			mg/L	2.14	101		45-127	
Surrogate: n-Triacontane	1.6			mg/L	1.57	104		41-118	
<b>LCS Dup (5K04106-BSD1)</b>					Prepared & Analyzed: 11/05/15				
DRO (C10-C28)	27.6	5.0	0.78	mg/L	28.6	96.6	4.54	47-124	20
ORO (C29-C44)	27.0	5.0	2.2	mg/L	28.6	94.4	1.91	50-119	20
Surrogate: o-Terphenyl	2.0			mg/L	2.14	95.5		45-127	
Surrogate: n-Triacontane	1.6			mg/L	1.57	102		41-118	
<b>Matrix Spike (5K04106-MS1)</b>					Source: B5J2621-01 Prepared & Analyzed: 11/05/15				
DRO (C10-C28)	27.9	5.0	0.78	mg/L	28.6	ND	97.6	41-117	
ORO (C29-C44)	27.4	5.0	2.2	mg/L	28.6	ND	95.9	43-111	
Surrogate: o-Terphenyl	2.0			mg/L	2.14	94.3		45-127	
Surrogate: n-Triacontane	1.6			mg/L	1.57	100		41-118	



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 18 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

### Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

## Gasoline Range Organics by EPA 8015 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
<b>Batch 5K03086 - Purge and Trap</b>										
<b>Blank (5K03086-BLK1)</b>					Prepared & Analyzed: 11/03/15					
Gasoline Range Organics	ND	0.050	0.024	mg/L						
Surrogate: a,a,a-Trifluorotoluene	0.13			mg/L	0.215		59.0		10-110	
<b>LCS (5K03086-BS1)</b>					Prepared & Analyzed: 11/03/15					
Gasoline Range Organics	2.69	0.050	0.024	mg/L	2.32		116		69-145	
Surrogate: a,a,a-Trifluorotoluene	0.23			mg/L	0.215		106		10-110	
<b>LCS Dup (5K03086-BSD1)</b>					Prepared & Analyzed: 11/03/15					
Gasoline Range Organics	2.64	0.050	0.024	mg/L	2.32		114	69-145	2.02	40
Surrogate: a,a,a-Trifluorotoluene	0.23			mg/L	0.215		108		10-110	
<b>Matrix Spike (5K03086-MS1)</b>					Source: B5J2621-01 Prepared & Analyzed: 11/03/15					
Gasoline Range Organics	2.50	0.050	0.024	mg/L	2.50	ND	100	63-140		
Surrogate: a,a,a-Trifluorotoluene	0.23			mg/L	0.215		105		10-110	
<b>Matrix Spike Dup (5K03086-MSD1)</b>					Source: B5J2621-01 Prepared & Analyzed: 11/03/15					
Gasoline Range Organics	2.32	0.050	0.024	mg/L	2.50	ND	93.0	63-140	7.23	40
Surrogate: a,a,a-Trifluorotoluene	0.22			mg/L	0.215		104		10-110	



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Client Name: Regional WQCB, Lahontan Tahoe Office
Contact: Rebecca Phillips
Address: 2501 Lake Tahoe Boulevard
Lake Tahoe, CA 96150

Analytical Report: Page 19 of 31
Project Name: CRWQCB -IFB #15-025-160
Project Number: South Y PCE - Eloise Ave.

Report Date: 09-Nov-2015

Work Order Number: B5K0213

Received on Ice (Y/N): Yes Temp: 5 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Table with columns: Analyte(s), Result, RDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes a list of compounds like 1,1,1,2-Tetrachloroethane and a 'Blank' section.





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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 20 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

Report Date: 09-Nov-2015

**Work Order Number: B5K0213**

Received on Ice (Y/N): Yes Temp: 5 °C

**Volatile Organic Compounds by EPA 8260B - Batch Quality Control**

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Flag
<b>Batch 5K04104 - Purge and Trap</b>										
<b>Blank (5K04104-BLK1)</b>					Prepared & Analyzed: 11/04/15					
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L						
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L						
Dibromochloromethane	ND	0.50	0.37	ug/L						
Dibromomethane	ND	0.50	0.16	ug/L						
Dichlorodifluoromethane	ND	0.50	0.18	ug/L						
Ethylbenzene	ND	0.50	0.26	ug/L						
Hexachlorobutadiene	ND	0.50	0.21	ug/L						
Isopropylbenzene	ND	0.50	0.36	ug/L						
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L						
Methylene Chloride	ND	3.0	0.15	ug/L						
Naphthalene	ND	0.50	0.44	ug/L						
n-Butylbenzene	ND	0.50	0.15	ug/L						
n-Propylbenzene	ND	0.50	0.15	ug/L						
sec-Butylbenzene	ND	0.50	0.12	ug/L						
Styrene	ND	0.50	0.22	ug/L						
tert-Butylbenzene	ND	0.50	0.21	ug/L						
Tetrachloroethene	ND	0.50	0.23	ug/L						
Toluene	ND	0.50	0.22	ug/L						
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L						
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L						
Trichloroethene	ND	0.50	0.25	ug/L						
Trichlorofluoromethane	ND	5.0	0.16	ug/L						
Vinyl Chloride	ND	0.50	0.13	ug/L						
Xylenes (m+p)	ND	0.50	0.36	ug/L						
Xylenes (ortho)	ND	0.50	0.41	ug/L						
Diisopropyl ether	ND	3.0	0.30	ug/L						
Ethyl tert-butyl ether	ND	3.0	0.29	ug/L						
tert-Amyl Methyl Ether	ND	3.0	0.37	ug/L						
Tert-butyl alcohol	ND	50	2.1	ug/L						
Surrogate: 1,2-Dichloroethane-d4	9.72			ug/L	10.0		97.2	80-120		
Surrogate: Bromofluorobenzene	9.73			ug/L	10.0		97.3	80-120		
Surrogate: Toluene-d8	9.33			ug/L	10.0		93.3	80-120		



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Client Name: Regional WQCB, Lahontan Tahoe Office
Contact: Rebecca Phillips
Address: 2501 Lake Tahoe Boulevard
Lake Tahoe, CA 96150

Analytical Report: Page 21 of 31
Project Name: CRWQCB -IFB #15-025-160
Project Number: South Y PCE - Eloise Ave.

Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Table with columns: Analyte(s), Result, RDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes sections for Batch 5K04104 - Purge and Trap, LCS (5K04104-BS1), and LCS Dup (5K04104-BSD1).



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 22 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

### Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

## Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
<b>Batch 5K04104 - Purge and Trap</b>										
<b>LCS Dup (5K04104-BSD1)</b>					Prepared & Analyzed: 11/04/15					
Xylenes (m+p)	51.8	0.50	0.36	ug/L	50.0	104	70-130	7.77	20	
Xylenes (ortho)	26.2	0.50	0.41	ug/L	25.0	105	70-130	8.64	20	
Surrogate: 1,2-Dichloroethane-d4	9.14			ug/L	10.0	91.4	80-120			
Surrogate: Bromofluorobenzene	9.33			ug/L	10.0	93.3	80-120			
Surrogate: Toluene-d8	9.56			ug/L	10.0	95.6	80-120			
<b>Duplicate (5K04104-DUP1)</b>				<b>Source: B5K0161-03</b> Prepared: 11/04/15 Analyzed: 11/05/15						
1,1,1,2-Tetrachloroethane	ND	0.50	0.14	ug/L					40	
1,1,1-Trichloroethane	ND	0.50	0.12	ug/L					40	
1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/L					40	
1,1,2-Trichloroethane	ND	0.50	0.31	ug/L					40	
1,1-Dichloroethane	ND	0.50	0.098	ug/L					40	
1,1-Dichloroethene	ND	0.50	0.12	ug/L					40	
1,1-Dichloropropene	ND	0.50	0.14	ug/L					40	
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L					40	
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L					40	
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L					40	
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L					40	
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L					40	
1,2-Dichloroethane	ND	0.50	0.21	ug/L					40	
1,2-Dichloropropane	ND	0.50	0.19	ug/L					40	
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L					40	
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L					40	
1,3-Dichloropropane	ND	0.50	0.22	ug/L					40	
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L					40	
2,2-Dichloropropane	ND	0.50	0.49	ug/L					40	
2-Butanone(MEK)	ND	3.0	1.2	ug/L					40	
2-Chlorotoluene	ND	0.50	0.092	ug/L					40	
4-Chlorotoluene	ND	0.50	0.095	ug/L					40	
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L					40	
Acrolein	ND	10	1.1	ug/L					40	
Acrylonitrile	ND	10	1.2	ug/L					40	
Benzene	ND	0.50	0.14	ug/L					40	
Bromobenzene	ND	0.50	0.22	ug/L					40	
Bromochloromethane	ND	0.50	0.33	ug/L					40	



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Client Name: Regional WQCB, Lahontan Tahoe Office
Contact: Rebecca Phillips
Address: 2501 Lake Tahoe Boulevard
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Analytical Report: Page 23 of 31
Project Name: CRWQCB -IFB #15-025-160
Project Number: South Y PCE - Eloise Ave.

Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Table with columns: Analyte(s), Result, RDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes a list of 34 chemical compounds and their corresponding results.



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Client Name: Regional WQCB, Lahontan Tahoe Office
Contact: Rebecca Phillips
Address: 2501 Lake Tahoe Boulevard
Lake Tahoe, CA 96150

Analytical Report: Page 24 of 31
Project Name: CRWQCB -IFB #15-025-160
Project Number: South Y PCE - Eloise Ave.

Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Table with columns: Analyte(s), Result, RDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes sections for Batch 5K04104 - Purge and Trap (Duplicate and Matrix Spike) and Batch 5K06034 - Purge and Trap (Blank).



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 25 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

**Volatile Organic Compounds by EPA 8260B - Batch Quality Control**

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Flag
<b>Batch 5K06034 - Purge and Trap</b>										
<b>Blank (5K06034-BLK1)</b>										
Prepared: 11/06/15 Analyzed: 11/07/15										
1,1-Dichloropropene	ND	0.50	0.14	ug/L						
1,2,3-Trichlorobenzene	ND	0.50	0.29	ug/L						
1,2,3-Trichloropropane	ND	0.50	0.29	ug/L						
1,2,4-Trichlorobenzene	ND	0.50	0.34	ug/L						
1,2,4-Trimethylbenzene	ND	0.50	0.093	ug/L						
1,2-Dichlorobenzene	ND	0.50	0.20	ug/L						
1,2-Dichloroethane	ND	0.50	0.21	ug/L						
1,2-Dichloropropane	ND	0.50	0.19	ug/L						
1,3,5-Trimethylbenzene	ND	0.50	0.079	ug/L						
1,3-Dichlorobenzene	ND	0.50	0.15	ug/L						
1,3-Dichloropropane	ND	0.50	0.22	ug/L						
1,4-Dichlorobenzene	ND	0.50	0.072	ug/L						
2,2-Dichloropropane	ND	0.50	0.49	ug/L						
2-Butanone(MEK)	ND	3.0	1.2	ug/L						
2-Chlorotoluene	ND	0.50	0.092	ug/L						
4-Chlorotoluene	ND	0.50	0.095	ug/L						
4-Methyl-2-Pentanone(MIBK)	ND	5.0	0.95	ug/L						
Acrolein	ND	10	1.1	ug/L						
Acrylonitrile	ND	10	1.2	ug/L						
Benzene	ND	0.50	0.14	ug/L						
Bromobenzene	ND	0.50	0.22	ug/L						
Bromochloromethane	ND	0.50	0.33	ug/L						
Bromodichloromethane	ND	0.50	0.11	ug/L						
Bromoform	ND	1.0	0.50	ug/L						
Bromomethane	ND	0.50	0.48	ug/L						
Carbon Tetrachloride	ND	0.50	0.15	ug/L						
Chlorobenzene	ND	0.50	0.23	ug/L						
Chloroethane	ND	0.50	0.35	ug/L						
Chloroform	ND	0.50	0.46	ug/L						
Chloromethane	ND	0.50	0.36	ug/L						
cis-1,2-Dichloroethene	ND	0.50	0.18	ug/L						
cis-1,3-Dichloropropene	ND	0.50	0.30	ug/L						
Dibromochloromethane	ND	0.50	0.37	ug/L						
Dibromomethane	ND	0.50	0.16	ug/L						
Dichlorodifluoromethane	ND	0.50	0.18	ug/L						
Ethylbenzene	ND	0.50	0.26	ug/L						



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Client Name: Regional WQCB, Lahontan Tahoe Office  
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Analytical Report: Page 26 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

### Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

## Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Flag
<b>Batch 5K06034 - Purge and Trap</b>									
<b>Blank (5K06034-BLK1)</b>					Prepared: 11/06/15 Analyzed: 11/07/15				
Hexachlorobutadiene	ND	0.50	0.21	ug/L					
Isopropylbenzene	ND	0.50	0.36	ug/L					
Methyl tert Butyl Ether	ND	5.0	0.43	ug/L					
Methylene Chloride	ND	3.0	0.15	ug/L					
Naphthalene	ND	0.50	0.44	ug/L					
n-Butylbenzene	ND	0.50	0.15	ug/L					
n-Propylbenzene	ND	0.50	0.15	ug/L					
sec-Butylbenzene	ND	0.50	0.12	ug/L					
Styrene	ND	0.50	0.22	ug/L					
tert-Butylbenzene	ND	0.50	0.21	ug/L					
Tetrachloroethene	ND	0.50	0.23	ug/L					
Toluene	ND	0.50	0.22	ug/L					
trans-1,2-Dichloroethene	ND	0.50	0.10	ug/L					
trans-1,3-Dichloropropene	ND	0.50	0.24	ug/L					
Trichloroethene	ND	0.50	0.25	ug/L					
Trichlorofluoromethane	ND	5.0	0.16	ug/L					
Vinyl Chloride	ND	0.50	0.13	ug/L					
Xylenes (m+p)	ND	0.50	0.36	ug/L					
Xylenes (ortho)	ND	0.50	0.41	ug/L					
Diisopropyl ether	ND	3.0	0.30	ug/L					
Ethyl tert-butyl ether	ND	3.0	0.29	ug/L					
tert-Amyl Methyl Ether	ND	3.0	0.37	ug/L					
Tert-butyl alcohol	ND	50	2.1	ug/L					
<i>Surrogate:</i>	9.25			ug/L	10.0	92.5	80-120		
<i>1,2-Dichloroethane-d4</i>									
<i>Surrogate:</i>	9.72			ug/L	10.0	97.2	80-120		
<i>Bromofluorobenzene</i>									
<i>Surrogate: Toluene-d8</i>	9.30			ug/L	10.0	93.0	80-120		
<b>LCS (5K06034-BS1)</b>					Prepared: 11/06/15 Analyzed: 11/07/15				
1,1-Dichloroethane	25.6	0.50	0.098	ug/L	25.0	102	70-130		
1,1-Dichloroethene	26.4	0.50	0.12	ug/L	25.0	106	70-130		
1,4-Dichlorobenzene	26.2	0.50	0.072	ug/L	25.0	105	70-130		
Benzene	26.5	0.50	0.14	ug/L	25.0	106	70-130		
Bromodichloromethane	24.5	0.50	0.11	ug/L	25.0	98.1	70-130		
Bromoform	22.8	1.0	0.50	ug/L	25.0	91.0	70-130		
Chloroform	26.4	0.50	0.46	ug/L	25.0	106	70-130		



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Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 27 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

## Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
<b>Batch 5K06034 - Purge and Trap</b>										
<b>LCS (5K06034-BS1)</b>										
					Prepared: 11/06/15		Analyzed: 11/07/15			
Dibromochloromethane	26.2	0.50	0.37	ug/L	25.0	105	70-130			
Ethylbenzene	27.7	0.50	0.26	ug/L	25.0	111	70-130			
Methyl tert Butyl Ether	22.2	5.0	0.43	ug/L	25.0	88.6	70-130			
Tetrachloroethene	28.7	0.50	0.23	ug/L	25.0	115	70-130			
Toluene	26.2	0.50	0.22	ug/L	25.0	105	70-130			
Trichloroethene	27.2	0.50	0.25	ug/L	25.0	109	70-130			
Vinyl Chloride	25.7	0.50	0.13	ug/L	25.0	103	70-130			
Xylenes (m+p)	55.8	0.50	0.36	ug/L	50.0	112	70-130			
Xylenes (ortho)	28.0	0.50	0.41	ug/L	25.0	112	70-130			
Surrogate:	8.85			ug/L	10.0	88.5	80-120			
1,2-Dichloroethane-d4										
Surrogate:	9.28			ug/L	10.0	92.8	80-120			
Bromofluorobenzene										
Surrogate: Toluene-d8	9.42			ug/L	10.0	94.2	80-120			
<b>LCS Dup (5K06034-BSD1)</b>										
					Prepared: 11/06/15		Analyzed: 11/07/15			
1,1-Dichloroethane	23.5	0.50	0.098	ug/L	25.0	94.0	70-130	8.32	20	
1,1-Dichloroethene	24.8	0.50	0.12	ug/L	25.0	99.4	70-130	6.12	20	
1,4-Dichlorobenzene	24.5	0.50	0.072	ug/L	25.0	98.1	70-130	6.66	20	
Benzene	24.7	0.50	0.14	ug/L	25.0	99.0	70-130	6.83	20	
Bromodichloromethane	23.2	0.50	0.11	ug/L	25.0	92.7	70-130	5.66	20	
Bromoform	21.3	1.0	0.50	ug/L	25.0	85.0	70-130	6.77	20	
Chloroform	24.7	0.50	0.46	ug/L	25.0	98.8	70-130	6.85	20	
Dibromochloromethane	24.6	0.50	0.37	ug/L	25.0	98.6	70-130	6.21	20	
Ethylbenzene	26.1	0.50	0.26	ug/L	25.0	105	70-130	5.76	20	
Methyl tert Butyl Ether	20.7	5.0	0.43	ug/L	25.0	82.8	70-130	6.76	20	
Tetrachloroethene	27.1	0.50	0.23	ug/L	25.0	108	70-130	5.95	20	
Toluene	24.6	0.50	0.22	ug/L	25.0	98.4	70-130	6.18	20	
Trichloroethene	25.5	0.50	0.25	ug/L	25.0	102	70-130	6.23	20	
Vinyl Chloride	24.6	0.50	0.13	ug/L	25.0	98.2	70-130	4.69	20	
Xylenes (m+p)	52.1	0.50	0.36	ug/L	50.0	104	70-130	6.71	20	
Xylenes (ortho)	26.7	0.50	0.41	ug/L	25.0	107	70-130	4.86	20	
Surrogate:	8.99			ug/L	10.0	89.9	80-120			
1,2-Dichloroethane-d4										
Surrogate:	9.32			ug/L	10.0	93.2	80-120			
Bromofluorobenzene										
Surrogate: Toluene-d8	9.58			ug/L	10.0	95.8	80-120			





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Client Name: Regional WQCB, Lahontan Tahoe Office
Contact: Rebecca Phillips
Address: 2501 Lake Tahoe Boulevard
Lake Tahoe, CA 96150

Analytical Report: Page 28 of 31
Project Name: CRWQCB -IFB #15-025-160
Project Number: South Y PCE - Eloise Ave.

Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Table with columns: Analyte(s), Result, RDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes a list of compounds like 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, etc., with their respective results and RDL values.



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Client Name: Regional WQCB, Lahontan Tahoe Office
Contact: Rebecca Phillips
Address: 2501 Lake Tahoe Boulevard
Lake Tahoe, CA 96150

Analytical Report: Page 29 of 31
Project Name: CRWQCB -IFB #15-025-160
Project Number: South Y PCE - Eloise Ave.

Work Order Number: B5K0213

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

Volatile Organic Compounds by EPA 8260B - Batch Quality Control

Table with columns: Analyte(s), Result, RDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes data for Batch 5K06034 - Purge and Trap, Duplicate (5K06034-DUP1), and various chemical compounds like cis-1,2-Dichloroethene, etc.



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Client Name: Regional WQCB, Lahontan Tahoe Office  
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Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 30 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

**Work Order Number: B5K0213**

Report Date: 09-Nov-2015

Received on Ice (Y/N): Yes Temp: 5 °C

**Volatile Organic Compounds by EPA 8260B - Batch Quality Control**

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
<b>Batch 5K06034 - Purge and Trap</b>										
<b>Matrix Spike (5K06034-MS1)</b>			<b>Source: B5K0670-01</b>		Prepared: 11/06/15		Analyzed: 11/07/15			
1,1-Dichloroethane	26.8	0.50	0.098	ug/L	25.0	ND	107	70-130		
1,1-Dichloroethene	29.0	0.50	0.12	ug/L	25.0	ND	116	70-130		
1,4-Dichlorobenzene	27.6	0.50	0.072	ug/L	25.0	ND	111	70-130		
Benzene	28.1	0.50	0.14	ug/L	25.0	ND	113	70-130		
Bromodichloromethane	25.6	0.50	0.11	ug/L	25.0	0.270	101	70-130		
Bromoform	23.5	1.0	0.50	ug/L	25.0	ND	94.2	70-130		
Chloroform	28.8	0.50	0.46	ug/L	25.0	1.12	111	70-130		
Dibromochloromethane	26.9	0.50	0.37	ug/L	25.0	ND	107	70-130		
Ethylbenzene	29.5	0.50	0.26	ug/L	25.0	ND	118	70-130		
Methyl tert Butyl Ether	22.4	5.0	0.43	ug/L	25.0	ND	89.7	70-130		
Tetrachloroethene	31.0	0.50	0.23	ug/L	25.0	ND	124	70-130		
Toluene	27.9	0.50	0.22	ug/L	25.0	ND	112	70-130		
Trichloroethene	29.1	0.50	0.25	ug/L	25.0	ND	117	70-130		
Vinyl Chloride	26.9	0.50	0.13	ug/L	25.0	ND	108	70-130		
Xylenes (m+p)	58.6	0.50	0.36	ug/L	50.0	ND	117	70-130		
Xylenes (ortho)	29.3	0.50	0.41	ug/L	25.0	ND	117	70-130		
<i>Surrogate:</i>	<i>8.69</i>			ug/L	<i>10.0</i>		<i>86.9</i>	<i>80-120</i>		
<i>1,2-Dichloroethane-d4</i>										
<i>Surrogate:</i>	<i>9.49</i>			ug/L	<i>10.0</i>		<i>94.9</i>	<i>80-120</i>		
<i>Bromofluorobenzene</i>										
<i>Surrogate: Toluene-d8</i>	<i>9.55</i>			ug/L	<i>10.0</i>		<i>95.5</i>	<i>80-120</i>		



# BABCOCK Laboratories, Inc.

*The Standard of Excellence for Over 100 Years*

Client Name: Regional WQCB, Lahontan Tahoe Office  
Contact: Rebecca Phillips  
Address: 2501 Lake Tahoe Boulevard  
Lake Tahoe, CA 96150

Analytical Report: Page 31 of 31  
Project Name: CRWQCB -IFB #15-025-160  
Project Number: South Y PCE - Eloise Ave.

Report Date: 09-Nov-2015

**Work Order Number: B5K0213**

Received on Ice (Y/N): Yes Temp: 5 °C

## Notes and Definitions

- J Estimated value
- NHCno The sample chromatographic pattern does NOT resemble the fuel standard used for quantitation.
- Q\_nes Insufficient sample for the sample duplicate and/or MS/MSD analysis.
- ND: Analyte NOT DETECTED at or above the Method Detection Limit (**if MDL is reported**), otherwise at or above the Reportable Detection Limit (RDL)
- NR: Not Reported
- RDL: Reportable Detection Limit
- MDL: Method Detection Limit
- \* / " : NELAP does not offer accreditation for this analyte/method/matrix combination

---

## Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

Digitally signed by: Cindy Waddell  
DN: CN = Cindy Waddell C = US O = Babcock  
Laboratories OU = Project Manager Assistant  
Date: 2015.11.09 16:46:34 -07'00'

cc:

*mailing*  
P.O. Box 432  
Riverside, CA 92502-0432

*location*  
6100 Quail Valley Court  
Riverside, CA 92507-0704

P 951 653 3351  
F 951 653 1662  
www.babcocklabs.com

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CA ELAP No. 2698  
EPA no. CA00102  
LACSD No., 10119



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www.babcocklabs.com

6100 Quail Valley Court Riverside, CA 92507  
(951) 653-3351 • FAX (951) 653-1662

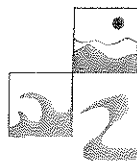
### Chain of Custody & Sample Information Record

Client: Lahontan RWQCB Contact: Lisa Dernbach Fax No. \_\_\_\_\_  
 Phone No. (530) 542-5424 email: lisa.dernbach@waterboards.ca.gov  
 Project Name: South Y PCE Turn Around Time: Routine \*72 Hour Rush \*48 Hour Rush \*24 Hour Rush  
 Project Location: Eloise Ave \*Lab TAT Approval: \_\_\_\_\_ By: \_\_\_\_\_ \*Additional Charges Apply

Sample ID	Date	Time	# of Containers & Preservatives										Sample Type	Analysis Requested	Matrix	Notes	
			Unpreserved	H <sub>2</sub> O <sub>2</sub>	HCl	HNO <sub>3</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	NaOH	NaOH/Zn Acetate	NH <sub>4</sub> Cl	MCA					Total # of Containers
516 RB 6026	10/30/15	12:40p	1	3													Monitoring well sample - clear day
516 RB 6027		2:00p															Handel - N
516 RB 6028		1:45p															MW-4B
516 RB 6029		2:25p															MW-4A
516 RB 6030		2:45p															EW-4B
																	EW-4A

Relinquished By (sign) Lisa Dernbach Print Name / Company Lahontan RWQCB Date / Time 11/2/15 1:55p  
 Received By (sign) Angie Brown Print Name / Company Angie Brown  
 Lab No. B5K0213 Logged in By/Date: NOV 03 2015 AB  
 Page 1 of 1

# **EXHIBIT KK**



## E2C Remediation

Environmental Engineering,  
Consulting and Remediation, Inc.

November 1, 2010

Mr. Scott Reisch, Partner  
Hogan & Hartson LLP  
One Tabor Center, Suite 1500  
1200 Seventeenth Street  
Denver, CO 80202

Mr. Brooks M. Beard, Esq.  
Morrison & Foerster LLP  
425 Market Street  
San Francisco, CA 94105

**SUBJECT: Third Quarter 2010 Groundwater Monitoring Report and  
Remediation Status Report**

**Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Dear Mssrs. Reisch and Beard:

Pursuant to your request, please find attached the above-captioned Third Quarter 2010 Groundwater Monitoring Report and Interim Remediation Status Report (QMR/RSR). The document was prepared to comply with the Interim Remedial Action Workplan, which was approved by the State of California Regional Water Quality Control Board - Lahontan Region, South Lake Tahoe Branch (CRWQCB) letter dated September 9, 2009.

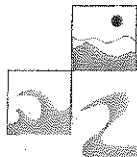
If you have any questions, or comments, please call the undersigned, or Phil Goalwin, at 661-831-6906.

Sincerely,  
E2C Remediation

William A. Lawson, P.G. #7171  
Director of Technical Operations



cc: Ms. Lisa Dernbach, C.H.G.  
Senior Engineering Geologist  
CRWQCB - Lahontan Region, South Lake Tahoe Office  
2501 Lake Tahoe Boulevard  
South Lake Tahoe, CA 96150



**E<sub>2</sub>C Remediation**

Environmental Engineering,  
Consulting and Remediation, Inc.

**THIRD QUARTER 2010  
GROUNDWATER MONITORING REPORT  
AND  
INTERIM REMEDIATION STATUS REPORT**

**Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

**November 1, 2010  
Project Number: 1950BK26**

**Prepared For:**

**Fox Capital Management Corporation  
4582 S. Ulster Street Parkway, Suite 1100  
Denver, CO 80237**

**Seven Springs Limited Partnership  
c/o Christopher Blair  
Vice President**

**The Commerce Trust Company  
118 West 47th Street  
Kansas City, MO 64112**

**Prepared By:**

**E<sub>2</sub>C Remediation  
Environmental/Engineering Consultants  
5300 Woodmere Drive, Suite 105  
Bakersfield, California 93313**



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## **EXECUTIVE SUMMARY**

This report documents Third Quarter 2010 groundwater monitoring activities conducted after interim remediation system pilot testing at the Lake Tahoe Laundry Works (LTLW) facility located at 1024 Lake Tahoe Boulevard in South Lake Tahoe, California (Site). This work was conducted in accordance with the State of California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) letter, dated September 1, 2009.

### ***Discussion of Monitoring Data***

Based on the September 2010 groundwater elevation data, groundwater beneath the Site appears to flow generally northerly. This flow direction does not appear to match the groundwater chemical data, which generally indicates an easterly plume migration direction.

Dissolved-phase tetrachloroethene (PCE) was reported in upgradient wells (LW-MW-10S and LW-MW-12S) at concentrations of 23.7 micrograms per liter ( $\mu\text{g/L}$ ) and 824  $\mu\text{g/L}$ , respectively, in September 2010. These represented a decrease at LW-MW-10S (63.8  $\mu\text{g/L}$  in June 2010) and a significant increase at LW-MW-12S (314  $\mu\text{g/L}$  in June 2010). The dissolved-phase PCE concentrations have fluctuated up and down at LW-MW-10S, whereas dissolved-phase PCE concentrations at LW-MW-12S have exhibited an increasing trend (see Table 3).

PCE in groundwater samples from monitoring well LW-MW-1S and LW-MW-5S decreased significantly in September 2010 to 547  $\mu\text{g/L}$  (4,920  $\mu\text{g/L}$  in June 2010) and 480  $\mu\text{g/L}$  (448  $\mu\text{g/L}$  in duplicate sample) (1,400  $\mu\text{g/L}$  in June 2010). Further monitoring data will be used to evaluate concentration trends during the interim and final remediation periods.

Shallow soil-vapor samples were collected from the VP wells. Low concentrations of PCE were reported in vapor samples in six (6) of the wells. TCE and cis-1,2-DCE were reported as non-detect in vapor samples from all of the VP wells.

### ***Discussion of Interim Remediation Data***

The SVE/GASS has operated almost continuously since the end of the Pilot Test period. The Site is visited generally on a weekly basis to record system operating parameters and to measure vapor influent, mid-fluent and effluent. Additionally, vapor samples were collected periodically for laboratory analyses. Finally, the system air sparging and vapor extraction wellfields were optimized during each visit to maximize removal of subsurface contaminants. Based on vapor influent concentrations and incremental running time, approximately 192.4 pounds (lbs) of VOC mass has been removed via the SVE/GASS operations from system startup (April 9, 2010) through the pilot test (April 9-June 9, 2010) to the middle of September 2010.

### **Conclusions**

Based on the limited monitoring data collected to date, the following conclusions can be made:

- Groundwater elevation data indicate that flow beneath the Site at the time of the September 2010 monitoring event was generally northerly;
- Based on current and historical groundwater analytical data, VOC plume migration under the Site appears to be easterly;
- In September 2010, dissolved-phase PCE concentrations decreased dramatically at LW-MW-1S and LW-MW-5S;
- Since startup of the Interim Remediation system, approximately 192.4 lbs of VOC mass has been removed from the subsurface; and
- Future monitoring should continue for evaluation of dissolved-phase concentration trends and shallow soil-vapor concentration trends at the Site during the interim and final remedial operations.

### **Recommendations**

Based on the above conclusions, E<sub>2</sub>C recommends the following:

- Continue interim remedial system operation in accordance with the Interim Remedial Action Work Plan (IRAWP) until the draft final remedial action plan has been reviewed and approved for final by the CRWQCB; and
- Continue groundwater and soil vapor monitoring and status reporting in accordance with the approved IRAWP.

## **1.0 INTRODUCTION**

On behalf of Seven Springs Limited Partnership and Fox Capital Management, E<sub>2</sub>C Remediation is submitting this report documenting groundwater monitoring activities that were conducted in September 2010 at the Lake Tahoe Laundry Works (LTLW) facility located at 1024 Lake Tahoe Boulevard in South Lake Tahoe, California (Site). Third Quarter 2010 groundwater monitoring activities were conducted during ongoing interim soil vapor extraction/groundwater air sparging remedial activity as described in the Interim Remedial Action Work Plan (IRAWP). The IRAWP was submitted to the State of California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) on June 4, 2009. Additionally, an addendum to the IRAWP was submitted to the CRWQCB on August 26, 2009. On September 1, 2009, the CRWQCB approved the IRAWP and its addendum by letter. This combined report documents groundwater monitoring activities and presents the interim remediation status of the Site.

### **1.1 Site Description**

The Site is located approximately 9,000 feet south of Lake Tahoe in the City of South Lake Tahoe, El Dorado County (see Figure 1). The Site is situated in the northwest corner of the South Y Shopping Center, along Lake Tahoe Boulevard between U.S. Highway 50 and Tata Lane and is cross-corner from the dead-end intersection of Glorene Avenue with Lake Tahoe Boulevard (see Figure 2).

### **1.2 Previous Investigations**

Based on a review of previous investigations, it appeared that shallow soils (vadose zone) beneath the Site and shallow groundwater beneath and immediately adjacent to the Site had been impacted by low to moderate concentrations of volatile organic compounds (VOCs), principally tetrachloroethene (a.k.a. tetrachloroethylene or perchloroethene) (PCE) and trichloroethene (a.k.a. trichloroethylene) (TCE).

From October 2003 through November 2005, PES Environmental, Inc. (PES) conducted soil and shallow groundwater investigation work (PES, 2003, 2004, 2005 and PES 2006).

In August and September 2008, E<sub>2</sub>C Remediation (E<sub>2</sub>C) conducted a site investigation to further evaluate vadose zone and groundwater conditions beneath and adjacent to the Site. The findings of the 2008 investigation were presented in the *Site Investigation Report of Findings* (E<sub>2</sub>C, 2008).

## **2.0 THIRD QUARTER 2010 GROUNDWATER MONITORING**

Third Quarter 2010 groundwater monitoring was conducted on September 8, 2010.

### **2.1 Groundwater Elevation Monitoring**

Initially, depths to groundwater were measured at the eight (8) shallow zone aquifer (SZA) wells (LW-MW-1S, LW-MW-2S, LW-MW-5S and LW-MW-9S through LW-MW-13S) located at the Site and at the one (1) far offsite monitoring well OS-1.

Depths to water were measured from a mark placed at the top of each well casing (generally the north side) using a Solinst water level meter recorded to the nearest 0.01-foot (see Appendix A for field data sheets). Depths to groundwater from the site

wells were used to calculate the groundwater elevation at each well for generation of a groundwater gradient plot.

### **2.1.1 Groundwater Gradient**

On September 8, 2010, depths to water ranged from 11.57 feet below top of casing (BTOC) (LW-MW-12S) to 14.85 feet BTOC (LW-MW-2S) (see Table 1A for a summary of depth to groundwater data and Table 2 for summary of historical depth to groundwater data). Depth to groundwater data were used to calculate the SZA groundwater elevations across the Site (see Figure 3). Based on the groundwater elevation data, the groundwater flow in the SZA beneath the Site at the time of the September 2010 monitoring event was generally to the north.

## **2.2 Groundwater Sampling**

In accordance with the approved IRAWP, low-flow purging and sampling methods were employed to minimize aquifer stress in the vicinity of the monitoring wells. Groundwater was purged from each monitoring well using a clean submersible pump operating at a flow of 750 milliliters per minute (ml/min). Each sampled monitoring well was purged for 10 minutes, for a total purge volume of 7,500 milliliters (7.5 liters). The temperature, pH, and conductivity of the purged water were measured periodically to verify sufficient purging, as indicated by stable measurements on field instruments. When the measurements were within 10% of the previous reading, groundwater in the well was considered stable for sampling (see Appendix A).

Each groundwater sample was collected using a clean plastic bailer. Liquid in the bailer was decanted into laboratory supplied glassware consisting of three (3) 40-milliliter volatile organic analysis (VOA) vials. Each VOA was sealed using a tight fitting Teflon-lined screw cap. Care was taken so that no headspace or bubbles were present in the VOA vials. All samples were labeled and documented on a Chain-of-Custody record immediately after sealing. The samples were placed into an iced cooler and maintained at approximately 4° Centigrade for transport to the analytical laboratory.

### **2.2.1 Chemical Analysis of Groundwater Samples**

Groundwater samples were analyzed at ProVera Analytical Laboratories, Inc. of Bakersfield, California (DHS-Certification #2606) (ProVera) for the following compounds by the appropriate EPA Method (see Appendix B for analytical laboratory report):

- Volatile Organic Compounds, including PCE, TCE and associated PCE and TCE degradation products, using EPA Method 8260b.

### **2.2.2 Summary of Groundwater Analytical Results**

The reported results are summarized as follows (see Table 1 for summary of current data and Table 3 for summary of historical data):

#### Site Wells

- PCE was reported at all eight (8) site wells at concentrations ranging from a low of 2.18 micrograms per liter ( $\mu\text{g/L}$ ) (LW-MW-9S) to a high of 824  $\mu\text{g/L}$  (LW-MW-12S) (see Figure 4);
- TCE was reported at one (1) site well (LW-MW-5S) at a concentration of 11.0  $\mu\text{g/L}$  (10.6  $\mu\text{g/L}$  in duplicate sample) (see Figure 5);

- Cis-1,2-Dichloroethene (cis-1,2-DCE) was reported at five (5) site wells, at concentrations ranging from a low of 0.830 µg/L (LW-MW-11S) to a high of 11.5 µg/L (11.3 µg/L in duplicate sample) (LW-MW-5S) (see Figure 6);
- Chloroform was reported at LW-MW-5S at a concentration of 1.07 µg/L; and
- All other VOCs were reported as non-detect at their respective detection limits.

#### Off-Site Well OS-1

- PCE was reported at a concentration of 13.5 µg/L;
- TCE was reported as non-detect;
- Cis-1,2-DCE was reported as non-detect; and
- All other VOCs were reported as non-detect at their respective detection limits.

### **2.3 Shallow Soil-Vapor Sampling**

On September 8, 2010, shallow soil-vapor samples were collected from the ten (10) Vapor Point (VP) wells. Shallow soil-vapor samples were collected in accordance with soil-gas monitoring procedures outline in Appendix A of the IRAWP (E<sub>2</sub>C, 2009a) (copy included as Appendix E).

#### **2.3.1 Summary of Shallow Soil-Vapor Data**

Shallow soil-vapor analytical data are summarized in Table 4, Figure 7 and as follows:

- PCE was reported in six (6) VP wells at concentrations ranging from a low of 0.064 parts per million by volume (ppmV) (VP-7) to a high of 7.53 ppmV (VP-9);
- TCE was reported as non-detect at all ten (10) VP wells;
- Cis-1,2-DCE was reported as non-detect at all ten (10) VP wells; and
- All other VOCs analyzed for were reported as non-detect at their respective detection limits, except at VP-1 where 0.031 ppmV of other VOCs was reported.

### **2.4 Electronic Submittal of Data to GeoTracker Database**

E<sub>2</sub>C has requested authorization from Seven Springs LLP to upload to GeoTracker. Once authorization is approved, E<sub>2</sub>C will upload 2008, 2009 and 2010 data and the new survey data to the database. Uploads will be reported in the appropriate status report at the time of uploading.

### **2.5 Discussion of Groundwater Monitoring Data**

Based on the September 2010 groundwater elevation data, groundwater beneath the Site appears to flow generally northerly. This flow direction does not appear to match the groundwater chemical data, which indicates an apparent easterly plume migration direction.

Dissolved-phase PCE was reported in upgradient wells (LW-MW-10S and LW-MW-12S) at concentrations of 23.7 µg/L and 824 µg/L, respectively, in September 2010. These represented a decrease at LW-MW-10S (63.8 µg/L in June 2010) and a significant increase at LW-MW-12S (314 µg/L in June 2010). The dissolved-phase PCE concentrations have fluctuated up and down at LW-MW-10S, whereas dissolved-phase PCE concentrations at LW-MW-12S have exhibited an increasing trend (see Table 3).

PCE in groundwater samples from monitoring well LW-MW-1S and LW-MW-5S decreased significantly in September 2010 to 547 µg/L (4,920 µg/L in June 2010) and 480 µg/L (448 µg/L in duplicate sample) (1,400 µg/L in June 2010) (see Table 3). Further monitoring data will be used to evaluate concentration trends during the interim and final remediation periods.

### **3.0 INTERIM REMEDIATION STATUS**

In accordance with the CRWQCB approved IRAWP, an Interim Remedial Action system was installed at the Site. The system uses soil vapor extraction (SVE) combined with groundwater air sparging (GAS) (SVE/GASS). The SVE/GASS commenced operation with the start of the 60-day system pilot test on April 6, 2010. Operation of the SVE/GASS Pilot Test was documented in the report, *Interim Remedial System Installation/Pilot Testing Report of Findings and Draft Remedial Action Plan for Vadose Zone Soil and Shallow Groundwater Cleanup, Lake Tahoe Laundry Works, 1024 Lake Tahoe Boulevard, South Lake Tahoe, California* (IRSI/PTROF/DRAP). Pursuant to the approved IRAWP and Addendum to IRAWP, the system was left operational pending review approval and implementation of the IRSI/PTROF/DRAP.

#### **3.1 Interim Remedial System Operations**

The SVE/GASS has operated almost continuously since the end of the Pilot Test period. See Table 7 for system operational data. The Site is visited generally on a weekly basis to record system operating parameters and to measure vapor influent, mid-fluent and effluent. Additionally, vapor samples were collected periodically for laboratory analyses. Finally, the system air sparging and vapor extraction wellfields were optimized during each visit to maximize removal of subsurface contaminants (see Table 8 for SVE wellfield configurations).

#### **3.2 System Vapor Sampling & EDCAQMD Compliance**

During each site visit, vapor influent (pre-carbon), mid-fluent (sampling point between the two carbon units) and effluent (sampling point after the second carbon unit). These data were recorded on field data sheets. The data are summarized in Table 7. Vapor samples for laboratory analyses were collected via Summa canisters and/or Tedlar® bags and were transported under Chain-of-Custody to ProVera for analyses as follows:

- PCE, TCE and associated PCE and TCE degradation products using Modified EPA Method TO-15.

See Table 9 for summary of current and historical laboratory vapor analytical data. See Appendix G for copies of analytical laboratory interim remediation system operation vapor reports.

##### **3.2.1 VOC Mass Removal**

Field measurement and laboratory analytical data have been used to estimate the volume of VOC mass removed during SVE/GASS operations (see Table 7). Mass removal calculations are provided for PCE, TCE and cis-1,2-DCE, as each has a significantly different molecular weight (PCE at 165.82 grams per mole (g/mol); TCE at 131.39 g/mol; and cis-1,2-DCE at 96.95 g/mol). 1,1,1-Trichloroethane was also reported in vapor; however, it has been included in the cis-1,2-DCE calculation as its molecular weight is virtually the same as cis-1,2-DCE.



Based on laboratory-derived vapor influent concentrations and incremental running time, approximately 192.4 pounds (lbs) of VOC mass has been removed via the SVE/GASS operations from system startup (April 9, 2010) to the middle of September 2010 (see Table 7).

Note: Between system sampling events, the average of the prior and subsequent laboratory-derived data has been used in the calculations.

### **3.2.2 EDCAQMD Compliance**

Laboratory analytical data is also used to evaluate compliance with the El Dorado County Air Quality Management District (EDCAQMD) Authority to Construct (ATC) (see Appendix F for copy of ATC). Based on ATC conditions, the total daily emissions to atmosphere cannot exceed 9.9 lbs/day. This would equate to discharge to atmosphere (discharge after the second carbon unit) of greater than 30 ppmV of PCE, the compound with the highest atomic mass (165.82 pound per pound-mole (lb/lb-mol)) (equivalent to grams per mole (g/mol)). TCE and cis-1,2-DCE have atomic masses of 131.39 g/mol and 95.95 g/mol, respectively.

The formula for calculating the potential influent to achieve 9.9 lbs/day is:

$$9.9 \text{ (lbs/day)} = \text{Influent (ppmV)} \times 10^{-6} \times \text{Influent Flow Rate (scfm)} \times 1 \text{ lb-mole/379.5 ft}^3 \times 165.82 \text{ (lb/lb-mole)} \text{ (PCE mass)} \times 60 \text{ (min/hour)} \times 24 \text{ hours/day}$$

System vapor data are summarized in Table 9. Although minor breakthrough of the second carbon unit has occurred, the discharge to atmosphere remains in compliance with the PTO conditions. Note: To maximize the carbon utilization, E<sub>2</sub>C has reversed the flow in the carbon canisters. This will eliminate any channeling or preferential flow pathways through the carbon. Replacement carbon for the carbon vessels has been ordered.

## **4.0 CONCLUSIONS**

Based on the limited monitoring data collected to date, the following conclusions can be made:

- Groundwater elevation data indicate that flow beneath the Site at the time of the September 2010 monitoring event was generally northerly;
- Based on current and historical groundwater analytical data, VOC plume migration under the Site appears to be easterly;
- In September 2010, dissolved-phase PCE concentrations decreased dramatically at LW-MW-1S and LW-MW-5S;
- Since startup of the Interim Remediation system, approximately 192.4 lbs of VOC mass has been removed from the subsurface; and
- Future monitoring should continue for evaluation of dissolved-phase concentration trends and shallow soil-vapor concentration trends at the Site during the interim and final remedial operations.

### 5.0 RECOMMENDATIONS

Based on the above conclusions, E<sub>2</sub>C recommends the following:

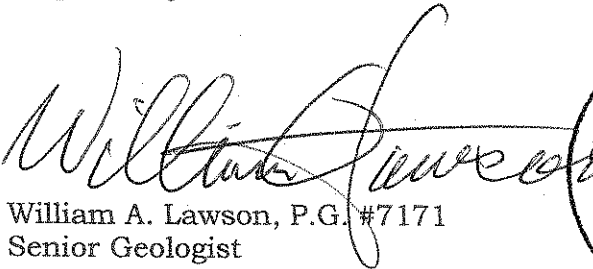
- Continue interim remedial system operation in accordance with the IRAWP until the draft final remedial action plan has been reviewed and approved by the CRWQCB; and
- Continue groundwater and soil vapor monitoring and status reporting in accordance with the approved IRAWP.

### 6.0 LIMITATIONS AND CERTIFICATION

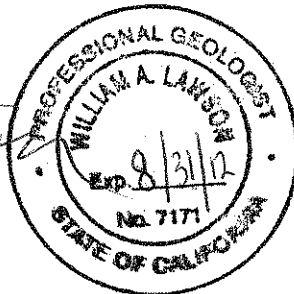
E<sub>2</sub>C has performed this investigation in accordance with generally accepted standards of care existing in California at this time. It should be recognized that definition and evaluation of geologic conditions is a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with limited knowledge of subsurface conditions present. No warranty expressed or implied is made.

This Report has been prepared under the professional supervision of the registered professionals whose seals and signatures appear herein. The proposed site monitoring and remediation tasks in this Report are based solely on the Scope of Services outlined and the sources of information referenced in this report. Any additional information that becomes available concerning the Site should be submitted to E<sub>2</sub>C so that our conclusions may be reviewed and modified, if necessary. This Report was prepared for the sole use of Seven Springs Limited Partnership, Fox Capital Management, and/or their agent(s), the CRWQCB and the EDCEMD.

Prepared By:



William A. Lawson, P.G. #7171  
Senior Geologist

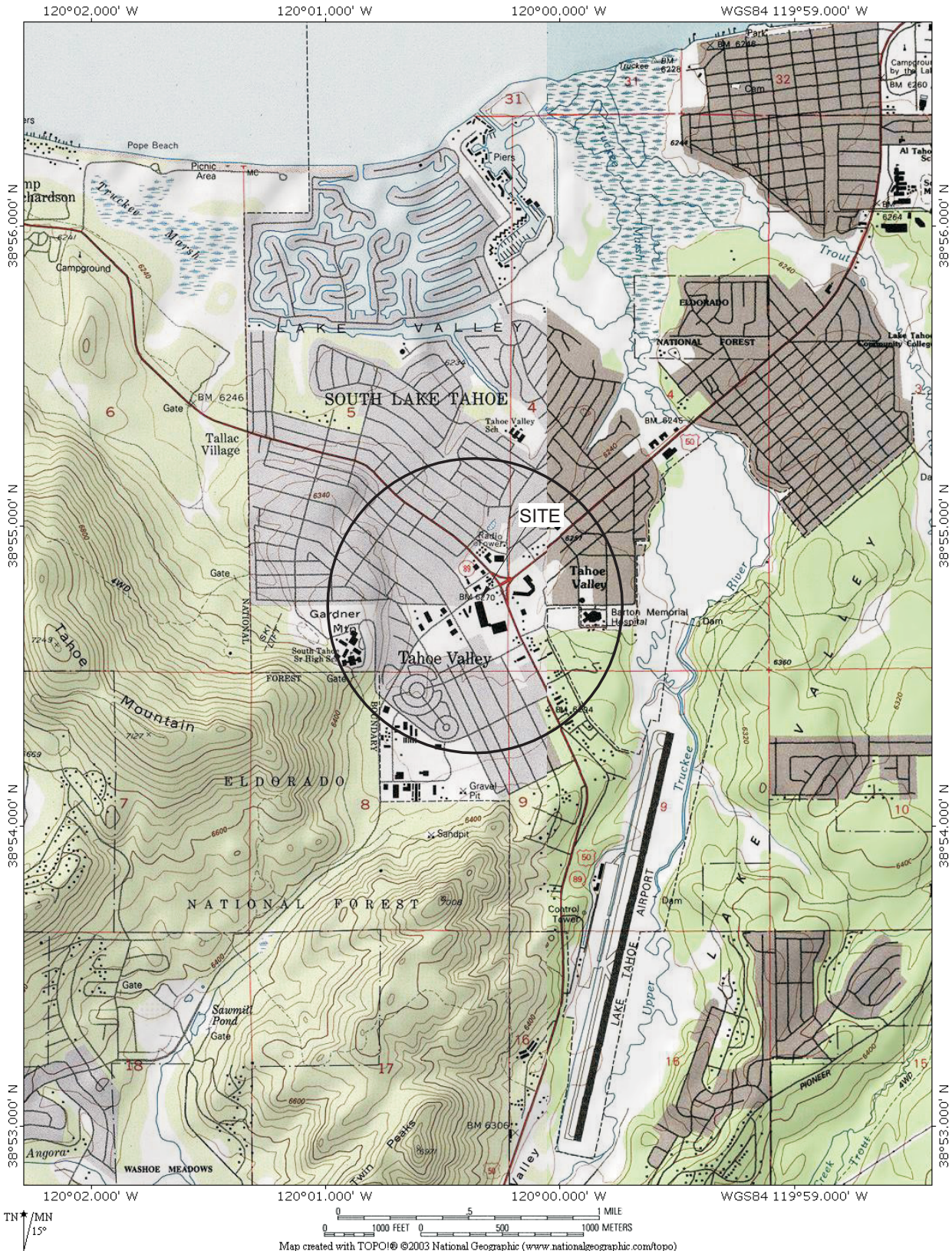


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## **FIGURES**

- Figure 1 Site Location Map
- Figure 2 Site Plan
- Figure 3 Third Quarter 2010 Groundwater Gradient Plot
- Figure 4 Third Quarter 2010 PCE Distribution Plot
- Figure 5 Third Quarter 2010 TCE Distribution Plot
- Figure 6 Third Quarter 2010 cis-1,2-DCE Distribution Plot
- Figure 7 Third Quarter 2010 Shallow Soil-Vapor Distribution Plot



**E<sub>2</sub>C Remediation**

5300 Woodmere Dr., Suite 105  
Bakersfield, CA 93313

Phone: (661) 831-6906  
Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**SITE LOCATION MAP**

**FIGURE**

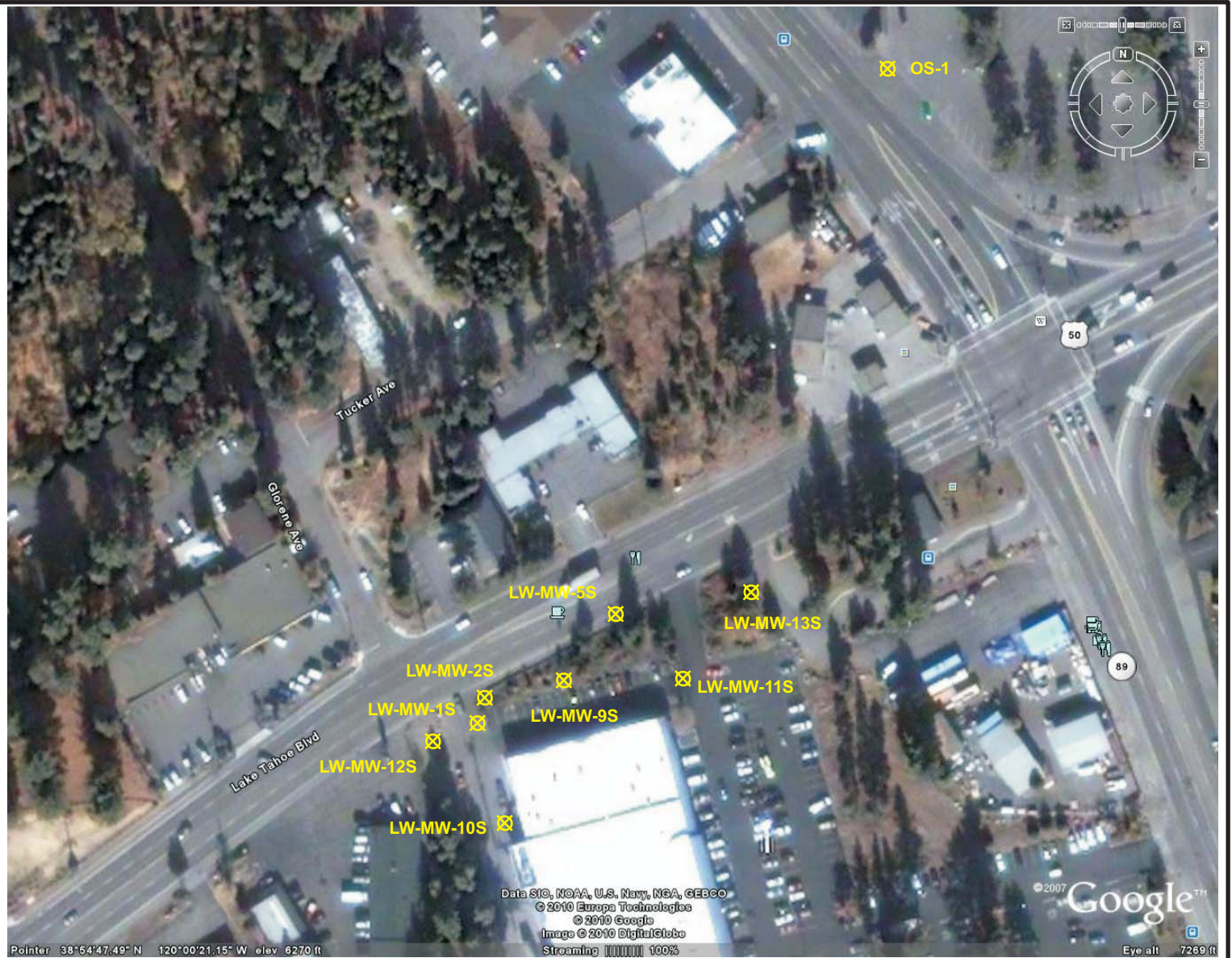
**1**

**LEGEND**

☒ Approximate Location of Groundwater Monitoring Well  
LW-MW-1S



NOT TO SCALE



*E<sub>2</sub>C Remediation*

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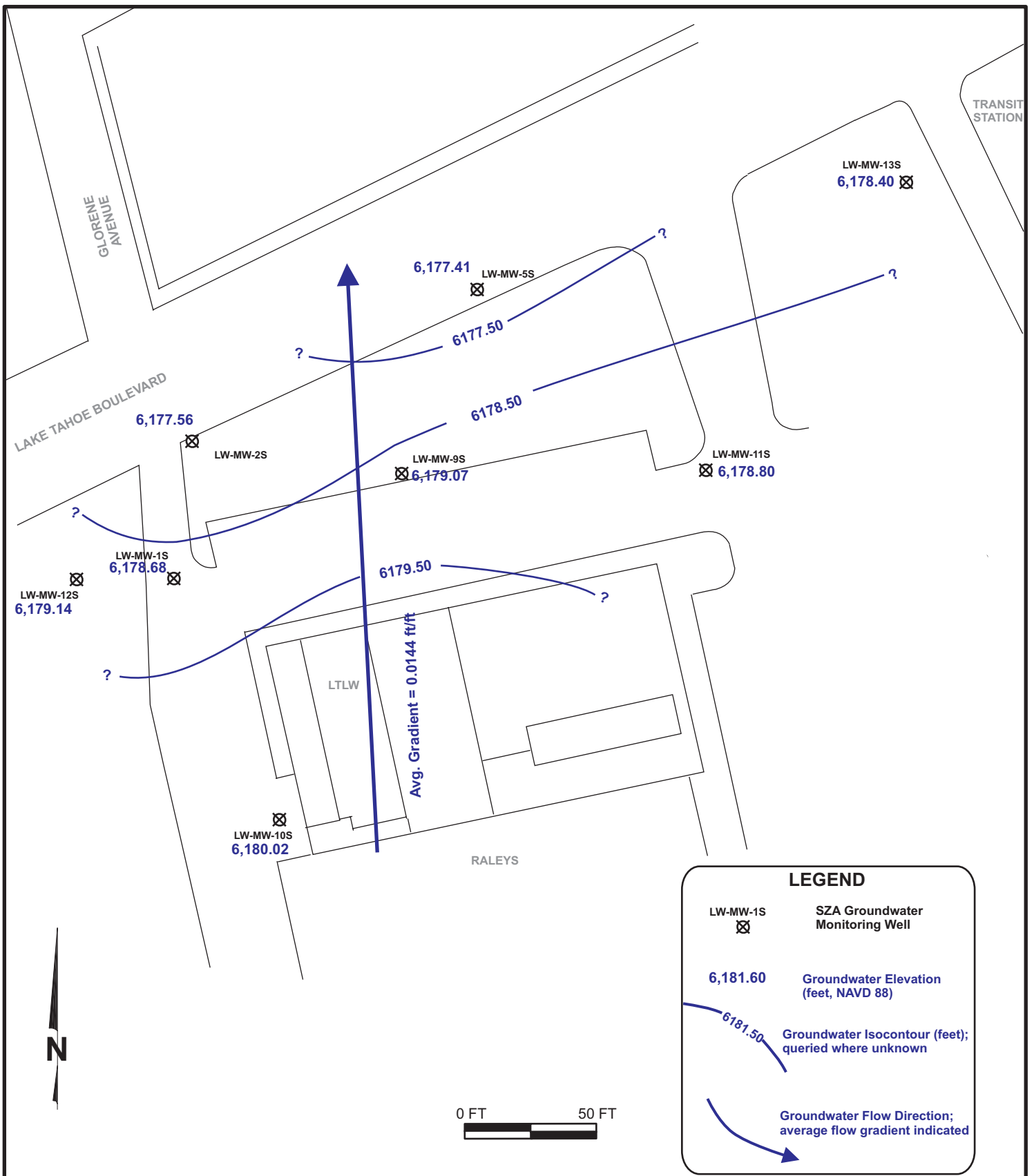
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**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**SITE PLAN**

**FIGURE**

**2**



**E<sub>2</sub>C Remediation**

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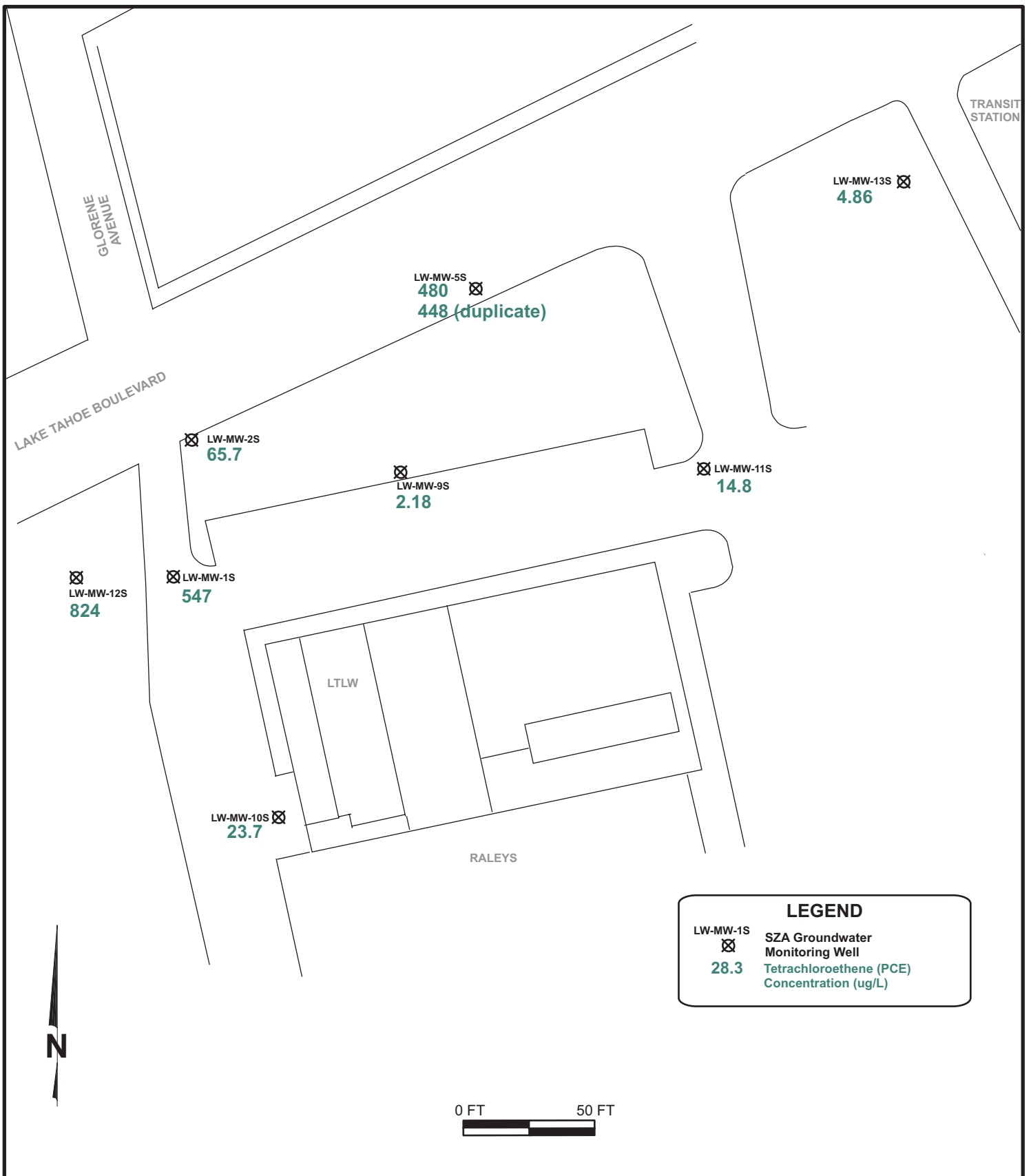
Phone: (661) 831-6906  
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**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**THIRD QUARTER 2010  
GROUNDWATER GRADIENT PLOT**

**FIGURE**

**3**



**E<sub>2</sub>C Remediation**

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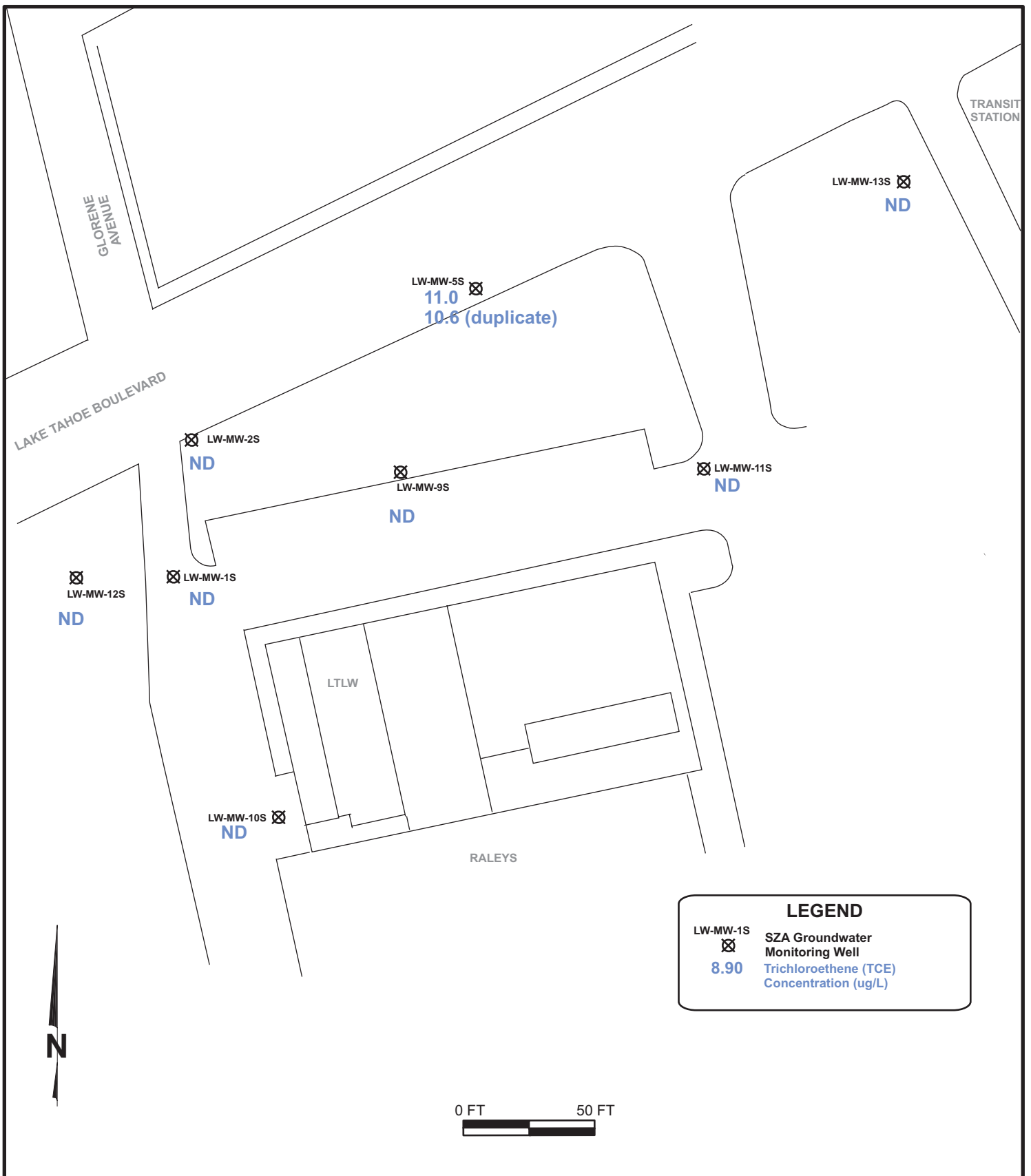
**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**third QUARTER 2010  
PCE DISTRIBUTION PLOT**

**FIGURE**

**4**





**E<sub>2</sub>C Remediation**

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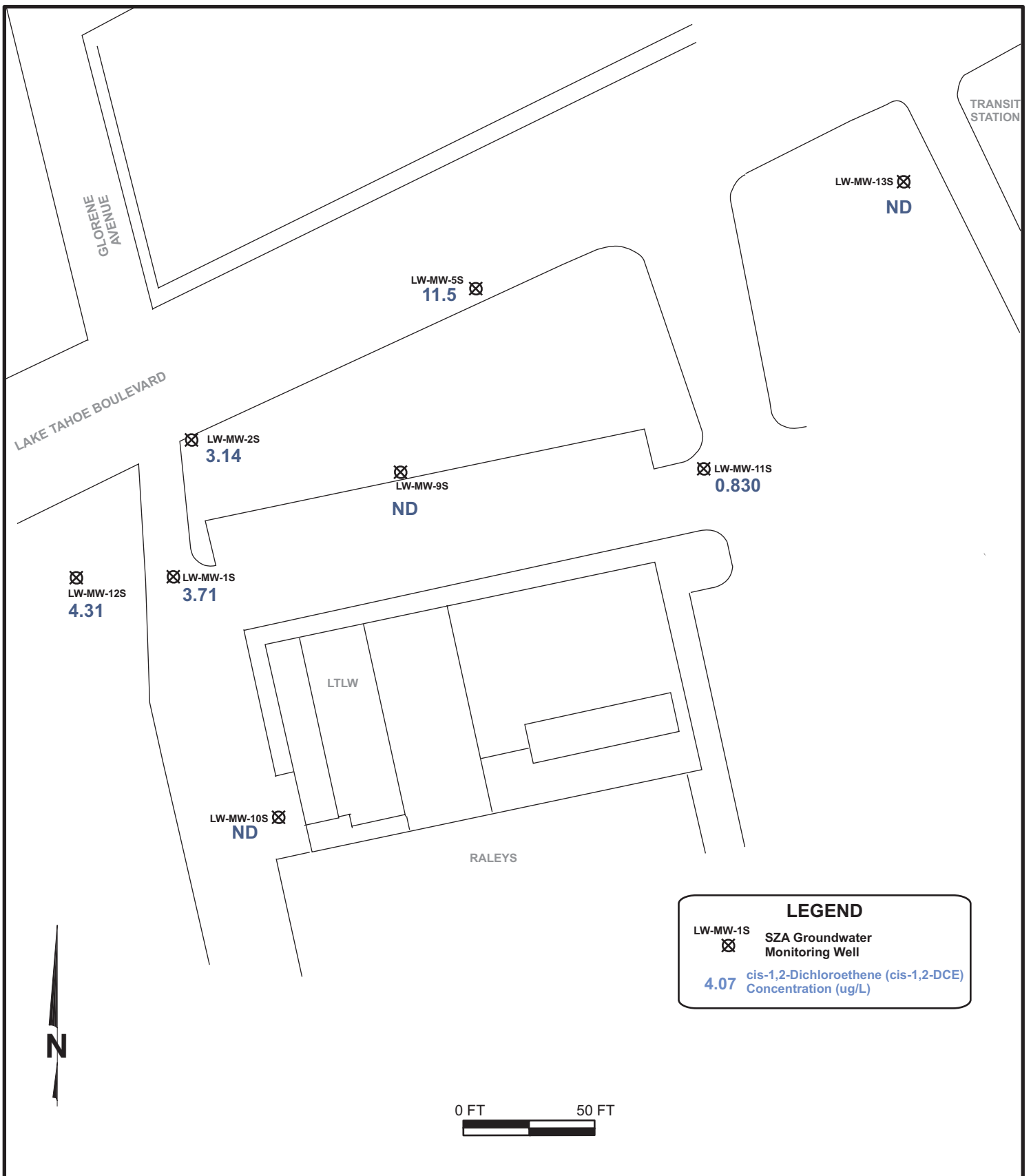
Phone: (661) 831-6906  
Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**THIRD QUARTER 2010  
TCE DISTRIBUTION PLOT**

**FIGURE**

**5**



**E<sub>2</sub>C Remediation**

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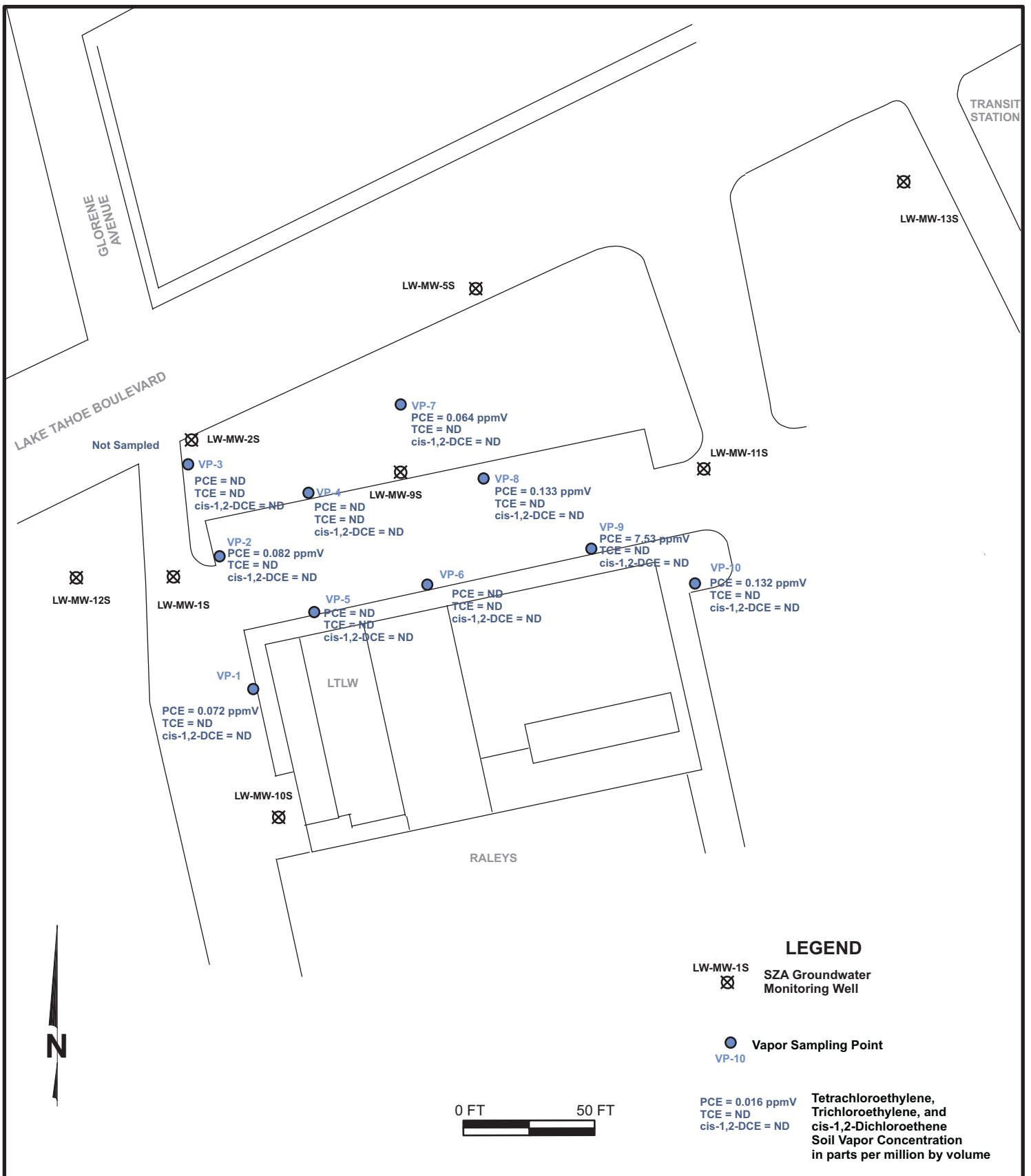
Phone: (661) 831-6906  
 Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS  
 1024 LAKE TAHOE BOULEVARD  
 SOUTH LAKE TAHOE, CALIFORNIA**

**THIRD QUARTER 2010  
 cis-1,2-DCE DISTRIBUTION PLOT**

**FIGURE**

**6**



**E<sub>2</sub>C Remediation**

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**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**Shallow Soil-Vapor Distribution Plot  
September 8, 2010**

**FIGURE**

**7**

## **TABLES**

Table 1A	Summary of Third Quarter 2010 Groundwater Monitoring Data
Table 1B	Summary of Other Groundwater Analytical Data
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Table 3	Summary of Historical Groundwater Analytical Data
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**TABLE 1A**  
**SUMMARY OF THIRD QUARTER 2010 GROUNDWATER MONITORING DATA**  
 Lake Tahoe Laundry Works  
 1024 Lake Tahoe Boulevard  
 South Lake Tahoe, California  
 September 8, 2010

Well ID	TOC Elev. (feet rel MSL)	Depth to GW (feet BTOC)	GW Elevation (feet MSL)	PCE	TCE	VC	CA	CB	1,1-DCE	MC (µg/L)	Trans-1,2- DCE	1,1-DCA	cis-1,2- DCE	1,2-DCA	1,1,1,2- TCA	1,1,1- TCA
LW-MW-1S	6,191.41	12.73	6,178.68	547	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.71	nd<0.500	nd<0.500	nd<0.500
LW-MW-2S	6,192.41	14.85	6,177.56	65.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.14	nd<0.500	nd<0.500	nd<0.500
LW-MW-5S	6,189.47	12.06	6,177.41	480	11.0	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	11.5	nd<0.500	nd<0.500	nd<0.500
duplicate				448	10.6	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	11.3	nd<0.500	nd<0.500	nd<0.500
LW-MW-9S	6,192.98	13.91	6,179.07	2.18	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
LW-MW-10S	6,192.15	12.13	6,180.02	23.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
LW-MW-11S	6,191.67	12.87	6,178.80	14.8	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.830	nd<0.500	nd<0.500	nd<0.500
LW-MW-12S	6,190.71	11.57	6,179.14	824	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	4.31	nd<0.500	nd<0.500	nd<0.500
LW-MW-13S	6,190.82	12.42	6,178.40	4.86	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
OS-1	6,188.12	12.68	6,175.44	13.5	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500

Notes:

Results in micrograms per liter (µg/L) (equivalent to parts per billion, ppb)

- 1,1-DCA = 1,1-Dichloroethane
- 1,1-DCE = 1,2-Dichloroethane
- 1,1,1-TCA = 1,1,1-Trichloroethane
- 1,1,1,2-TCA = 1,1,1,2-Trichloroethane
- CA = Chloroethane
- CB = Chlorobenzene
- cis-1,2-DCE = cis-1,2-Dichloroethane
- BTOC = Below Top of Casing
- MC = Methylene Chloride
- PCE = Tetrachloroethene (a.k.a. perchloroethene)
- TCE = Trichloroethene
- trans-1,2-DCE = trans-1,2-Dichloroethene
- VC = Vinyl Chloride

Duplicate sample of LW-MW-1S marked as LW-MW-15 on Chain-of-Custody

**TABLE 1B**  
**SUMMARY OF SECOND QUARTER 2010 OTHER GROUNDWATER MONITORING DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**  
**September 8, 2010**

Well ID	Chloroform	Benzene	MtBE
LW-MW-1S	nd<0.500	nd<0.500	nd<0.500
LW-MW-2S	nd<0.500	nd<0.500	nd<0.500
LW-MW-5S	1.07	nd<0.500	nd<0.500
duplicate	nd<0.500	nd<0.500	nd<0.500
LW-MW-9S	nd<0.500	nd<0.500	nd<0.500
LW-MW-10S	nd<0.500	nd<0.500	nd<0.500
LW-MW-11S	nd<0.500	nd<0.500	nd<0.500
LW-MW-12S	nd<0.500	nd<0.500	nd<0.500
LW-MW-13S	nd<0.500	nd<0.500	nd<0.500
OS-1	nd<0.500	nd<0.500	nd<0.500

**Notes:**

Results in micrograms per liter ( $\mu\text{g/L}$ ) (equivalent to parts per billion, ppb)

MtBE = Methyl tertiary-butyl ether

Duplicate sample of LW-MW-1S marked as LW-MW-15 on Chain-of-Custody

**TABLE 2**  
**SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
LW-MW-1S	08/13/08	6,191.41	---	13.69	6,177.72	---
	12/04/09		23.91	15.09	6,176.32	-1.40
	03/23/10		23.90	13.99	6,177.42	1.10
	06/15/10		23.90	11.16	6,180.25	2.83
	09/08/10		23.90	12.73	6,178.68	
LW-MW-2S	08/13/08	6,192.41	---	14.99	6,177.42	---
	12/04/09		34.82	17.29	6,175.12	-2.30
	03/23/10		34.85	15.44	6,176.97	1.85
	06/15/10		34.85	13.21	6,179.20	2.23
	09/08/10		34.85	14.85	6,177.56	-1.64
LW-MW-5S	08/13/08	6,189.47	---	14.04	6,175.43	---
	12/04/09		29.73	14.85	6,174.62	-0.81
	03/23/10		29.73	14.21	6,175.26	0.64
	06/15/10		29.73	9.75	6,179.72	4.46
	09/08/10		29.73	12.06	6,177.41	-2.31
LW-MW-9S	12/04/09	6,192.98	24.40	16.01	6,176.97	---
	03/23/10		24.25	14.82	6,178.16	1.19
	06/15/10		24.25	12.29	6,180.69	2.53
	09/08/10		24.25	13.91	6,179.07	-1.62
LW-MW-10S	12/04/09	6,192.15	24.76	14.30	6,177.85	---
	03/23/10		24.60	13.27	6,178.88	1.03
	06/15/10		24.60	10.55	6,181.60	2.72
	09/08/10		24.60	12.13	6,180.02	-1.58
LW-MW-11S	12/04/09	6,191.67	24.30	14.91	6,176.76	---
	03/23/10		24.02	14.72	6,176.95	0.19
	06/15/10		24.02	11.38	6,180.29	3.34
	09/08/10		24.02	12.87	6,178.80	-1.49
LW-MW-12S	12/04/09	6,190.71	24.20	15.00	6,175.71	---
	03/23/10		23.80	13.36	6,177.35	1.64
	06/15/10		23.80	9.99	6,180.72	3.37
	09/08/10		23.80	11.57	6,179.14	-1.58
LW-MW-13S	12/04/09	6,190.82	24.95	14.39	6,176.43	---
	03/23/10		24.78	13.20	6,177.62	1.19
	06/15/10		24.78	11.02	6,179.80	2.18
	09/08/10		24.78	12.42	6,178.40	-1.40
OS-1	03/24/10	6,188.12	23.45	13.25	6,174.87	---
	06/15/10		24.00	11.17	6,176.95	2.08
	09/08/10		24.00	12.68	6,175.44	-1.51

**TABLE 2**  
**SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
Notes:						
BTOC = Below Top of Casing						
MSL = Mean Sea Level						
<u>Avg Groundwater Elevation Change</u>						
4th.09-1st.10                      1.10						
1st.10-2nd.10                      2.86						
2nd.10-3rd.10                      -1.64						



**TABLE 3  
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Well ID	Sample Date	PCE	TCE	VC	CA	CB	CF	1,1-DCE	MC	Trans-1,2-DCE (ug/L)	1,1-DCA	cis-1,2-DCE	1,2-DCA	1,1,1,2-TCA	1,1,1-TCA	Chloroform	Benzene	MtBE
LW-MW-1S	08/13/08	706	74.0	nd<0.50	nd<0.50	nd<0.50	nd<0.50	1.25	nd<0.50	0.727	nd<0.50	41.3	nd<0.50	nd<0.50	nd<0.50	na	na	na
	12/04/09	5,150	72.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.575	na	na
	03/23/10 duplicate	1,850 2,000	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	0.962 0.845	nd<0.500 nd<0.500	7.71 7.40	nd<0.500 nd<0.500	1.41 1.23	nd<0.500 nd<0.500	339 314	nd<0.500 nd<0.500	0.795 0.710	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500
	06/15/10	4,920	8.90	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.575	nd<0.500	nd<0.500	nd<0.500	6.48	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/08/10	547	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.71	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
LW-MW-2S	08/13/08	3.00	2.52	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	31.0	nd<0.50	nd<0.50	nd<0.50	na	na	na
	12/04/09	8.29	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na
	03/23/10	5.9	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.731	nd<0.500
	06/15/10	98.7	4.39	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	4.07	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/08/10	65.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.14	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
LW-MW-5S	08/13/08	85.1	3.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	2.00	nd<0.50	nd<0.50	nd<0.50	na	na	na
	12/04/09	nd<0.500	11.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na
	03/23/10	nd<0.500	26.5	3.22	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	38.2	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.778	0.529
	06/15/10	1,400	28.1	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	29.0	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/08/10 duplicate	480 448	11.0 10.6	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	11.5 11.3	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	nd<0.500 nd<0.500	1.07 nd<0.500	nd<0.500 nd<0.500
LW-MW-9S	12/04/09	324	12.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	19.0	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na
	03/23/10	174	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	7.78	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/15/10	162	7.57	nd<0.500	nd<0.500	nd<0.500	nd<0.500	1.32	nd<0.500	nd<0.500	nd<0.500	22.5	nd<0.500	nd<0.500	nd<0.500	1.32	nd<0.500	nd<0.500
	duplicate	172	8.04	nd<0.500	nd<0.500	nd<0.500	nd<0.500	1.29	nd<0.500	nd<0.500	nd<0.500	24.5	nd<0.500	nd<0.500	nd<0.500	1.29	nd<0.500	nd<0.500
	09/08/10	2.18	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
LW-MW-10S	12/04/09	15.8	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na
	duplicate	10.6	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na
	03/23/10	1.04	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/15/10	63.8	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/08/10	23.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
LW-MW-11S	12/04/09	42.9	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na
	03/23/10	32.5	1.08	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.63	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/15/10	28.3	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.909	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/08/10	14.8	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.830	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
																nd<0.500		
LW-MW-12S	12/04/09	10.7	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na
	03/23/10	34.3	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.613	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/15/10	314	1.40	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	1.46	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/08/10	824	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	4.31	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
																nd<0.500		

**TABLE 3  
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Well ID	Sample Date	PCE	TCE	VC	CA	CB	CF	1,1-DCE	MC	Trans-1,2-DCE (ug/L)	1,1-DCA	cis-1,2-DCE	1,2-DCA	1,1,1,2-TCA	1,1,1-TCA	Chloroform	Benzene	MtBE
LW-MW-13S	12/04/09	17	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na
	03/23/10	65.2	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.784	nd<0.500	nd<0.500	2.92	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.645	nd<0.500
	06/15/10	14.1	0.603	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.627	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/08/10	4.86	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
OS-1	03/24/10	91.2	1.41	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	1.02	nd<0.500	nd<0.500	0.989	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.908	0.807
	06/15/10	75.9	2.91	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	1.41	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/08/10	13.5	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500

Notes:  
 Results in micrograms per liter (ug/L) (equivalent to parts per billion, ppb)  
 1,1-DCA = 1,1,-Dichloroethane  
 1,1-DCE = 1,2-Dichloroethene  
 1,1,1-TCA = 1,1,1-Trichlorethane  
 BTOC = Below Top of Casing  
 CA = Chloeoethane  
 CB = Chlorobenzene  
 CF = Chloroform  
 cis-1,2-DCE = cis-1,2-Dichloroethene  
 MC = Methylene Chloride  
 MtBE = Methyl-tertiary butyl ether  
 PCE = Tetrachloroethene (a.k.a. perchloroethene)  
 TCE = Trichloroethene  
 trans-1,2-DCE = trans-1,2-Dichloroethene  
 VC = Vinyl Chloride

nd< = Not detected at or above the Method Detection Limit, which is indicated by the value

**TABLE 4**  
**SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA**

**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample ID	Sample Date	PCE	TCE	cis-1,2-DCE	Tracer Gas	Other VOCs
		ppmV				
VP-1	4/9/10	<b>0.016</b>	nd<0.01	nd<0.01	nd<0.01	nd
	9/8/10	<b>0.072</b>	nd<0.02	nd<0.02	nd<0.02	<b>0.031</b>
VP-2	4/9/10	<b>0.429</b>	<b>0.029</b>	<b>0.38</b>	nd<0.01	nd
	9/8/10	<b>0.082</b>	nd<0.022	nd<0.022	nd<0.022	nd<0.022
VP-3	4/9/10	unable to sample - water in well				
	9/8/10	nd<0.021	nd<0.021	nd<0.021	nd<0.021	nd<0.021
VP-4	4/9/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd
	9/8/10	nd<0.024	nd<0.024	nd<0.024	nd<0.024	nd<0.024
VP-5	4/9/10	<b>0.012</b>	nd<0.01	<b>0.015</b>	nd<0.01	nd
	9/8/10	nd<0.026	nd<0.026	nd<0.026	nd<0.026	nd<0.026
VP-6	4/9/10	<b>0.028</b>	nd<0.01	nd<0.01	nd<0.01	nd
	9/8/10	nd<0.03	nd<0.03	nd<0.03	nd<0.03	nd<0.03
VP-7	4/9/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd
	9/8/10	<b>0.064</b>	nd<0.032	nd<0.032	nd<0.032	nd<0.032
VP-8	4/9/10	<b>0.034</b>	nd<0.01	nd<0.01	nd<0.01	nd
	9/8/10	<b>0.133</b>	nd<0.033	nd<0.033	nd<0.033	nd<0.033
VP-9	4/9/10	<b>0.029</b>	nd<0.01	nd<0.01	nd<0.01	nd
	9/8/10	<b>7.53</b>	nd<0.028	nd<0.028	nd<0.028	nd<0.028
VP-10	4/9/10	<b>1.98</b>	<b>0.047</b>	<b>0.050</b>	nd<0.01	nd
	9/8/10	<b>0.132</b>	nd<0.031	nd<0.031	nd<0.031	nd<0.031

**Notes:**

cis-1,2-DCE = cis-1,2-Dichloroethene

nd = Not detected at or above detection limit for each respective compound (see Appendix D)

nd&lt; = Not detected at or above the detection limit, which is indicated by value

PCE = Tetrachloroethene (a.k.a. perchloroethene)

ppmV = parts per million by volume

TCE = Trichloroethene

Tracer Gas = Freon 11 (see Appendix D)

**TABLE 5**  
**SUMMARY OF WELL CONSTRUCTION DETAILS**  
 Lake Tahoe Laundry Works  
 1024 Lake Tahoe Boulevard  
 South Lake Tahoe, California

WELL ID	Completion Date	Well Type	Well Depth (feet bgs)	Well Casing Material	TOC Elevation (feet rel)	Top of Screen (feet bgs)	Screen Length (feet)
AS-1	11/3/09	Air Sparge	25.0	2" PVC	--	23.5	1.5
AS-2	11/5/09	Air Sparge	25.0	2" PVC	--	23.5	1.5
AS-3	11/6/09	Air Sparge	28.0	2" PVC	--	26.5	1.5
AS-4	11/5/09	Air Sparge	26.0	2" PVC	--	24.5	1.5
AS-5	11/5/09	Air Sparge	26.0	2" PVC	--	24.5	1.5
AS-6	11/5/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-7	11/7/09	Air Sparge	28.5	2" PVC	--	27.0	1.5
AS-8	11/7/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-9	11/9/09	Air Sparge	28.5	2" PVC	--	27.0	1.5
AS-10	11/4/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-11	11/4/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-12	11/8/09	Air Sparge	27.5	2" PVC	--	26.0	1.5
AS-13	11/8/09	Air Sparge	29.0	2" PVC	--	27.5	1.5
AS-14	11/8/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-15	11/9/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-16	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-17	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-18	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-19	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-20	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-21	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-22	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-23	11/6/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-24	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-25	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-26	11/4/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-27	11/9/09	Air Sparge	26.0	2" PVC	--	24.5	1.5

**TABLE 5**  
**SUMMARY OF WELL CONSTRUCTION DETAILS**  
 Lake Tahoe Laundry Works  
 1024 Lake Tahoe Boulevard  
 South Lake Tahoe, California

WELL ID	Completion Date	Well Type	Well Depth (feet bgs)	Well Casing Material	TOC Elevation (feet rel)	Top of Screen (feet bgs)	Screen Length (feet)
LW-MW-1S	7/16/08	Monitoring	23.91	2" PVC	6,191.41	8.9	15
LW-MW-2S	7/23/08	Monitoring	34.82	2" PVC	6,192.41	19.8	15
LW-MW-5S	7/24/08	Monitoring	29.70	2" PVC	6,149.87	14.7	15
LW-MW-9S	11/10/09	Monitoring	24.40	2" PVC	6,192.98	9.4	15
LW-MW-10S	11/12/09	Monitoring	24.76	2" PVC	6,192.15	9.8	15
LW-MW-11S	11/12/09	Monitoring	24.30	2" PVC	6,191.67	9.3	15
LW-MW-12S	11/10/09	Monitoring	24.20	2" PVC	6,190.71	9.2	15
LW-MW-13S	11/10/09	Monitoring	24.95	2" PVC	6,190.82	10.0	15
OS-1	3/19/10	Monitoring	25.00	2" PVC	6,176.95	10.0	15
VED-1	11/5/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2
VED-2	11/4/09	Deep Vapor Extraction	14.0	2" PVC	--	12.0	2
VED-3	11/7/09	Deep Vapor Extraction	14.0	2" PVC	--	12.0	2
VED-4	11/8/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2
VED-5	11/9/09	Deep Vapor Extraction	13.4	2" PVC	--	11.4	2
VED-6	11/10/09	Deep Vapor Extraction	12.5	2" PVC	--	10.5	2
VED-7	11/12/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-8	11/13/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-9	11/11/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-10	11/10/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-11	11/8/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-12	11/7/09	Deep Vapor Extraction	11.5	2" PVC	--	9.5	2
VED-13	11/7/09	Deep Vapor Extraction	13.5	2" PVC	--	11.5	2
VED-14	11/10/09	Deep Vapor Extraction	12.5	2" PVC	--	10.5	2
VED-15	11/6/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-16	11/12/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-17	11/4/09	Deep Vapor Extraction	15.0	2" PVC	--	13.0	2
VED-18	11/4/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2

**TABLE 5**  
**SUMMARY OF WELL CONSTRUCTION DETAILS**  
 Lake Tahoe Laundry Works  
 1024 Lake Tahoe Boulevard  
 South Lake Tahoe, California

WELL ID	Completion Date	Well Type	Well Depth (feet bgs)	Well Casing Material	TOC Elevation (feet rel)	Top of Screen (feet bgs)	Screen Length (feet)
VED-19	11/3/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-20	11/3/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VES-1	11/5/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-2	11/4/09	Shallow Vapor Extraction	10.0	2" PVC	--	5.0	5
VES-3	11/7/09	Shallow Vapor Extraction	10.0	2" PVC	--	5.0	5
VES-4	11/8/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-5	11/9/09	Shallow Vapor Extraction	9.4	2" PVC	--	4.4	5
VES-6	11/10/09	Shallow Vapor Extraction	8.5	2" PVC	--	3.5	5
VES-7	11/12/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-8	11/13/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-9	11/11/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-10	11/11/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-11	11/8/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-12	11/7/09	Shallow Vapor Extraction	7.5	2" PVC	--	3.5	4
VES-13	11/7/09	Shallow Vapor Extraction	9.5	2" PVC	--	4.5	5
VES-14	11/10/09	Shallow Vapor Extraction	8.5	2" PVC	--	3.5	5
VES-15	11/6/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5

**TABLE 5**  
**SUMMARY OF WELL CONSTRUCTION DETAILS**  
 Lake Tahoe Laundry Works  
 1024 Lake Tahoe Boulevard  
 South Lake Tahoe, California

WELL ID	Completion Date	Well Type	Well Depth (feet bgs)	Well Casing Material	TOC Elevation (feet rel)	Top of Screen (feet bgs)	Screen Length (feet)
VES-16	11/12/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-17	11/4/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-18	11/4/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-19	11/3/09	Shallow Vapor Extraction	7.0	2" PVC	--	2.0	5
VES-20	11/3/09	Shallow Vapor Extraction	7.0	2" PVC	--	2.0	5
VP-1	11/5/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-2	11/5/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-3	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-4	11/7/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-5	11/3/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-6	11/3/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-7	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-8	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-9	11/8/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-10	11/8/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125

**Notes**

All wells are of Schedule 40 PVC construction

PVC = Poly vinyl chloride

feet bgs = feet below ground surface

TOC Elevation = Top of casing elevation based on feet above MSL relative at MW-1 taken from Topographic Map

**TABLE 6**  
**SUMMARY OF NOVEMBER 2009 SOIL ANALYTICAL DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample ID	Sample Date	Sample Depth (bgs)	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Other VOCs
			(mg/Kg)				
LW-MW-9S							
9S-6	11/10/09	6	<b>0.347</b>	nd<0.050	nd<0.050	nd<0.050	nd
9S-10.5		10.5	not analyzed				
9S-15.5		15.5	<b>0.078</b>	nd<0.050	nd<0.050	nd<0.050	nd
9S-20.5		20.5	not analyzed				
LW-MW-10S							
10S-6	11/10/09	6	not analyzed				
10S-10.5		10.5	not analyzed				
10S-15.5		15.5	<b>0.052</b>	nd<0.050	nd<0.050	nd<0.050	nd
10S-20.5		20.5	not analyzed				
10S-26		26	<b>0.051</b>	nd<0.050	nd<0.050	nd<0.050	nd
LW-MW-11S							
11S-5.5	11/10/09	5.5	not analyzed				
11S-10.5		10.5	nd<0.050	nd<0.050	nd<0.050	nd<0.050	nd
11S-15.5		15.5	not analyzed				
11S-20.5		21	not analyzed				
11S-25.5		25.5	<b>0.072</b>	nd<0.050	nd<0.050	nd<0.050	nd
LW-MW-12S							
12S-5.5	11/10/09	5.5	not analyzed				
12S-10.5		10.5	nd<0.050	nd<0.050	nd<0.050	nd<0.050	nd
12S-15.5		15.5	not analyzed				
12S-20		20	nd<0.050	nd<0.050	nd<0.050	nd<0.050	nd
12S-25		25	not analyzed				
LW-MW-13S							
13S-5.75	11/10/09	5.75	not analyzed				
13S-10.5		10.5	not analyzed				
13S-21		21	nd<0.050	nd<0.050	nd<0.050	nd<0.050	nd
13S-25.8		25.8	nd<0.050	nd<0.050	nd<0.050	nd<0.050	nd
OS-1							
OS-1@10	3/19/10	10.00	not analyzed; for logging purposes only				
OS-1@15		15.0	not analyzed; for logging purposes only				
OS-1@20		20	not analyzed; for logging purposes only				
OS-1@25		25.0	not analyzed; for logging purposes only				

## Notes:

bgs = Below ground surface

cis-1,2-DCE = cis-1,2-dichloroethene

mg/Kg = Milligrams per kilogram (equivalent to parts per million)

nd = Not detected at or above the respective laboratory reporting limit

nd&lt;0.05 = not detected at or above the stated laboratory reporting limit.

PCE = Tetrachloroethylene (a.k.a. perchloroethene)

TCE = Trichloroethylene

Trans-1,2-DCE = trans-1,2-dichloroethene



**TABLE 7  
SUMMARY OF SVE/GASS INTERIM REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted (lbs/hr)				Cumulative VOCs Extracted (lbs)				
						System	Wellfield		Influent (ppmV)	Effluent (ppmV)	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total					
4/8/10	off	0	202.0	0	500	3.75	2.75	20.6	140	0	0.681	0.031	0.041	ND	0.009	0.00	0.00	0.009	0.000				
4/9/10	off	1	205.0	3.0	500	4.15	2.75	20.6	130	0	1.950	0.045	0.048	ND	0.026	0.0005	0.000003	0.026	0.053				
4/16/10	off	8	369.4	167.4	500	3.50	3.50	20.2	110	0									3.373				
4/29/10	off	21	678.9	476.9	500	3.70	3.70	20.1	80	0									7.815				
5/6/10	on	28	841.0	639.0	500	4.50	4.50	20.9	25	0									10.14				
5/12/10	on	34	978.7	776.7	500	3.50	3.50	20.9	90	0									12.12				
6/1/10	off	54	1,462	1,260	500	3.70	3.70	20.9	90	0									19.06				
6/15/10	on	68	1,834	1,632	500	3.30	3.30	20.8	65	0									24.40				
6/24/10	on	77	2,006	1,804	500	3.45	3.45	20.9	45	0	0.204	ND	ND	ND	0.003	0.000	0.000	0.003	25.86				
7/2/10	on	85	2,199	1,997	500	3.30	3.30	20.8	170	0									30.57				
7/15/10	off	98	2514.0	2,312	500	2.50	2.50	20.8	130	0	6.61	0.281	ND	ND	0.087	0.003	0.000	0.000	37.83				
7/22/10	off	105	2680.0	2,478	500	3.00	3.00	20.7	120	0									42.67				
7/28/10	off	111	2681.0	2,479	500	3.26	3.26	20.7	160	0									42.73				
8/5/10	on	119	2850.0	2,648	500	3.15	3.15	nm	120	0									52.58				
8/5/10	on	119	2853.0	2,651	500	3.14	3.14	nm	210	0									52.76				
8/11/10	on	125	3020.0	2,818	500	3.15	3.15	20.9	170	0	2.04	0.031	ND	ND	0.027	0.00032	0.0000	0.027	59.9				
8/18/10	on	132	3187.0	2,985	500	3.46	3.46	20.9	170	0	9.14	0.096	0.047	ND	0.120	0.00100	0.0000025	0.121	72.2				
8/25/10	on	139	3355.0	3,153	500	2.46	2.46	nm	180	0	11.4	1.83	4.32	ND	0.149	0.01901	0.0001629	0.169	96.5				
9/3/10	on	148	3568.3	3,366	500	2.80	2.80	20.7	195	10									135.1				
9/8/10	on	153	3694.4	3,492	500	2.80	2.80	20.7	85	0									159.4				
9/15/10	on	160	3863.0	3,661	500	5.16	5.16	20.1	60	0									191.8				
9/15/10	on	160	3866.0	3,664	500	5.16	5.16	20.1	120	0	16.4	0.154	0.046	0.266	0.215	0.00160	0.0000036	0.217	192.4				
															Average Extraction Rate (Lbs/Hr)				0.070	0.0030	0.000025	0.068840	

**Notes:**  
 -- = Data not available / not recorded  
 cis-1,2-DCE = cis-1,2-Dichloroethene  
 in-Hg = Inches of Mercury  
 Lbs./Hr. = Pounds per hour  
 nm = Not measured  
 PCE = Tetrachloroethene  
 ppmV = Parts per million by volume  
 scfm = Standard cubic feet per minute  
 SVE/GASS = Soil Vapor Extraction / Groundwater Air Sparge System  
 TCE = Trichloroethene  
 VOCs = Volatile Organic Compounds (primarily tetrachloroethylene and trichloroethylene)  
 Volatile Organic Compounds Removal Rate (lbs/hr) = Influent (ppmV) x 10<sup>-6</sup> x Influent Flow Rate (scfm) x 1 lb-mole/379.5 ft<sup>3</sup> x 165.82 (lb/lb-mole) x 60 (min/hour)

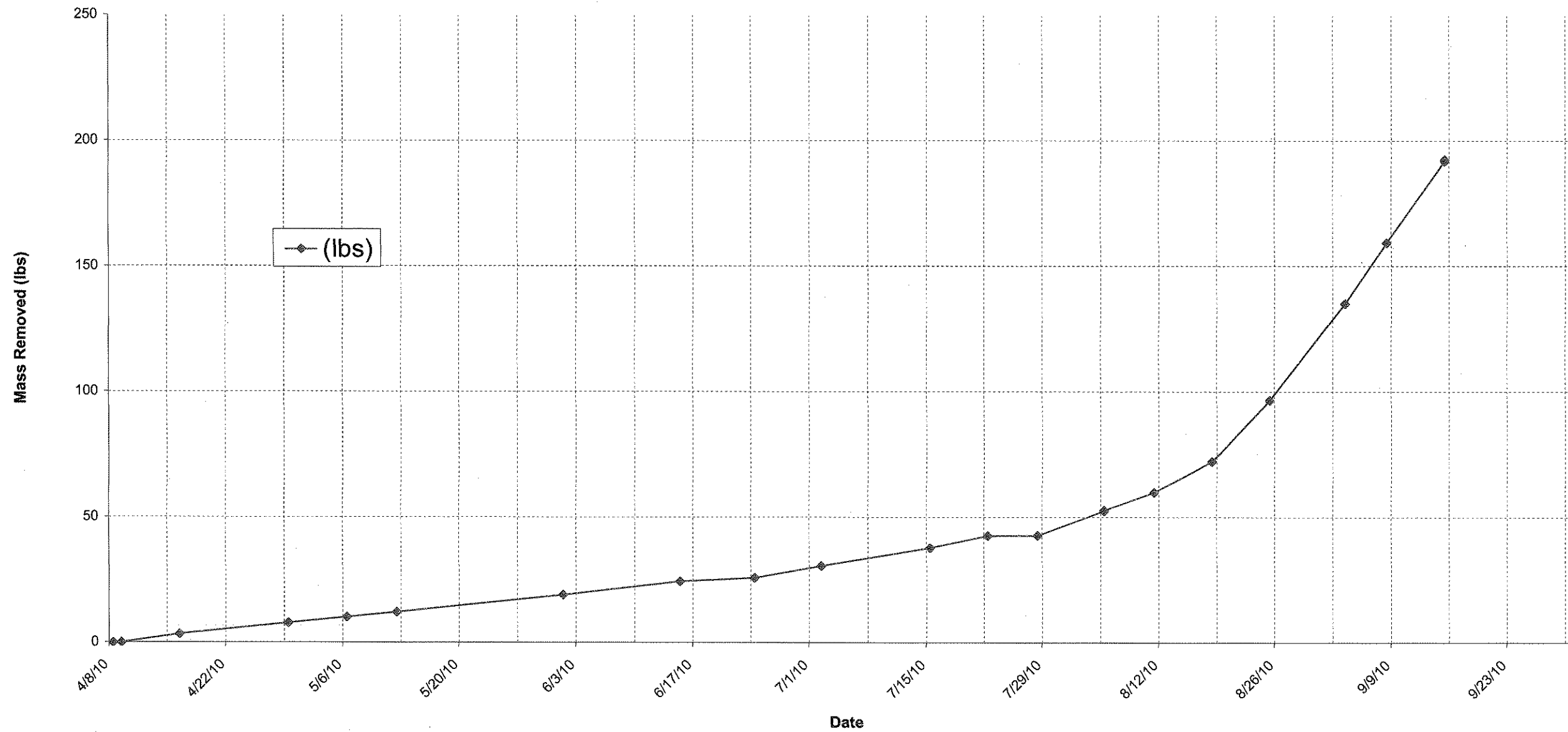
\*\* = TCE mass removed includes 1,1,1-Trichloroethane, as their atomic weights are similar  
 For mass removal calculations (lb/lb-mole) - PCE mass weight = 165.82, TCE = 131.39 and cis-1,2-DCE = 96.95

8/5/10 - Extensive wellfield optimization conducted

**TABLE 7  
SUMMARY OF SVE/GASS INTERIM REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs (ppmV)		Lab Vapor Influent (ppmV)				VOCs Extracted (lbs/hr)				Cumulative VOCs Extracted (lbs)
						System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total	

### CUMULATIVE VOC MASS REMOVAL TRENDS



**TABLE 8  
SUMMARY OF VE WELLFIELD DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Well HVE-1 valve	Well HVE-2 valve	Well HVE-3 valve	Well HVE-4 valve	Well HVE-5 valve	Well HVE-6 valve	Well VES-1 valve	Well VED-1 valve	Well VES-2 valve	Well VED-2 valve	Well VES-3 valve	Well VED-3 valve	Well VES-4 valve	Well VED-4 valve	Well VES-5 valve	Well VED-5 valve	Well VES-6 valve	Well VED-6 valve	Well VES-7 valve	Well VED-7 valve	Well VES-8 valve	Well VED-8 valve	Well VES-9 valve	Well VED-9 valve	Well VES-10 valve	Well VED-10 valve	Well VES-11 valve	Well VED-11 valve	Well VES-12 valve	Well VED-12 valve	Well VES-13 valve	Well VED-13 valve	Well VES-14 valve	Well VED-14 valve	Well VES-15 valve	Well VED-15 valve	Well VES-16 valve	Well VED-16 valve	Well VES-17 valve	Well VED-17 valve	Well VES-18 valve	Well VED-18 valve	Well VES-19 valve	Well VED-19 valve	Well VES-20 valve	Well VED-20 valve									
4/6/10	varying well configurations; see field sheets in Appendix T for Test-specific configurations																																																						
4/7/10	varying well configurations; see field sheets in Appendix T for Test-specific configurations																																																						
4/8/10	varying well configurations; see field sheets in Appendix T for Test-specific configurations																																																						
4/9/10	varying well configurations; see field sheets in Appendix T for Test-specific configurations																																																						
4/16/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O						
4/29/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O				
5/6/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O			
5/12/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
6/1/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
6/15/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
6/24/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
7/2/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
7/15/10	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
7/22/10	O	1/2	1/2	O	1/2	O	C	O	C	O	O	O	1/2	O	C	C	C	C	C	1/2	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
7/28/10	O	1/2	1/2	O	1/2	O	C	O	C	O	O	O	1/2	O	C	C	C	C	C	1/2	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
8/5/10	1/2	1/2	1/2	1/2	1/2	O	O	O	O	O	O	1/2	1/2	1/2	O	C	C	1/2	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
8/11/10	1/2	1/2	1/2	1/2	1/2	O	O	O	O	O	O	1/2	1/2	1/2	O	C	C	1/2	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
8/18/10	20%	1/2	O	C	O	1/2	O	C	O	1/2	O	O	1/2	O	C	O	C	O	1/2	1/2	C	1/2	1/2	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
8/25/10	O	O	O	1/2	O	1/2	20%	O	O	1/2	O	O	1/2	O	O	O	C	O	C	C	20%	C	C	C	1/2	C	O	C	O	20%	20%	O	O	1/2	O	20%	O	20%	O	1/2	O	1/2	O	1/2	O	O	O	O	O	O	O	O	O	O	
9/3/10	O	O	O	1/2	O	1/2	20%	O	O	1/2	O	O	1/2	O	O	O	C	O	C	C	20%	C	C	C	1/2	C	O	C	O	20%	20%	O	O	1/2	O	20%	O	20%	O	1/2	O	1/2	O	1/2	O	O	O	O	O	O	O	O	O	O	
9/8/10	O	O	O	1/2	O	1/2	20%	O	O	1/2	O	O	1/2	O	O	O	C	O	C	C	20%	C	C	C	1/2	C	O	C	O	20%	20%	O	O	1/2	O	20%	O	20%	O	1/2	O	1/2	O	1/2	O	O	O	O	O	O	O	O	O	O	
9/15/10	O	1/2	O	1/2	1/2	20%	C	1/2	C	C	O	O	20%	O	C	C	C	O	C	C	C	C	C	1/2	1/2	O	1/2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
9/23/10	O	1/2	O	1/2	1/2	1/2	1/2	1/2	O	1/2	O	O	C	O	C	C	C	O	C	C	C	C	C	1/2	1/2	O	1/2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9/28/10	O	1/2	O	1/2	O	1/2	1/2	O	O	O	O	O	C	O	C	C	C	O	C	20%	C	C	C	1/2	1/2	O	1/2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Notes:  
 20% = 20 percent open  
 1/2 = One-half open  
 1/4 = 1/4 open  
 C = Closed  
 O = Fully open  
 PO = Partially Open

<b>TABLE 9</b> <b>SUMMARY OF HISTORICAL INFLUENT VAPOR LABORATORY ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Sample Point	Sample Date	PCE	TCE	cis-1,2-DCE	Trans-1,2-DCE	Other VOCs
ppmV						
Influent	4/8/10	0.680	0.031	0.041	nd<0.01	nd<0.01
	7/9/10 - test	0.268	0.02	0.027	nd<0.01	nd<0.01
	4/9/10	1.950	0.045	0.048	nd<0.01	nd<0.01
	6/24/10	0.204	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	150	123	nd<2.00	nd<2.00	nd<2.00
	8/11/10	2.04	0.031	nd<0.025	nd<0.025	nd<0.025
	8/18/10	9.14	0.096	0.047	nd<0.041	nd<0.041
	8/25/10	11.4	1.83	4.32	nd<0.041	nd<0.041
	9/15/10	16.4	0.154	0.046	nd<0.041	0.266
Operational Average		21.342	15.651	0.755	0.000	0.266
Mid-Fluent	4/9/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/24/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	nd<2.00	nd<2.00	nd<2.00	nd<2.00	nd<2.00
	8/18/10	2.23	0.027	0.19	nd<0.02	0.29
	8/25/10	3.98	0.272	0.161	nd<0.02	0.276
	9/15/10	3.29	0.133	0.097	nd<0.02	0.139
Operational Average		3.167	0.144	0.149	0.000	0.247
Effluent	4/9/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/24/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	nd<2.00	nd<2.00	nd<2.00	nd<2.00	nd<2.00
	8/11/10	nd<0.023	nd<0.023	nd<0.023	nd<0.023	nd<0.023
	8/18/10	nd<0.01	nd<0.01	0.192	nd<0.01	nd<0.01
	8/25/10	nd<0.01	nd<0.01	0.175	nd<0.01	nd<0.01
	9/15/10	nd<0.01	nd<0.01	0.221	nd<0.01	nd<0.01
Operational Average		0.00	0.00	0.196	0.00	0.00
<b>Notes:</b> cis-1,2-DCE = cis-1,2-Dichloroethene na = Not applicable nd< = Not detected at or above the detection limit, which is indicated by value PCE = Tetrachloroethene (a.k.a. perchloroethene) ppmV = parts per million by volume TCE = Trichloroethene Trans-1,2-DCE = Trans-1,2-dichloroethene						

## **APPENDICES**

- Appendix A Groundwater Purge Data Sheets
- Appendix B Groundwater Analytical Laboratory Report
- Appendix C Shallow Soil-Vapor Sampling Field Data Sheets
- Appendix D Shallow Soil-Vapor Analytical Laboratory Report
- Appendix E Soil-Gas Monitoring Procedures (From IRAWP)
- Appendix F EDCAQMD Authority To Construct
- Appendix G Interim Remediation System Vapor Laboratory Reports

# **APPENDIX A**

## Groundwater Purge Data Sheets

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-15

DEPTH TO WATER: 12.73

PROJECT #: R50-RV-15

TOTAL DEPTH OF WELL: 23.90

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 9/3/10

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (min/sec/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
3:45		750 ml/min			56.9	10.93	.35	CLOUDY, NO ODOR
3:46		}			57.2	10.88	.51	CLOUDY, NO ODOR
3:47					57.0	10.88	.58	CLOUDY, NO ODOR
3:55	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4688 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 5.8 - 0 AFTER ELEVATION CAL.

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105: Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-25

DEPTH TO WATER: 14.85

PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 39.85

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 9/9/10

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F <sup>o</sup> )	pH (UNITS)	SEC (mmhos/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
2:20		750 gal/m			58.3	10.73	.29	CLEAR, NO ODOOR
2:21		}			57.5	10.76	.29	CLEAR, NO ODOOR
2:22					56.9	10.77	.28	CLEAR, NO ODOOR
2:30	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4688 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 1.6 - 0 AFTER ELEVA. CAL.



# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105: Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>MW-55</u>	DEPTH TO WATER: <u>12.06</u>
PROJECT #: <u>1950-RV-15</u>	TOTAL DEPTH OF WELL: <u>29.73</u>
PROJECT NAME: <u>LAKE TAHOE LAUNDRY WORKS</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>9/8/10</u>	CASING VOLUME: _____
SAMPLED BY: <u>NICK JENSEN</u>	PURGE METHOD: <u>LOW FLOW</u>

TIME	PURGE CHARACTERISTICS				TEMP (F <sup>o</sup> )	pH (UNITS)	SEC (mmhos/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
3:15		70 ml/min			58.4	10.92	.39	CLEAR, NO ODOOR
3:16		}			57.1	10.98	.40	CLEAR, NO ODOOR
3:17					56.3	10.95	.39	CLEAR, NO ODOOR
3:25	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4668 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 3.7 - 0 AFTER ELEVATION CAL.

(MW-15 IS A DUPLICATE OF MW-55) (3:40)

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-95

DEPTH TO WATER: 13.91

PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 24.25

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 9/8/10

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
2:40		750 <u>ml</u> /m			56.2	10.77	.16	DIRTY BROWN, NO ODR
2:41		}			55.1	10.72	.15	DIRTY BROWN, NO ODR
2:42					54.7	10.67	.15	DIRTY BROWN, NO ODR
2:50	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4688 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 4.1 - 0 - AFTER EQUILIB CAL.

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105: Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>MW-105</u>	DEPTH TO WATER: <u>12.13</u>
PROJECT #: <u>1950-RV-15</u>	TOTAL DEPTH OF WELL: <u>24.60</u>
PROJECT NAME: <u>LAKE TAHOE LAUNDRY WORKS</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>9/8/10</u>	CASING VOLUME: _____
SAMPLED BY: <u>NICK JENSEN</u>	PURGE METHOD: <u>LOW FLOW</u>

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
2:05		750 <sup>ml</sup> / <sub>min</sub>			59.7	10.98	.46	CLOUDY, NO ODOOR
2:06		}			58.3	10.87	.48	CLOUDY, NO ODOOR
2:07					57.6	10.74	.50	CLOUDY, NO ODOOR
2:15	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4688 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 6.3 - 0' AFTER ELEVATION CAL.

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105: Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-115

DEPTH TO WATER: 12.87

PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 24.02

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 9/8/10

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F <sup>o</sup> )	pH (UNITS)	SEC (mmhos/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
1:45		750 mL/min			59.5	10.94	.85	CLOUDY, NO ODOR
1:46		}			57.6	11.04	.84	CLOUDY, NO ODOR
1:47					57.0	10.99	.82	CLOUDY, NO ODOR
1:55	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4688 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 3.9 - 0 AFTER ELEVATION CAL.

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>MW-12s</u>	DEPTH TO WATER: <u>11.57</u>
PROJECT #: <u>1950-RV-15</u>	TOTAL DEPTH OF WELL: <u>23.80</u>
PROJECT NAME: <u>LAKE TANGUE LAUNDRY WORKS</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>9/8/10</u>	CASING VOLUME: _____
SAMPLED BY: <u>NICK JENSEN</u>	PURGE METHOD: <u>LOW FLOW</u>

TIME	PURGE CHARACTERISTICS				TEMP (F <sup>o</sup> )	pH (UNITS)	SEC (mmhos/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
2:55		730 gal/min			57.4	11.06	.36	CLOUDY, NO ODOR
2:56		}			56.9	10.71	.46	CLOUDY, NO ODOR
2:57					57.0	10.62	.45	CLOUDY, NO ODOR
3:05	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4688 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 2.9 - 0 AFTER ELEVATION CAL.

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105, Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-135

DEPTH TO WATER: 12.42

PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 24.78

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 9/8/10

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F)	pH (UNITS)	SEC (mmhos/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
1:25		750 $\mu$ /m			57.9	11.11	.19	CLOUDY, NO OOR
1:26		}			55.4	11.18	.20	CLOUDY, NO OOR
1:27					54.1	11.20	.19	CLOUDY, NO OOR
1:35	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4668 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 6.1 - 0 AFTER ELEVATION CAL.

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105: Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>05-1</u>	DEPTH TO WATER: <u>12.68</u>
PROJECT #: <u>1950-RV-15</u>	TOTAL DEPTH OF WELL: <u>24.00</u>
PROJECT NAME: <u>LAKE TAHOE LAUNDRY WORKS</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>9/3/10</u>	CASING VOLUME: _____
SAMPLED BY: <u>NICK JENSEN</u>	PURGE METHOD: <u>LOW FLOW</u>

TIME	PURGE CHARACTERISTICS				TEMP (F <sup>o</sup> )	pH (UNITS)	SEC (mmhos/cm)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED				
1:05		750 $\frac{m}{m}$			60.2	11.03	1.52	CLOUDY, NO ODOR
1:06		}			58.2	10.96	1.34	DIRTY BROWN, NO ODR
1:07					57.8	10.62	1.36	DIRTY BROWN, NO ODR
1:15	SAMPLES							

Well Capacity: 2" - 0.1632 gallon / linear foot  
 4" - 0.6528 gallon / linear foot  
 6" - 1.4688 gallon / linear foot

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: D.O. - 6.3 - 0 AFTER ELEVATION CAL.

## **APPENDIX B**

### Groundwater Analytical Laboratory Report



# PROVERA ANALYTICAL LABORATORIES

# Chain of Custody Form

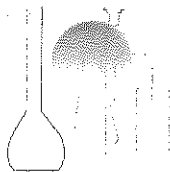
Client Name: E2C REMEDIATION		Analysis Requested		Sample Matrix				
Project Name: LAKE TANGE LAUNDRY WORKS		BTEX (EPA 8021b)		<input checked="" type="checkbox"/> Aqueous				
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA		MTBE (EPA 8021b)		<input type="checkbox"/> Soil				
Project Manager: PHIL GOALWIN		TPH Gasoline (8015M)		<input type="checkbox"/> Acidified				
Sampler Name: NICK JENSEN		TPH Diesel (8015M)		Comments				
Sample Date	Sample Time	Sample Description and Container Type	Volatiles (EPA 8260b) <i>Below List</i>	5 Oxygenates (EPA 8260b)	7 Oxygenates (EPA 8260b)	MTBE (EPA 8260b)	Lead scavengers (8260b)	BTEX (8260b)
9/8/10	6:45 AM	TRIP BLANK 1 VOA	X					P1084 -01
	1:15 PM	OS-1 3 VOAs	~					-02
	1:35 PM	MW-13 S	~					-03
	1:55 PM	MW-11 S	~					-04
	2:15 PM	MW-10 S	~					-05
	2:30 PM	MW-2 S	~					-06
	2:50 PM	MW-9 S	~					-07
	3:05 PM	MW-12 S	~					-08
	3:25 PM	MW-5 S	~					-09
	3:40 PM	MW-15	~					-010
	3:55 PM	MW-1 S	X					-011

Sampling Event: 3RD QTR GUM EDF Type: GW Monitoring Other: 4°C

Turnaround Time Requested: 24 Hour 48 Hour Standard 5-Day X

Relinquished By: [Signature] Date: 9/8/10 Relinquished By: [Signature] Date: 9-10-10  
 Received By: [Signature] Date: 9/10/10 Received By: [Signature] Date: 9/10/10

# ProVera



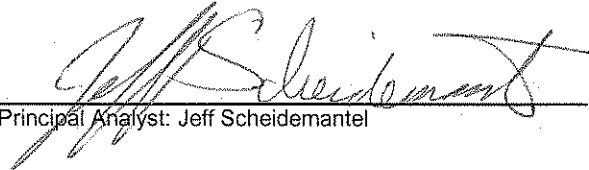
## Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID: TRIP BLANK  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

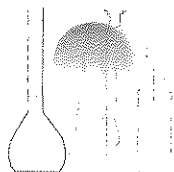
Client: E2C Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-001  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	39.7	79.4%	70.0%	130%
1,2-Dichloroethane-d4	34.7	69.4%	70.0%	130%
Toluene-d8	43.5	87.0%	70.0%	130%
4-Bromofluorobenzene	38.7	77.4%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

  
Principal Analyst: Jeff Scheidemantel

# ProVera



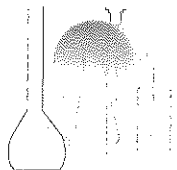
Analytical Laboratories, Inc.

Client Sample ID: TRIP BLANK  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Client: EPC Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-001  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	<0.500
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopopyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500

# ProVera



## Analysis For Volatile Compounds by EPA Method 8260B

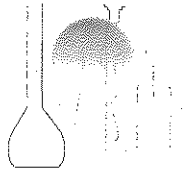
Client Sample ID: OS-1  
 Date Received: 09/10/10  
 Date Analyzed: 09/13/10  
 Matrix: Water  
 Units: ug/L (ppb)

Client: E2C Remediation  
 Project: Lake Tahoe Laundry Works  
 Lab ID: 10841-002  
 Instrument: GCMS1  
 Operator: Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	37.1	74.2%	70.0%	130%
1,2-Dichloroethane-d4	37.2	74.4%	70.0%	130%
Toluene-d8	40.5	81.0%	70.0%	130%
4-Bromofluorobenzene	38.9	77.8%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

# ProVera



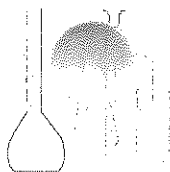
Analytical Laboratories, Inc.

Client Sample ID: OS-1  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-002  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	13.5
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopopyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500

# ProVera



## Analysis For Volatile Compounds by EPA Method 8260B

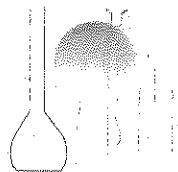
Client Sample ID: MW-13S  
 Date Received: 09/10/10  
 Date Analyzed: 09/13/10  
 Matrix: Water  
 Units: ug/L (ppb)

Client: E2C Remediation  
 Project: Lake Tahoe Laundry Works  
 Lab ID: 10841-003  
 Instrument: GCMS1  
 Operator: Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	37.8	75.6%	70.0%	130%
1,2-Dichloroethane-d4	38.3	76.6%	70.0%	130%
Toluene-d8	41.6	83.2%	70.0%	130%
4-Bromofluorobenzene	37.5	75.0%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

# ProVera



Analytical Laboratories, Inc.

Client Sample ID: MW-13S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

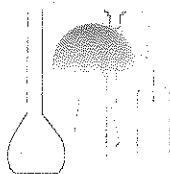
Client: ETC Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-003  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	4.86
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopopyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500

5300 Woodmere Drive, Suite 103, Bakersfield, CA 93313

Phone: (661) 827-5240 Fax: (661) 827-5244

# ProVera



Analysis For Volatile Compounds by EPA Method 8260B  
*Analytical Laboratories, Inc.*

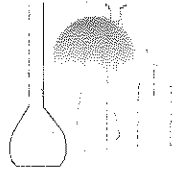
Client Sample ID:	MW-11S	Client:	E2C Remediation
Date Received:	09/10/10	Project:	Lake Tahoe Laundry Works
Date Analyzed:	09/13/10	Lab ID:	10841-004
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	38.6	77.2%	70.0%	130%
1,2-Dichloroethane-d4	33.7	67.4%	70.0%	130%
Toluene-d8	43.1	86.2%	70.0%	130%
4-Bromofluorobenzene	39.9	79.8%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500



# ProVera



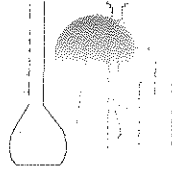
Analytical Laboratory

Client Sample ID: MW-11S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Project: Lake Tahoe Laundry Works  
Lab ID: 10841-004  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	14.8
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	0.830

# ProVer



## Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID:	MW-10S	Client:	E2C Remediation
Date Received:	09/10/10	Project:	Lake Tahoe Laundry Works
Date Analyzed:	09/13/10	Lab ID:	10841-005
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	40.1	80.2%	70.0%	130%
1,2-Dichloroethane-d4	39.1	78.2%	70.0%	130%
Toluene-d8	44.3	88.6%	70.0%	130%
4-Bromofluorobenzene	37.7	75.4%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

# ProVera



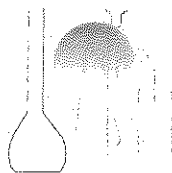
Analytical Laboratories, Inc.  
Client: Environmental Remediation

Client Sample ID: MW-10S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Project: Lake Tahoe Laundry Works  
Lab ID: 10841-005  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	23.7
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500

# ProVer



Analytical Laboratories, Inc.

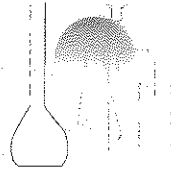
## Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID:	MW-2S	Client:	E2C Remediation
Date Received:	09/10/10	Project:	Lake Tahoe Laundry Works
Date Analyzed:	09/13/10	Lab ID:	10841-006
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	38.9	77.8%	70.0%	130%
1,2-Dichloroethane-d4	36.1	72.2%	70.0%	130%
Toluene-d8	43.5	87.0%	70.0%	130%
4-Bromofluorobenzene	38.7	77.4%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

# ProVera



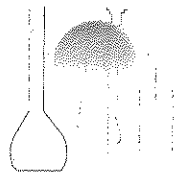
Analytical Laboratories, Inc. Remediation

Client Sample ID: MW-2S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Client: Lake Tahoe Laundry Works  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-006  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	65.7
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopopyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	3.14

# ProVera



Analysis For Volatile Compounds by EPA Method 8260B  
*Analytical Laboratories, Inc.*

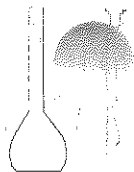
Client Sample ID: MW-9S  
 Date Received: 09/10/10  
 Date Analyzed: 09/13/10  
 Matrix: Water  
 Units: ug/L (ppb)

Client: E2C Remediation  
 Project: Lake Tahoe Laundry Works  
 Lab ID: 10841-007  
 Instrument: GCMS1  
 Operator: Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	40.5	81.0%	70.0%	130%
1,2-Dichloroethane-d4	34.5	69.0%	70.0%	130%
Toluene-d8	42.9	85.8%	70.0%	130%
4-Bromofluorobenzene	38.1	76.2%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

# ProVer



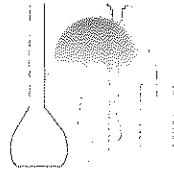
Analytical Laboratories, Inc.  
Client: E20 Remediation

Client Sample ID: MW-9S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Project: Lake Tahoe Laundry Works  
Lab ID: 10841-007  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	2.18
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500

ProVera



Analysis For Volatile Compounds by EPA Method 8260B *Analytical Laboratories, Inc.*

Client Sample ID: MW-12S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

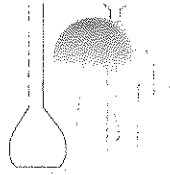
Client: E2C Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-008  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	36.5	73.0%	70.0%	130%
1,2-Dichloroethane-d4	35.7	71.4%	70.0%	130%
Toluene-d8	43.6	87.2%	70.0%	130%
4-Bromofluorobenzene	35.3	70.6%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500



# ProVera



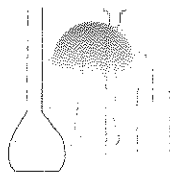
Analytical Laboratories, Inc.

Client Sample ID: MW-12S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Client: EPC Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-008  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	824
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	4.31

# ProVera



Analysis For Volatile Compounds by EPA Method 8260B *Analytical Laboratories, Inc.*

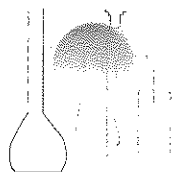
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Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-009  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	37.5	75.0%	70.0%	130%
1,2-Dichloroethane-d4	35.7	71.4%	70.0%	130%
Toluene-d8	44.0	88.0%	70.0%	130%
4-Bromofluorobenzene	37.8	75.6%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	1.07
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	11.0
1,2-Dichloropropane	<0.500

# ProVera



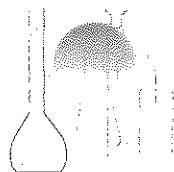
Analytical Laboratories, Inc.

Client Sample ID: MW-5S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Client: E20 Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-009  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	480
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	11.5

# ProVera



Analysis For Volatile Compounds by EPA Method 8260B *Analytical Laboratories, Inc.*

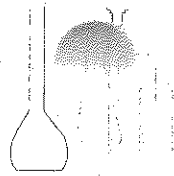
Client Sample ID: MW-15S  
 Date Received: 09/10/10  
 Date Analyzed: 09/13/10  
 Matrix: Water  
 Units: ug/L (ppb)

Client: E2C Remediation  
 Project: Lake Tahoe Laundry Works  
 Lab ID: 10841-0010  
 Instrument: GCMS1  
 Operator: Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	39.1	78.2%	70.0%	130%
1,2-Dichloroethane-d4	36.2	72.4%	70.0%	130%
Toluene-d8	44.3	88.6%	70.0%	130%
4-Bromofluorobenzene	37.5	75.0%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	10.6
1,2-Dichloropropane	<0.500

# ProVera



Analytical Laboratories, Inc.

Client Sample ID: MW-15S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

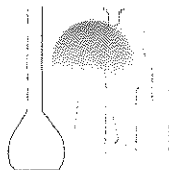
Client: E20 Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-0010  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	448
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	11.3

5300 Woodmere Drive, Suite 103, Bakersfield, CA 93313

Phone: (661) 827-5240 Fax: (661) 827-5244

# ProVera



Analytical Laboratories, Inc.

## Analysis For Volatile Compounds by EPA Method 8260B

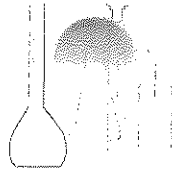
Client Sample ID: MW-1S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-011  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	40.2	80.4%	70.0%	130%
1,2-Dichloroethane-d4	36.2	72.4%	70.0%	130%
Toluene-d8	44.1	88.2%	70.0%	130%
4-Bromofluorobenzene	39.6	79.2%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

# ProVera



Analytical Laboratories Inc.

Client Sample ID: MW-1S  
Date Received: 09/10/10  
Date Analyzed: 09/13/10  
Matrix: Water  
Units: ug/L (ppb)

Client: Lake Tahoe Laundry Works  
Project: Lake Tahoe Laundry Works  
Lab ID: 10841-011  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	547
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	3.71

## **APPENDIX C**

### Shallow Soil-Vapor Sampling Field Data Sheets



# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW

ADDRESS: 1024 SLAKE TAYLOR BLVD.

DATE: 9-8-10

SAMPLE ID: VP-1 @ 10:45am

SAMPLE DEPTH: 5'

FIELD CREW: GB/NS

WEATHER CONDITIONS: Cloudy

### PURGE DATA

Purge Method: SYRINGE

Purge Duration: 3 min

Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 83623

Initial Vacuum in Canister: 20" Hg

Leak Check Constituent: tetrafluoroethane

Was sampling tented:  Yes  No

Sampling Duration: 5 MIN

Final Vacuum in Canister: 0

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TOWER BLVD.  
DATE: 9-8-10  
SAMPLE ID: VP-2 @ 11:20 AM  
SAMPLE DEPTH: 5'  
FIELD CREW: CSB/NS

WEATHER CONDITIONS: CLOUDY/WINDY

### PURGE DATA

Purge Method: Supercritical  
Purge Duration: 3 min  
Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 83621  
Initial Vacuum in Canister: 20" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 MIN  
Final Vacuum in Canister: 0

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW

ADDRESS: 1024 S. LAKE TATTOO BLVD

DATE: 9-8-10

SAMPLE ID: VP-3 @ 11:40 am

SAMPLE DEPTH: 5'

FIELD CREW: GB/NJ

WEATHER CONDITIONS: cloudy / windy

### PURGE DATA

Purge Method: Syringe

Purge Duration: 3 min

Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 83620-B

Initial Vacuum in Canister: 15" Hg

Leak Check Constituent: tetrafluoroethane

Was sampling tented:  Yes  No

Sampling Duration: 5 min

Final Vacuum in Canister: 0

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TAHOE BLVD.  
DATE: 9-8-10  
SAMPLE ID: VP-4 @ 12:10pm  
SAMPLE DEPTH: 5'  
FIELD CREW: GB/NS

WEATHER CONDITIONS: Cloudy/Windy

### PURGE DATA

Purge Method: Syringe  
Purge Duration: 3 min  
Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 83269  
Initial Vacuum in Canister: 17.5" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 0

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TATTOE BLVD.  
DATE: 9-8-10  
SAMPLE ID: VP-5 @ 12:35  
SAMPLE DEPTH: 5'  
FIELD CREW: GB/NS

WEATHER CONDITIONS: cloudy / windy

### PURGE DATA

Purge Method: Syringe  
Purge Duration: 3 min  
Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 9810-1  
Initial Vacuum in Canister: 20" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 0

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TARTAR BLVD.  
DATE: 9-8-10  
SAMPLE ID: VP-6 @ 12:50 pm  
SAMPLE DEPTH: 5'  
FIELD CREW: GB/NS

WEATHER CONDITIONS: CLOUDY/WINDY

### PURGE DATA

Purge Method: SYRINGE  
Purge Duration: 3 min  
Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 9810-2  
Initial Vacuum in Canister: 15" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 0

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LT LW

ADDRESS: 1024 Lake Tahoe Blvd.

DATE: 9-8-10

SAMPLE ID: VP-7 e 1:15 pm

SAMPLE DEPTH: 5'

FIELD CREW: GB/NS

WEATHER CONDITIONS: Cloudy / Windy

### PURGE DATA

Purge Method: Syringe

Purge Duration: 3 min

Purge Volume: 600 ml

### SAMPLING

Summa Canister Serial #: 9810-3

Initial Vacuum in Canister: 16" Hg

Leak Check Constituent: tetrafluoroethane

Was sampling tented:  Yes  No

Sampling Duration: 5 min

Final Vacuum in Canister: 0

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW

ADDRESS: 1024 S. LAKE TANGEE BLVD

DATE: 9-8-10

SAMPLE ID: UP-8 e 1:38 pm

SAMPLE DEPTH: 5'

FIELD CREW: GB/NS

WEATHER CONDITIONS: Cloudy/Windy

### PURGE DATA

Purge Method: Syringe

Purge Duration: 3 min

Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 9810-4

Initial Vacuum in Canister: 15" Hg

Leak Check Constituent: tetrafluoroethane

Was sampling tented:  Yes  No

Sampling Duration: 5 min

Final Vacuum in Canister: 0



# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TANGEE BLVD.  
DATE: 9-8-10  
SAMPLE ID: VP-9 @ 2:00 pm  
SAMPLE DEPTH: 5'  
FIELD CREW: GB/NS

WEATHER CONDITIONS: Cloudy / windy

PURGE DATA  
Purge Method: Syringe  
Purge Duration: 3 min  
Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 9810-5  
Initial Vacuum in Canister: 18.5" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 0

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TAHOE BLVD  
DATE: 9-8-10  
SAMPLE ID: VP-10 @ 2:20 pm  
SAMPLE DEPTH: 5'  
FIELD CREW: CB/NS

WEATHER CONDITIONS: Cloudy/Windy

### PURGE DATA

Purge Method: Spurge  
Purge Duration: 3 min  
Purge Volume: 600 ml

### SAMPLING

Summa Canister Serial #: 9810-6  
Initial Vacuum in Canister: 19" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 0

## **APPENDIX D**

### Shallow Soil-Vapor Analytical Laboratory Report

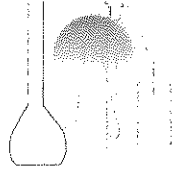
Client Name: E2C Remediation		Analysis Requested										Sample Matrix								
Project Name: 1024 LAKE TARBEE BLD.		BTEX (EPA TO-15)		TPH Gasoline (EPA TO-3)		METHANE (EPA TO-3)		FULL VOC (EPA TO-15)		8010 Volatile list (EPA TO-15)		EDB		Naphthalene		Tetrafluoroethane		<input checked="" type="checkbox"/> Air		
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA		MTBE (EPA TO-15)																<input type="checkbox"/>		
Project Manager: <u>Pat Corwin</u>		Sample Date		Sample Time		Sample Description and Container Type												Comments		<input type="checkbox"/>
Sampler Name: <u>G. Branson / N. Jensen</u>		9-8-10		10:45		VP-1 1-Sigma Cluster												P10840 -a1		
				11:20														-a2		
				11:40														-a3		
				12:10														-a4		
				12:35														-a5		
				12:50														-a6		
				1:15														-a7		
				1:38														-a8		
				2:00														-a9		
				2:20														-a10		

Sampling Event: 3rd Groundwater/SWS EDF Type: GW Monitoring Other

Turnaround Time Requested: 24 Hour 48 Hour 5-Day Standard

Relinquished By: [Signature] Date: 9-8-10 Relinquished By: DHL Date: 9-10-10  
 Received By: [Signature] Date: 9-10-10 Received By: [Signature] Date: 9/10/10

ProVera



Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	9/15/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

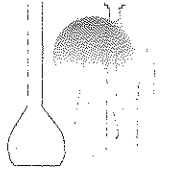
Sample ID: 10840-001 VP-1

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.02	0.02	ppmV	2.00	
Ethene, chloro-(Vinyl Chloride)	<0.02	0.02	ppmV	2.00	
Methane, bromo-	<0.02	0.02	ppmV	2.00	
Chloroethane	<0.02	0.02	ppmV	2.00	
Trichloromonofluoromethane (Freon 11)	<0.02	0.02	ppmV	2.00	
1,1 Dichloroethene	<0.02	0.02	ppmV	2.00	
Methylene Chloride	<0.02	0.02	ppmV	2.00	
trans 1,2 Dichloroethene	<0.02	0.02	ppmV	2.00	
cis 1,2 dichloroethene	<0.02	0.02	ppmV	2.00	
Chloroform (Trichloromethane)	<0.02	0.02	ppmV	2.00	
1,1,1 Trichloroethane	<0.02	0.02	ppmV	2.00	
Carbon Tetrachloride	<0.02	0.02	ppmV	2.00	
1,2 Dichloroethane	<0.02	0.02	ppmV	2.00	
Trichloroethylene	<0.02	0.02	ppmV	2.00	
Propane, 1,2-dichloro-	<0.02	0.02	ppmV	2.00	
Methane, bromodichloro-	<0.02	0.02	ppmV	2.00	
Ethane, 1,1,2-trichloro-	<0.02	0.02	ppmV	2.00	
Tetrachloroethylene	0.072	0.02	ppmV	2.00	
Methane, dibromochloro-	<0.02	0.02	ppmV	2.00	
Benzene, chloro-	0.031	0.02	ppmV	2.00	
Bromoform (Methane, tribromo-)	<0.02	0.02	ppmV	2.00	
Ethane, 1,1,2,2-tetrachloro-	<0.02	0.02	ppmV	2.00	
Benzene, 1,3-dichloro-	<0.02	0.02	ppmV	2.00	
Benzene, 1,4-dichloro-	<0.02	0.02	ppmV	2.00	
Benzene, 1,2-dichloro-	<0.02	0.02	ppmV	2.00	
Benzene, 1,2,4-trichloro-	<0.02	0.02	ppmV	2.00	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.02	0.02	ppmV	2.00	

Principal Analyst: Jeff Scheidemantel

5300 Woodmere Drive, Suite 103, Bakersfield, CA 93313  
Phone: (661) 827-5240 Fax: (661)827-5244

ProVera



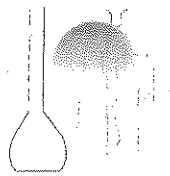
Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	9/15/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: 10840-002 VP-2

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.022	0.022	ppmV	2.2	
Ethene, chloro-(Vinyl Chloride)	<0.022	0.022	ppmV	2.2	
Methane, bromo-	<0.022	0.022	ppmV	2.2	
Chloroethane	<0.022	0.022	ppmV	2.2	
Trichloromonofluoromethane (Freon 11)	<0.022	0.022	ppmV	2.2	
1,1 Dichloroethene	<0.022	0.022	ppmV	2.2	
Methylene Chloride	<0.022	0.022	ppmV	2.2	
trans 1,2 Dichloroethene	<0.022	0.022	ppmV	2.2	
cis 1,2 dichloroethene	<0.022	0.022	ppmV	2.2	
Chloroform (Trichloromethane)	<0.022	0.022	ppmV	2.2	
1,1,1 Trichloroethane	<0.022	0.022	ppmV	2.2	
Carbon Tetrachloride	<0.022	0.022	ppmV	2.2	
1,2 Dichloroethane	<0.022	0.022	ppmV	2.2	
Trichloroethylene	<0.022	0.022	ppmV	2.2	
Propane, 1,2-dichloro-	<0.022	0.022	ppmV	2.2	
Methane, bromodichloro-	<0.022	0.022	ppmV	2.2	
Ethane, 1,1,2-trichloro-	<0.022	0.022	ppmV	2.2	
Tetrachloroethylene	0.082	0.022	ppmV	2.2	
Methane, dibromochloro-	<0.022	0.022	ppmV	2.2	
Benzene, chloro-	<0.022	0.022	ppmV	2.2	
Bromoform (Methane, tribromo-)	<0.022	0.022	ppmV	2.2	
Ethane, 1,1,2,2-tetrachloro-	<0.022	0.022	ppmV	2.2	
Benzene, 1,3-dichloro-	<0.022	0.022	ppmV	2.2	
Benzene, 1,4-dichloro-	<0.022	0.022	ppmV	2.2	
Benzene, 1,2-dichloro-	<0.022	0.022	ppmV	2.2	
Benzene, 1,2,4-trichloro-	<0.022	0.022	ppmV	2.2	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.022	0.022	ppmV	2.2	

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E2C Remediation	Project:	LTLW	Report Date:	9/15/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

**Sample ID: 10840-003 VP-3**

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.021	0.021	ppmV	2.1	
Ethene, chloro-(Vinyl Chloride)	<0.021	0.021	ppmV	2.1	
Methane, bromo-	<0.021	0.021	ppmV	2.1	
Chloroethane	<0.021	0.021	ppmV	2.1	
Trichloromonofluoromethane (Freon 11)	<0.021	0.021	ppmV	2.1	
1,1 Dichloroethene	<0.021	0.021	ppmV	2.1	
Methylene Chloride	<0.021	0.021	ppmV	2.1	
trans 1,2 Diclouroethene	<0.021	0.021	ppmV	2.1	
cis 1,2 dichloroethene	<0.021	0.021	ppmV	2.1	
Chloroform (Trichloromethane)	<0.021	0.021	ppmV	2.1	
1,1,1 Tricloroethane	<0.021	0.021	ppmV	2.1	
Carbon Tetrachloride	<0.021	0.021	ppmV	2.1	
1,2 Dichloroethane	<0.021	0.021	ppmV	2.1	
Trichloroethylene	<0.021	0.021	ppmV	2.1	
Propane, 1,2-dichloro-	<0.021	0.021	ppmV	2.1	
Methane, bromodichloro-	<0.021	0.021	ppmV	2.1	
Ethane, 1,1,2-trichloro-	<0.021	0.021	ppmV	2.1	
Tetrachloroethylene	<0.021	0.021	ppmV	2.1	
Methane, dibromochloro-	<0.021	0.021	ppmV	2.1	
Benzene, chloro-	<0.021	0.021	ppmV	2.1	
Bromoform (Methane, tribromo-)	<0.021	0.021	ppmV	2.1	
Ethane, 1,1,2,2-tetrachloro-	<0.021	0.021	ppmV	2.1	
Benzene, 1,3-dichloro-	<0.021	0.021	ppmV	2.1	
Benzene, 1,4-dichloro-	<0.021	0.021	ppmV	2.1	
Benzene, 1,2-dichloro-	<0.021	0.021	ppmV	2.1	
Benzene, 1,2,4-trichloro-	<0.021	0.021	ppmV	2.1	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.021	0.021	ppmV	2.1	

ProVer



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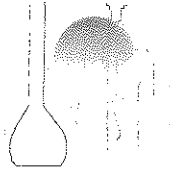
E2C Remediation	Project:	LTLW	Report Date:	9/15/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: 10840-004 VP-4

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.024	0.024	ppmV	2.4	
Ethene, chloro-(Vinyl Chloride)	<0.024	0.024	ppmV	2.4	
Methane, bromo-	<0.024	0.024	ppmV	2.4	
Chloroethane	<0.024	0.024	ppmV	2.4	
Trichloromonofluoromethane (Freon 11)	<0.024	0.024	ppmV	2.4	
1,1 Dichloroethene	<0.024	0.024	ppmV	2.4	
Methylene Chloride	<0.024	0.024	ppmV	2.4	
trans 1,2 Dichloroethene	<0.024	0.024	ppmV	2.4	
cis 1,2 dichloroethene	<0.024	0.024	ppmV	2.4	
Chloroform (Trichloromethane)	<0.024	0.024	ppmV	2.4	
1,1,1 Trichloroethane	<0.024	0.024	ppmV	2.4	
Carbon Tetrachloride	<0.024	0.024	ppmV	2.4	
1,2 Dichloroethane	<0.024	0.024	ppmV	2.4	
Trichloroethylene	<0.024	0.024	ppmV	2.4	
Propane, 1,2-dichloro-	<0.024	0.024	ppmV	2.4	
Methane, bromodichloro-	<0.024	0.024	ppmV	2.4	
Ethane, 1,1,2-trichloro-	<0.024	0.024	ppmV	2.4	
Tetrachloroethylene	<0.024	0.024	ppmV	2.4	
Methane, dibromochloro-	<0.024	0.024	ppmV	2.4	
Benzene, chloro-	<0.024	0.024	ppmV	2.4	
Bromoform (Methane, tribromo-)	<0.024	0.024	ppmV	2.4	
Ethane, 1,1,2,2-tetrachloro-	<0.024	0.024	ppmV	2.4	
Benzene, 1,3-dichloro-	<0.024	0.024	ppmV	2.4	
Benzene, 1,4-dichloro-	<0.024	0.024	ppmV	2.4	
Benzene, 1,2-dichloro-	<0.024	0.024	ppmV	2.4	
Benzene, 1,2,4-trichloro-	<0.024	0.024	ppmV	2.4	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.024	0.024	ppmV	2.4	



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E2C Remediation	Project: LTLW	Report Date: 9/15/2010
5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project Mgr. PHIL GOALWIN	Analysis Type: EPA Method TO-15

Sample ID: 10840-005 VP-5

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.026	0.026	ppmV	2.59	
Ethene, chloro-(Vinyl Chloride)	<0.026	0.026	ppmV	2.59	
Methane, bromo-	<0.026	0.026	ppmV	2.59	
Chloroethane	<0.026	0.026	ppmV	2.59	
Trichloromonofluoromethane (Freon 11)	<0.026	0.026	ppmV	2.59	
1,1 Dichloroethene	<0.026	0.026	ppmV	2.59	
Methylene Chloride	<0.026	0.026	ppmV	2.59	
trans 1,2 Dichloroethene	<0.026	0.026	ppmV	2.59	
cis 1,2 dichloroethene	<0.026	0.026	ppmV	2.59	
Chloroform (Trichloromethane)	<0.026	0.026	ppmV	2.59	
1,1,1 Trichloroethane	<0.026	0.026	ppmV	2.59	
Carbon Tetrachloride	<0.026	0.026	ppmV	2.59	
1,2 Dichloroethane	<0.026	0.026	ppmV	2.59	
Trichloroethylene	<0.026	0.026	ppmV	2.59	
Propane, 1,2-dichloro-	<0.026	0.026	ppmV	2.59	
Methane, bromodichloro-	<0.026	0.026	ppmV	2.59	
Ethane, 1,1,2-trichloro-	<0.026	0.026	ppmV	2.59	
Tetrachloroethylene	<0.026	0.026	ppmV	2.59	
Methane, dibromochloro-	<0.026	0.026	ppmV	2.59	
Benzene, chloro-	<0.026	0.026	ppmV	2.59	
Bromoform (Methane, tribromo-)	<0.026	0.026	ppmV	2.59	
Ethane, 1,1,2,2-tetrachloro-	<0.026	0.026	ppmV	2.59	
Benzene, 1,3-dichloro-	<0.026	0.026	ppmV	2.59	
Benzene, 1,4-dichloro-	<0.026	0.026	ppmV	2.59	
Benzene, 1,2-dichloro-	<0.026	0.026	ppmV	2.59	
Benzene, 1,2,4-trichloro-	<0.026	0.026	ppmV	2.59	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.026	0.026	ppmV	2.59	

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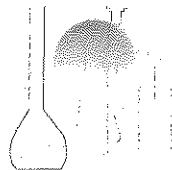
Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	9/15/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: 10840-006 VP-6

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.03	0.03	ppmV	3.00	
Ethene, chloro-(Vinyl Chloride)	<0.03	0.03	ppmV	3.00	
Methane, bromo-	<0.03	0.03	ppmV	3.00	
Chloroethane	<0.03	0.03	ppmV	3.00	
Trichloromonofluoromethane (Freon 11)	<0.03	0.03	ppmV	3.00	
1,1 Dichloroethene	<0.03	0.03	ppmV	3.00	
Methylene Chloride	<0.03	0.03	ppmV	3.00	
trans 1,2 Dichloroethene	<0.03	0.03	ppmV	3.00	
cis 1,2 dichloroethene	<0.03	0.03	ppmV	3.00	
Chloroform (Trichloromethane)	<0.03	0.03	ppmV	3.00	
1,1,1 Trichloroethane	<0.03	0.03	ppmV	3.00	
Carbon Tetrachloride	<0.03	0.03	ppmV	3.00	
1,2 Dichloroethane	<0.03	0.03	ppmV	3.00	
Trichloroethylene	<0.03	0.03	ppmV	3.00	
Propane, 1,2-dichloro-	<0.03	0.03	ppmV	3.00	
Methane, bromodichloro-	<0.03	0.03	ppmV	3.00	
Ethane, 1,1,2-trichloro-	<0.03	0.03	ppmV	3.00	
Tetrachloroethylene	<0.03	0.03	ppmV	3.00	
Methane, dibromochloro-	<0.03	0.03	ppmV	3.00	
Benzene, chloro-	<0.03	0.03	ppmV	3.00	
Bromoform (Methane, tribromo-)	<0.03	0.03	ppmV	3.00	
Ethane, 1,1,2,2-tetrachloro-	<0.03	0.03	ppmV	3.00	
Benzene, 1,3-dichloro-	<0.03	0.03	ppmV	3.00	
Benzene, 1,4-dichloro-	<0.03	0.03	ppmV	3.00	
Benzene, 1,2-dichloro-	<0.03	0.03	ppmV	3.00	
Benzene, 1,2,4-trichloro-	<0.03	0.03	ppmV	3.00	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.03	0.03	ppmV	3.00	

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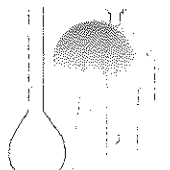
Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	9/15/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: 10840-007 VP-7

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.032	0.032	ppmV	3.2	
Ethene, chloro-(Vinyl Chloride)	<0.032	0.032	ppmV	3.2	
Methane, bromo-	<0.032	0.032	ppmV	3.2	
Chloroethane	<0.032	0.032	ppmV	3.2	
Trichloromonofluoromethane (Freon 11)	<0.032	0.032	ppmV	3.2	
1,1 Dichloroethene	<0.032	0.032	ppmV	3.2	
Methylene Chloride	<0.032	0.032	ppmV	3.2	
trans 1,2 Dichloroethene	<0.032	0.032	ppmV	3.2	
cis 1,2 dichloroethene	<0.032	0.032	ppmV	3.2	
Chloroform (Trichloromethane)	<0.032	0.032	ppmV	3.2	
1,1,1 Trichloroethane	<0.032	0.032	ppmV	3.2	
Carbon Tetrachloride	<0.032	0.032	ppmV	3.2	
1,2 Dichloroethane	<0.032	0.032	ppmV	3.2	
Trichloroethylene	<0.032	0.032	ppmV	3.2	
Propane, 1,2-dichloro-	<0.032	0.032	ppmV	3.2	
Methane, bromodichloro-	<0.032	0.032	ppmV	3.2	
Ethane, 1,1,2-trichloro-	<0.032	0.032	ppmV	3.2	
Tetrachloroethylene	0.064	0.032	ppmV	3.2	
Methane, dibromochloro-	<0.032	0.032	ppmV	3.2	
Benzene, chloro-	<0.032	0.032	ppmV	3.2	
Bromoform (Methane, tribromo-)	<0.032	0.032	ppmV	3.2	
Ethane, 1,1,2,2-tetrachloro-	<0.032	0.032	ppmV	3.2	
Benzene, 1,3-dichloro-	<0.032	0.032	ppmV	3.2	
Benzene, 1,4-dichloro-	<0.032	0.032	ppmV	3.2	
Benzene, 1,2-dichloro-	<0.032	0.032	ppmV	3.2	
Benzene, 1,2,4-trichloro-	<0.032	0.032	ppmV	3.2	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.032	0.032	ppmV	3.2	

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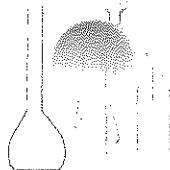
Analytical Laboratories, Inc.

E2C Remediation	Project: LTLW	Report Date: 9/15/2010
5300 Woodmere Dr. Suite 105		
Bakersfield CA 93313	Project Mgr. PHIL GOALWIN	Analysis Type: EPA Method TO-15

Sample ID: 10840-008 VP-8

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.033	0.033	ppmV	3.3	
Ethene, chloro-(Vinyl Chloride)	<0.033	0.033	ppmV	3.3	
Methane, bromo-	<0.033	0.033	ppmV	3.3	
Chloroethane	<0.033	0.033	ppmV	3.3	
Trichloromonofluoromethane (Freon 11)	<0.033	0.033	ppmV	3.3	
1,1 Dichloroethene	<0.033	0.033	ppmV	3.3	
Methylene Chloride	<0.033	0.033	ppmV	3.3	
trans 1,2 Dichloroethene	<0.033	0.033	ppmV	3.3	
cis 1,2 dichloroethene	<0.033	0.033	ppmV	3.3	
Chloroform (Trichloromethane)	<0.033	0.033	ppmV	3.3	
1,1,1 Trichloroethane	<0.033	0.033	ppmV	3.3	
Carbon Tetrachloride	<0.033	0.033	ppmV	3.3	
1,2 Dichloroethane	<0.033	0.033	ppmV	3.3	
Trichloroethylene	<0.033	0.033	ppmV	3.3	
Propane, 1,2-dichloro-	<0.033	0.033	ppmV	3.3	
Methane, bromodichloro-	<0.033	0.033	ppmV	3.3	
Ethane, 1,1,2-trichloro-	<0.033	0.033	ppmV	3.3	
Tetrachloroethylene	0.133	0.033	ppmV	3.3	
Methane, dibromochloro-	<0.033	0.033	ppmV	3.3	
Benzene, chloro-	<0.033	0.033	ppmV	3.3	
Bromoform (Methane, tribromo-)	<0.033	0.033	ppmV	3.3	
Ethane, 1,1,2,2-tetrachloro-	<0.033	0.033	ppmV	3.3	
Benzene, 1,3-dichloro-	<0.033	0.033	ppmV	3.3	
Benzene, 1,4-dichloro-	<0.033	0.033	ppmV	3.3	
Benzene, 1,2-dichloro-	<0.033	0.033	ppmV	3.3	
Benzene, 1,2,4-trichloro-	<0.033	0.033	ppmV	3.3	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.033	0.033	ppmV	3.3	

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E2C Remediation	Project:	LTW	Report Date:	9/15/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

**Sample ID: 10840-009 VP-9**

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.028	0.028	ppmV	2.81	
Ethene, chloro-(Vinyl Chloride)	<0.028	0.028	ppmV	2.81	
Methane, bromo-	<0.028	0.028	ppmV	2.81	
Chloroethane	<0.028	0.028	ppmV	2.81	
Trichloromonofluoromethane (Freon 11)	<0.028	0.028	ppmV	2.81	
1,1 Dichloroethene	<0.028	0.028	ppmV	2.81	
Methylene Chloride	<0.028	0.028	ppmV	2.81	
trans 1,2 Dichloroethene	<0.028	0.028	ppmV	2.81	
cis 1,2 dichloroethene	<0.028	0.028	ppmV	2.81	
Chloroform (Trichloromethane)	<0.028	0.028	ppmV	2.81	
1,1,1 Trichloroethane	<0.028	0.028	ppmV	2.81	
Carbon Tetrachloride	<0.028	0.028	ppmV	2.81	
1,2 Dichloroethane	<0.028	0.028	ppmV	2.81	
Trichloroethylene	<0.028	0.028	ppmV	2.81	
Propane, 1,2-dichloro-	<0.028	0.028	ppmV	2.81	
Methane, bromodichloro-	<0.028	0.028	ppmV	2.81	
Ethane, 1,1,2-trichloro-	<0.028	0.028	ppmV	2.81	
Tetrachloroethylene	7.53	0.028	ppmV	2.81	
Methane, dibromochloro-	<0.028	0.028	ppmV	2.81	
Benzene, chloro-	<0.028	0.028	ppmV	2.81	
Bromoform (Methane, tribromo-)	<0.028	0.028	ppmV	2.81	
Ethane, 1,1,2,2-tetrachloro-	<0.028	0.028	ppmV	2.81	
Benzene, 1,3-dichloro-	<0.028	0.028	ppmV	2.81	
Benzene, 1,4-dichloro-	<0.028	0.028	ppmV	2.81	
Benzene, 1,2-dichloro-	<0.028	0.028	ppmV	2.81	
Benzene, 1,2,4-trichloro-	<0.028	0.028	ppmV	2.81	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.028	0.028	ppmV	2.81	

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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: LTLW	Report Date: 9/15/2010
	Project Mgr. PHIL GOALWIN	Analysis Type: EPA Method TO-15

Sample ID: 10840-010 VP-10

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.031	0.031	ppmV	3.1	
Ethene, chloro-(Vinyl Chloride)	<0.031	0.031	ppmV	3.1	
Methane, bromo-	<0.031	0.031	ppmV	3.1	
Chloroethane	<0.031	0.031	ppmV	3.1	
Trichloromonofluoromethane (Freon 11)	<0.031	0.031	ppmV	3.1	
1,1 Dichloroethene	<0.031	0.031	ppmV	3.1	
Methylene Chloride	<0.031	0.031	ppmV	3.1	
trans 1,2 Dichloroethene	<0.031	0.031	ppmV	3.1	
cis 1,2 dichloroethene	<0.031	0.031	ppmV	3.1	
Chloroform (Trichloromethane)	<0.031	0.031	ppmV	3.1	
1,1,1 Trichloroethane	<0.031	0.031	ppmV	3.1	
Carbon Tetrachloride	<0.031	0.031	ppmV	3.1	
1,2 Dichloroethane	<0.031	0.031	ppmV	3.1	
Trichloroethylene	<0.031	0.031	ppmV	3.1	
Propane, 1,2-dichloro-	<0.031	0.031	ppmV	3.1	
Methane, bromodichloro-	<0.031	0.031	ppmV	3.1	
Ethane, 1,1,2-trichloro-	<0.031	0.031	ppmV	3.1	
Tetrachloroethylene	0.132	0.031	ppmV	3.1	
Methane, dibromochloro-	<0.031	0.031	ppmV	3.1	
Benzene, chloro-	<0.031	0.031	ppmV	3.1	
Bromoform (Methane, tribromo-)	<0.031	0.031	ppmV	3.1	
Ethane, 1,1,2,2-tetrachloro-	<0.031	0.031	ppmV	3.1	
Benzene, 1,3-dichloro-	<0.031	0.031	ppmV	3.1	
Benzene, 1,4-dichloro-	<0.031	0.031	ppmV	3.1	
Benzene, 1,2-dichloro-	<0.031	0.031	ppmV	3.1	
Benzene, 1,2,4-trichloro-	<0.031	0.031	ppmV	3.1	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.031	0.031	ppmV	3.1	

## **APPENDIX E**

### Soil-Gas Monitoring Procedures (From IRAWP)

## APPENDIX E

### S-G Monitoring Table of Contents

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## **S. SOIL GAS MONITORING PROCEDURES**

The following sections detail the methods and procedures that will be followed to monitor soil gas during the site remediation period.

### **S.1 Field Activities**

Prior to installation of soil-gas probe points, all necessary permits and utility clearance(s) will be obtained. All work will be performed or supervised by a California Professional Geologist, in accordance with the Business and Professions Code, Chapters 7 and 12.5, and the California Code of Regulations, Title 16, Chapters 5 and 29. E<sub>2</sub>C will make raw data available to California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) staff, as requested. E<sub>2</sub>C will accommodate adjustments, or modifications to the sampling program, mandated by evaluation of the data set or unforeseen site conditions, if required by the Regional Water Quality Control Board (CRWQCB) staff. Investigative-derived wastes (IDWs) will be handled and disposed in accordance with federal, state and local requirements.

To expedite the completion of field activities and to avoid potential project delays, contingencies have been proposed in the Interim Remedial Action Workplan (IRAWP) (e.g., soil matrix samples will also be collected if clayey soils [as defined in the Unified Soil Classification System (USCS)] are encountered during the proposed soil-gas investigation). The CRWQCB field staff will be informed of any problems, unforeseen site conditions, or deviations from the approved IRAWP. When it becomes necessary to implement modifications to the approved IRAWP, the CRWQCB will be notified and a verbal approval will be obtained before implementing changes.

### **S.2 Soil-Gas Investigation Reports**

Soil-gas monitoring data, including a discussion of field operations, deviations from the approved Workplan, data inconsistencies, and other significant operational details will be documented in the status reports. Each status report will contain soil-gas isoconcentration plots for constituents of concern (COCs) at a scale of 1 inch = 30 feet and summary tables for analytical data [in micrograms per liter ( $\mu\text{g/L}$ )], in accordance with the Active Soil Gas Investigation (ASGI) guidance (LARWQCB, 1997). E<sub>2</sub>C will also provide legible copies of field and laboratory notes or logs, all analytical results and Quality Assurance/Quality Control (QA/QC) information, including tables and explanations of procedures, results, corrective actions and effect on the data.

### **S.3 Soil-Gas Vapor Monitoring Well Installation**

#### **S.3.a Additional Soil and Lithologic Investigations**

Site soil and lithologic information will be obtained by collecting undisturbed soil samples from soil-gas sampling point VP-5. The soil samples will be collected with a slide-hammer in two (2) inch diameter brass liners from depths of two (2) and four (4) feet bgs. The samples will be submitted for physical parameter testing, which includes gradation, effective permeability, porosity, soil moisture, total organic carbon, and soil density. The results of the parameter testing will provide accurate soil input parameters to be used in an indoor air intrusion risk model. The results of the indoor air intrusion risk modeling will be presented in status reports under soil gas sections.

Low-flow or no-flow conditions (e.g., fine-grained soil, clay, soil with vacuum readings that exceed approximately ten (10) inches of mercury or 136 inches of water) are not expected to be encountered; however, if low-flow or no-flow conditions are encountered, soil matrix sampling using EPA Method 5035A will be conducted in those specific areas.

### **S.3.b Soil-Gas Vapor Monitoring Well Spacing**

Refer to Figure 5 for a scaled site plan depicting proposed VP well locations. VP well spacing has been selected to provide soil vapor monitoring biased to optimize detecting and delineating volatile organic compounds (VOCs) in areas of occupied by humans (e.g., buildings) and monitor and assess the effectiveness of the soil vapor extraction (SVE) system on VOC-affected vadose zone soils. Based on these criteria E<sub>2</sub>C will install five (5) VP wells (VP-1 through VP-5).

### **S.3.c VP Well Depth**

All VP wells will be installed to a depth of approximately five (5) feet below ground surface (bgs).

### **S.3.d VP Well Installation Procedure**

E<sub>2</sub>C personnel will use a Bobcat with a four (4) inch diameter auger attachment to advance a boring to the design depth of approximately 5.0 feet below ground surface (bgs). If an asphalt or concrete surface is present, E<sub>2</sub>C will utilize a coring machine to penetrate the surface material.

At the bottom of the boring, E<sub>2</sub>C will emplace a one and one-half (1.5) inch vapor sampling screen in the center of a one-foot sand pack (#3 Lonestar sand or equivalent). 1/8 inch inside diameter Teflon® tubing will extend from the sampling screen to the surface. One (1) foot of dry granular bentonite will be emplaced on top of the sand pack to preclude the infiltration of hydrated bentonite grout. The borehole will then be grouted to approximately six (6) inches below the surface with hydrated bentonite. The surface completion will consist of a five (5) inch diameter, traffic-rated monitoring well box, set in concrete (See Figure 15).

E<sub>2</sub>C field personnel will prepare detailed VP well installation boring logs, which will document the date and time of the installation activity, the depth of each VP well, the screen type and interval; material utilized, and surface completion details. VP well logs will be included in the subsequent status report.

## **S.4 Soil-Gas Monitoring Parameters**

### **S.4.a Equilibration Time**

Following the installation of the VP well, subsurface conditions will be disturbed. As delineated in the DTSC document, *Advisory – Active Soil Gas Investigations*, to allow subsurface conditions to equilibrate, the purge volume test, leak test, and soil-gas sampling will not be conducted for at least 48 hours following installation.

### **S.4.b Purge Volume**

To ensure that stagnant or ambient air is removed from the sampling system and to assure samples collected are representative of subsurface conditions, E<sub>2</sub>C will purge three (3) casing volumes from each VP well. Based on a well diameter of four (4)

inches, a filter pack twelve (12) inches in height, and a porosity of 30%, E<sub>2</sub>C estimates that one (1) casing volume will be approximately 200 milliliters. Therefore, three (3) casing volumes would equate to approximately 600 milliliters. At a purge rate of 200 ml/min, purging will be accomplished in approximately three (3) minutes. E<sub>2</sub>C will use a purge pump, calibrated to pump 200 milliliters per minute. The purge pump will not be used for sampling purposes.

## **S.5 Leak Test**

Leakage during soil gas sampling may dilute samples with ambient air and may produce results that underestimate actual site concentrations or contaminate the sample with external contaminants. Leak tests will be conducted to determine whether leakage is present (e.g., the leak check compound is detected and confirmed in the test sample after its application).

### **S.5.a Leak Test Frequency**

Leak tests will be conducted at every SGA well location.

### **S.5.b Leak Check Compounds**

The tracer compound tetrafluoroethane will be used as leak check compounds, if a detection limit (DL) of 10 µg/L or less can be achieved.

### **S.5.c Leak Test Protocol**

The leak check compound (tetrafluoroethane) will be enclosed within a tent-type structure at each potential leak point to keep the potential leak areas at saturated concentrations throughout the test.

### **S.5.d Leak Test Analytical**

The chemical analysis of the soil-gas sample will include an analysis for the leak check compound. If a leak check compound is detected in the sample, the cause of the leak will be evaluated, determined and corrected through confirmation sampling. If the leak check compound is suspected or detected as a site-specific contaminant, a new leak check compound will be used.

## **S.6 Purge/Sample Flow Rate**

The sampling and purging flow rate of 100 ml/min to 200 ml/min was selected to minimize compound partitioning during soil-gas sampling. Samples will not be collected if field conditions, such as rainfall, irrigation, fine grained sediments, or drilling conditions affect the ability to collect soil-gas samples. If no-flow or low-flow conditions are caused by wet soils, the soil gas sampling will cease. In addition, the soil-gas sampling will not be conducted during or immediately after a significant rain event (e.g., 1/2 inch or greater), or onsite watering.

If low flow conditions are determined to be from a specific lithology, a new SGA well will be installed at a new lateral location selected after evaluation of the site lithologic logs and/or in consultation with the CRWQCB. If moisture or unknown material is observed, installation of the VP well will cease until the cause of the problem is identified and corrected. If refusal occurs during drilling, an alternate, nearby VP well location will be selected.

### **S.6.a No-Flow/Low-Flow Rates**

The purging or sampling flow rate of 100 ml/min to 200 ml/min is expected to be

attainable in the lithology adjacent to the VP well. To evaluate lithologic conditions adjacent to the VP well where no-flow or low-flow conditions are encountered, a vacuum gauge or similar device will be used between the soil-gas sample tubing and the soil-gas extraction devices. A gas tight syringe may also be used to qualitatively determine if a high vacuum soil condition exists, which is based on whether suction is felt while the plunger is being withdrawn.

#### **S.6.b Purging/Sampling Rates**

E<sub>2</sub>C will conduct purging/sampling at rates between 100 to 200 ml/min to limit stripping, prevent ambient air from diluting the soil-gas samples, and to reduce the variability of purging rates. The low flow purge rate increases the likelihood that representative samples may be collected. The purge/sample rate may be modified based on conditions encountered in individual VP wells. Modified rates will be documented in the report of findings.

### **S.7 Soil Gas Sampling Protocol**

After the VP well is adequately purged, a soil-gas sample will be collected. A Summa canister equipped with a flow restrictor will be used at each location. A flow regulator will be placed between the probe and the Summa canister to ensure the canister is filled at the proper flow rate. Summa canisters will be stored in such a way as to avoid exposure to sunlight, and the samples will be analyzed within the prescribed hold time.

#### **S.7.a Sample Container Cleanliness and Decontamination**

Prior to its use at a site, each sample container will be assured clean by the analytical laboratory. New containers will be determined to be free of contaminants (e.g., lubricants) by either the supplier or the analytical laboratory; and the effectiveness of decontamination (and to detect any possible interference from ambient air) of reused/recycled containers will be verified with method blanks. After each use, reusable sample containers will be properly decontaminated. Glass syringes or bulbs will be disassembled and baked at 240° C for a minimum of 15 minutes or at 120° C for a minimum of 30 minutes, or be decontaminated by an equivalent method. Plastic syringes, if used, will be used only once and then properly discarded.

E<sub>2</sub>C personnel will connect new Teflon® tubing to the top of the existing VP well tubing, and will utilize a 60 cubic centimeter (cc) syringe and a 3-way valve to purge the previously determined purge volume. The purge volume will be calculated based on one (1) cc/ft for 1/8" outside diameter (OD) tubing and five (5) cc/ft for ¼" OD tubing.

The leak compound will be placed in tent-type structures at the connections on the sampling train, using a paper towel moistened with the leak compound wrapped with plastic sheeting taped tightly at each end to seal the structure. The sampling procedure will then commence as detailed above.

#### **S.7.b Documentation of VP Well Sampling Protocol**

E<sub>2</sub>C personnel will document the VP well sampling, and will include the sample identification, the probe location, date and time of sample collection, sampling depth, identity of on-Site personnel, weather conditions, sampling methods and devices, soil-gas purge volumes, volume of soil gas extracted, vacuum of canisters before and after samples are collected, chain of custody protocols.

### **S.7.c Chain of Custody Records**

A chain of custody form will be completed to maintain the custodial integrity of samples. Probe installation times and sample collection times will be included on the chain of custody form, and in the report of findings.

## **S.8 Analysis of Soil-Gas Samples**

### **S.8.a Quality Assurance/Quality Control (QA/QC)**

The soil-gas analytical laboratory will comply with the project Quality Assurance Project Plan (QAPP) and will follow the QA/QC requirements of the most current ASGI and the employed EPA Method. If there is any inconsistency between the ASGI and the EPA Method, the most restrictive and specific requirements will prevail. The analytical data will be consistent with the Data Quality Objectives (DQOs) established for the project. Field QC samples will be collected, stored, transported and analyzed in a manner consistent with site samples.

QA/QC samples will be collected to support the sampling activity. Method blanks will be used to verify the effectiveness of decontamination procedures, as specified above, and to detect any possible interference from ambient air. For off-site shipments, a minimum of one (1) trip blank per day will be collected and analyzed for the target compounds. Trip blanks will contain laboratory grade ultra pure air. The trip blanks will be prepared to evaluate if the shipping and handling procedures are introducing contaminants into the samples, and to determine if cross contamination in the form of VOC migration has occurred between the collected VOC samples. Trip blank containers and media will be the same as site samples. At least one (1) duplicate sample per laboratory per day will be collected. Duplicate samples will be collected from areas of concern in separate sample containers, at the same location and depth. Duplicate samples will be collected immediately after the original sample. Laboratory control samples (LCS) and dilution procedure duplicates (DPD) will be handled and analyzed in accordance with the most recent ASGI. E<sub>2</sub>C will be prepared to collect split samples (for analysis by another laboratory) with the CRWQCB, if requested.

### **S.8.b Laboratory Certification and Analysis**

E<sub>2</sub>C will have the samples analyzed by EPA Method 8260b at a certified analytical laboratory.

### **S.8.c Detection Limits for Target Compounds**

Analytical equipment calibration will be in accordance with the most current ASGI. Detection limits will be such that the Environmental Screening Levels (Soil Gas Screening Levels) (CCRWQCB, 2008) for evaluation of potential vapor intrusion into indoor air allow will be met, as follows:

<b>CHEMICAL</b>	<b>Vapor Screening ESL's</b>		
	Micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )	Parts per billion – volume (ppbV)	Micrograms per liter ( $\mu\text{g}/\text{L}$ )
PCE	1.4E+03	206.54	1.400
TCE	4.1E+03	0.74481	0.0040

Cis-1,2-DCE	2.0E+04	3.0285+04	120.00
VC	1.0E+02	39.144	0.1000

The DL for leak check compounds will be 10 µg/L or less. For results with a high DL reported (e.g., due to matrix interference or dilution), the laboratory will provide a written explanation. Re-sampling and analyses will be conducted at the appropriate DL for a specific compound if requested by CRWQCB staff.

#### **S.8.d Sample Handling**

Exposure to light and changes in temperature and pressure will accelerate sample degradation. To protect sample integrity soil-gas samples will not be chilled, will not be subjected to changes in ambient pressure, and shipping of sample containers by air will be avoided, if possible. If condensation is observed in the sample container, the sample will be discarded and a new sample will be collected.

#### **S.8.e Holding Time**

All soil gas samples will be collected in Summa canisters and will be analyzed at ProVera Analytical Laboratories, Inc. (State Certification #2606) in Bakersfield, California within 48 hours after collection.

#### **S.8.f Analytical Methods**

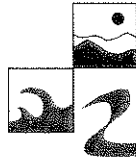
All VOC samples will be analyzed using only a Gas Chromatograph/Mass Spectrometer (GC/MS) by EPA Method 8260b, or equivalent.

#### **S.8.g Target Compounds**

The ASGI (dated February 25, 1997) includes twenty-three (23) primary and four (4) other target VOCs. All quantifiable results will be reported. The estimated results of all Tentatively Identified Compounds (TICs), or non-ASGI-targeted compounds detected, will be included in the status reports. If TICs, or non-ASGI targeted compounds are identified, E<sub>2</sub>C will consult with the CRWQCB to determine whether additional action is required (e.g., running additional standards to quantify TICs, or non-ASGI compounds) and whether the use of these estimated data for risk evaluation is appropriate. All quantifiable results of Leak Check Compounds will be reported as specified in above.

## **APPENDIX F**

### EDCAQMD Authority To Construct



## E<sub>2</sub>C Remediation

Environmental Engineering,  
Consulting and Remediation, Inc.

November 23, 2009

El Dorado County Air Quality Management District  
2850 Fairlane Court, Building "C"  
Placerville, 95667

Re: Authority to Construct Application  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, CA

The enclosed Authority to Construct application is for a soil and groundwater remediation project at the above referenced site. The remediation project proposed herein, will utilize a vapor extraction system (VES) to remove volatile organic compounds from soil and groundwater for adsorption by granular activated carbon. Dissolved PCE concentration in groundwater will be remediated with a combined VES / Groundwater Air Sparge System (GASS).

The proposed emissions control unit is a 500 scfm vapor phase carbon treatment unit. The equipment is skid mounted and consists of an entrainment liquid separator, float switches and entrainment water pump, electrical control panel with main power switch and hour meter, vacuum pump and motor, two (2) 2000 lb. carbon canisters in series filled with granulated activated carbon, influent and effluent sampling ports for each carbon canister. The unit is designed to achieve 100% adsorption efficiency. **NOTE:** E<sub>2</sub>C Remediation (E<sub>2</sub>C) will perform a sixty (60) day Pilot Test followed by long term operation of the remediation system upon receipt of a valid ATC. E<sub>2</sub>C will calculate removal rates, carbon utilization rates and projected breakthrough for the carbon vessels utilizing the data collected during the Pilot Test. E<sub>2</sub>C will operate and monitor the 500 scfm vapor phase carbon system in accordance with the conditions stipulated in the El Dorado County Air Quality Management District (EDCAQMD) to ensure that hydrocarbon emissions are within the permitted limits.

Enclosed for your review are the complete ATC application with diagrams and equipment specifications for the proposed remediation equipment.

There are no schools located within 1,000 feet of the proposed location of the vapor extraction equipment.

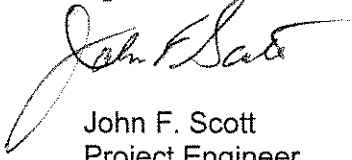
Also enclosed is the Permit Application Fee of \$329.00 for the ATC review process.

E<sub>2</sub>C respectfully requests expeditious review and processing of this ATC application. This site is considered by the RWQCB to be a priority site.

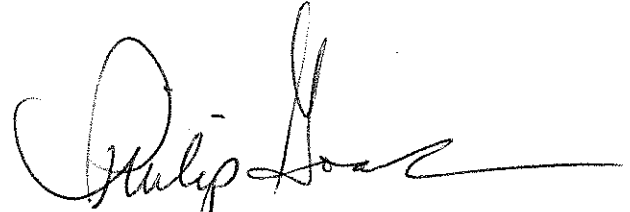


Should you have any questions or concerns regarding this ATC permit application, please contact the undersigned at (661) 831-6906. Thank you for your time and consideration in this review.

Respectfully Submitted,  
E<sub>2</sub>C Remediation



John F. Scott  
Project Engineer



Philip Galwin, R.G. #4779  
Principal Geologist

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# E2C Remediation

5300 Woodmere Drive Suite 105  
Bakersfield, CA 93313

RABOBANK  
BAKERSFIELD, CA 93309  
90-3842/1222

1084

11/23/09

PAY TO THE  
ORDER OF

El Dorado County AQMD

\$ 329.00

three-hundred + twenty-nine & 00/100

DOLLARS

MEMO Lake Tahoe Laundry Works  
ATC Appl.

*Debbie Opaluk*  
AUTHORIZED SIGNATURE

⑈001084⑈ ⑆122238420⑆ 4991262175⑈

E2C ENVIRONMENTAL ENGINEERING

1084

El Dorado County AQMD

11/23/09

Lake Tahoe Laundry Works

\$ 329.00

ATC Appl.

Details on Bank  
Community Features Included



## Application for: Authority to Construct Permit to Operate Support Request

El Dorado County Air Quality Management District  
2850 Fairlane Court, Building "C", Placerville, CA 95667  
Phone: (530) 621-6662  
Fax: (530) 295-2774  
www.co.el-dorado.ca.us/emd

RESPONSIBLE COMPANY/OPERATOR	<b>Company/Operator (Please Print or Type)</b> <i>E2C REMEDIATION</i>	<b>Contact</b> <i>Philip Goalwin</i>
	<b>Mailing Address</b> <i>5300 Woodmere Dr #105</i>	<b>Title</b> <i>PRESIDENT</i>
	<b>City, State &amp; ZIP Code</b> <i>BAKERSFIELD CA 93313</i>	<b>Phone</b> <i>661-831-6906</i>
	<b>Federal ID Number or SS Number</b> <i>02-0664287</i>	<b>E-Mail Address</b> <i>P.Goalwin@E2C.R.NET</i>
FACILITY LOCATION	<b>Name of Facility</b> <i>LAKE TAHOE LAUNDRY WORKS</i>	
	<b>Street Address</b> <i>1024 LAKE TAHOE BOULEVARD</i>	<b>Title</b>
	<b>City</b> <i>SOUTH LAKE TAHOE</i>	<b>Phone</b>

Send bill(s), permits and correspondence to:  Responsible Company/Operator  Facility Location

**Type of Application (Check appropriate boxes)**

<input checked="" type="checkbox"/> New Facility	<input type="checkbox"/> Emission Reduction Credit
<input type="checkbox"/> Modification of Existing Facility or Equipment	<input type="checkbox"/> AQMD Support Request
<input type="checkbox"/> Change of Ownership	<input type="checkbox"/> Miscellaneous (explain below)

Existing Permit # \_\_\_\_\_

Is the facility location within 1000 feet from the boundary of a K-12 school?  YES  NO

<b>Equipment Schedule of Operation</b>	<b>Hours/day:</b> <i>24</i>	<b>Days/week:</b> <i>7</i>	<b>Weeks/year:</b> <i>52</i>
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<b>Estimated Construction Start Date:</b> <i>Dec 2009</i>	<b>Estimated Completion Date:</b> <i>Dec 2009</i>	<b>Estimated Start-up Date:</b> <i>ASAP</i>
---	---	---

**Description of Project/Request (Attach supplemental forms and/or detailed equipment/emission information):**  
*VAPOR PHASE GRANULAR ACTIVATED CARBON Adsorption System*

Information submitted to obtain an Authority to Construct/Permit to Operate is public information unless specifically marked as trade secret or confidential by the applicant. Emission data is subject to disclosure regardless of any claim of trade secret or confidentiality.

**Signature of Responsible Official/Person:**  
The Responsible Official/Person is the individual with the authority to certify this source will comply with all District requirements and conditions set forth in the permit and the Rules and Regulations of El Dorado County. I certify all information contained herein and submitted with this application is true, accurate and complete.

Signature: *Philip Goalwin* Date: *11/24/09*

Printed Name: *PHILIP GOALWIN* Title: *PRESIDENT*

DATE STAMP	<b>FOR EL DORADO COUNTY AQMD USE ONLY</b>	
	<b>AC No.:</b> _____	<b>APPLICATION APPROVED</b>
		DATE _____ ENGINEER'S INITIALS _____
	<b>PO No.:</b> _____	<b>APPLICATION DENIED</b>
	DATE _____ ENGINEER'S INITIALS _____	

**El Dorado County  
Air Quality Management District  
Soil Remediation System Supplemental Questionnaire**

Business Name and Address: E2C REMEDIATION

Prepared by: JOHN SCOTT Date: 11/23/09

Type of System (check all that apply)	
<input type="checkbox"/> Dual-Phase Extraction	<input checked="" type="checkbox"/> Air Sparging
<input checked="" type="checkbox"/> Soil Vapor Extraction	<input type="checkbox"/> Catalytic Oxidization
<input checked="" type="checkbox"/> Granular Activated Carbon	<input type="checkbox"/> Thermal Oxidization
<input type="checkbox"/> Air Stripping	<input type="checkbox"/> Other _____

Equipment Description	
Equipment Type:	<u>SEE ATTACHED EQUIPMENT LIST</u>
Manufacturer:	
Model Number:	
Serial Number:	
Fuel(s) Used:	
Control Efficiency:	

Effluent Information						
Flow Rate (cfm):	<u>500 scfm</u>					
Expected Concentration of the Following (lb/day):						
TPHg	Benzene	Toluene	Ethyl benzene	Xylenes	MtBe	Total VOC's

Sample Calculations - Expected Effluent Concentrations
<p><i>NOTE: E2C REMEDIATION will perform a 60 day PILOT TEST to DETERMINE EFFLUENT CONCENTRATION FLOW RATE AND CARBON UTILIZATION.</i></p>

**LAKE TAHOE LAUANDRY WORKS REMEDIATION  
SYSTEM EQUIPMENT LIST**

**Granular Activated Carbon Vapor Extraction System**

**Blower: Sutorbilt 7M**

**Motor : 50 Horsepower**

**Carbon Vessels: 2 – 2,000 lb.**

**Knockout Pot**

**Control Panel**

**Air Sparge System**

**25 Hp Gardener Denver Compressor w/ Regulator**

**Model Number: EBE99N**

Supplemental Information  
Application For Authority To Construct And Permit to Operate Application

1. Equipment Location Drawing or Plot Plan  
System will be located in the north east corner of the parking lot at 1024 Lake Tahoe Boulevard, South Lake Tahoe, Ca. See attached Figure 1 Vicinity Map and Figure 2 Site Plan.
2. Equipment Description  
E2C 500 SCFM Skid Mounted Vapor Phase Carbon System.  
Sutorbuilt 7M Positive Displacement Blower and a 50 horsepower motor.
3. Description of Operation  
E<sub>2</sub>C Remediation, Inc. (E<sub>2</sub>C) was contracted to complete an environmental site remediation located at 1024 Lake Tahoe Boulevard, South Lake Tahoe, California. Soil and groundwater were contaminated as a result of the operation of a coin-operated dry cleaning unit (DCU) previously located at the Site. Moderate to low concentrations of PCE and TCE impact soils from the surface to groundwater at an average depth of 10 feet below grade over an area approximately 100 feet by 300 feet. E<sub>2</sub>C has been retained to conduct a soil and groundwater remediation project using vapor extraction and groundwater air sparge methods. Twenty (20) nested (two-well) vapor extraction wells, Six (6) Horizontal vapor extraction wells and twenty-seven (27) air sparge wells were installed within the impacted area. The air sparge wells and vapor extraction well locations are indicated on Figure 2.

E<sub>2</sub>C proposes to conduct a soil remediation project using vapor extraction with Granular Activated Carbon adsorption for emissions control. Based on the type of materials (sand) in the vadose zone, the vapor extraction radius of influence will likely exceed forty (40) feet (based on experience); however, based on a conservative radius of influence of thirty (30) feet to provide sufficient coverage for the defined plume area, twenty (20) nested two-well (well set) vertical SVE wells were installed (see figure 8, Appendix C). Note: vertical SVE wells were constructed to take into account times of high water table. Each vertical SVE well boring was advanced as described above to approximately eleven (11) feet bgs. Each SVE well set was installed in a similar manner for each of two (2) areas:

- A) The Source/Near-Source Area (area exhibiting vadose zone impact at concentrations requiring remediation (see Figure 3, Appendix C); and
- B) The Non-Source (area not exhibiting vadose zone impact).

The Source/Near-Source Area - Upon reaching a point approximately two (2) feet above the average of the stable depth to water measurements recorded in September 2008 (refer to Table 1 for summary of measurements in Appendix B) vertical SVE wells in these areas were constructed as follows:

- SVE wells placed in the area of LW-MW-1S (an area of intermediate depths to water) were constructed in a nested two-well configuration with the lower well screened from approximately 10-12 feet bgs and the upper well screened from approximately 3-8 feet bgs (bottom of well boring at approximately 12 feet bgs) (see Figure 9A, Appendix C);
- SVE wells placed in the area of LW-MW-2S (an area of deeper depths to water) were constructed with the lower well screened from approximately 11-13 feet bgs

and the upper well screened from approximately 5-10 feet bgs (bottom of well boring at approximately 13 feet bgs) (see Figure 9B, Appendix C); and

- SVE wells placed in the area of LW-MW-5S (an area of intermediate depths to water), were constructed similarly to those in the area of LW-MW-1S while SVE wells placed between LW-MW-5S and LW-MW-2S have gradational screen intervals based on distance from the well location to these two (2) wells (see Figure 5, Appendix C). For example, a well placed one-half way between LW-MW-2S and LW-MW-5S (such as VE-3 and/or VE-13, see Figure 5, Appendix C) has the lower well screened from approximately 10.5-12.5 feet bgs and the upper well was screened from approximately 4.5-9.5 feet bgs (bottom of well boring at approximately 12.5 feet bgs).

For the Source Area/Near-Source Area SVE wells, filter pack sand (Lonestar #3 sand) will be placed one foot above the top of the lower screen interval followed by one (1) foot of hydrated bentonite chips. The upper SVE well will then be constructed with five (5) feet of screen at the bottom. Filter pack sand (Lonestar #3) will then be placed to one foot above the top of the screen followed by approximately 0.5 foot to 1.5 feet of hydrated bentonite chips. The top 1.5 feet will be left open to allow for plumbing of remediation piping. Construction details for these wells can be found in Figures 9A and 9B. Note: In driving-accessible areas, well boxes will be set at grade to allow for snow removal equipment to operate during winter months without damaging the wellheads.

The Non-Source Area – Using the same criteria as described above for the Source Area/Near Source Area SVE wells, SVE wells in this area were constructed as follows:

- SVE wells placed in the area of LW-MW-6S (an area of shallower depths to water) were constructed in a nested two-well configuration with the lower well screened from approximately 7.5-9.5 feet bgs and the upper well screened from approximately 4.5-6.5 feet bgs (bottom of well boring at approximately 9.5 feet bgs) (see Figure 9C, Appendix C);
- SVE wells placed in the area of LW-MW-8S (an area of depths to water slightly deeper than those at LW-MW-6S) were constructed with the lower well screened from approximately 8-10 feet bgs and the upper well screened from approximately 4.5-6.5 feet bgs (bottom of well boring at approximately 10 feet bgs) (see Figure 9D, Appendix C); and

For the non-Source Area SVE wells filter pack sand (Lonestar #3 sand) was placed to the top of the lower screen interval followed by one (1) foot of hydrated bentonite chips. The upper SVE well was then constructed with two (2) feet of screen at the bottom. Filter pack sand (Lonestar #3) was then be placed to the top of the screen followed by approximately one (1) foot of hydrated bentonite chips followed by neat cement grout. The top 1.5 feet was left open to allow for plumbing of remediation piping. Construction details for these wells can be found in Figures 9C and 9D, Appendix C. Note: In driving-accessible areas, well boxes were set at grade to allow for snow removal equipment to operate during winter months without damaging the wellheads.



### **Groundwater Air Sparge Wells**

Based on the type of materials (sand) in the shallow water-bearing zone, the air sparging radius of influence will likely exceed thirty five (35) feet (based on experience); however, based on a conservative radius of influence of twenty-five (25) feet, a total of twenty-seven (27) AS were installed and are expected to provide sufficient coverage to affect the defined area of the SZA (see Figure 8, Appendix C).

Each AS well was constructed using 2-inch ID Schedule 40 PVC with a microporous sparge point set at the bottom (approximately 30.5-32 feet bgs, or the SZA bottom-defining silt layer, whichever occurred first (see Figure 10, Appendix C). Filter pack (Lonestar #3 sand) was placed from bottom of the well to approximately 6 feet above the top of the sparge point followed by bentonite pellets to 6.5 feet bgs. Neat-cement grout with <5% bentonite powder added was tremied through the auger to approximately 1.5 feet bgs to complete the seal. The top 1.5 feet was left open for plumbing of piping). Each wellhead was encased within a steel traffic-rated box set in concrete. Construction details for these wells can be found in Figure 10. Note: well boxes that were set in driving-accessible areas were set at grade to allow for snow removal equipment to operate during winter months without damaging the wellheads.

### **HVE Well Construction**

Trenches were excavated to approximately five (5) feet in depth in the vadose zone impacted area. Six (6) inches of sand was placed along the bottom of the trench and HVE wells were placed followed by approximately six inches of filter pack sand (Lonestar #3, or larger, such as medium aquarium or aquarium sand). A plastic membrane was then placed onto the sand followed by approximately one (1) foot of bentonite slurry, or grout slurry. The slurry was allowed to set, then horizontal plumbing connected to vertical SVE wells and AS wells were laid followed by native soils to grade in non-paved areas. In unpaved areas, fill soils was compacted to 85% relative density. In paved areas, native soils was placed to approximately one (1) foot bgs, compacted to approximately 90% relative density, followed by six (6) inches of base rock compacted to approximately 95% relative density followed by a concrete cap to grade.

Each HVE was constructed with a thirty (30) foot screen (0.020" slot) interval followed by blank piping to the manifold. A separation panel, composed of hydrated bentonite, was placed between the end and beginning of each screen interval to minimize short-circuiting between horizontal vents (see Figure 14). Three (3) HVE lines were placed in the northern trench and four (3) HVE lines were placed in the southern trench (See Figure 12, Appendix C).

The proposed system will incorporate a skid mounted vapor phase carbon system to abate emissions to the air.

The proposed emissions control unit is a 500 scfm Vapor Phase Carbon System. The unit is equipped with a 50 horsepower motor and a Sutorbilt 7M positive displacement blower, which is capable of 500 scfm.

NOTE: The blower and motor are sheaved to run at low RPM. Due to the high altitude and thin air at the Site the blower motor will loose approximately 10 horsepower of operating efficiency.

The equipment is skid mounted with the following major components: entrainment liquid separator, float switches and entrainment water pump, electrical control panel with main power switch and hour meter, vacuum pump and motor, two (2) 2000 lb. carbon canisters inline filled with granulated activated carbon, influent and effluent sampling ports for each carbon canister. The unit is designed to achieve 100% adsorption efficiency.

A Sutobilt 7M positive displacement vacuum pump and 50 horsepower motor is used to extract hydrocarbon vapors from the soil via the network of Twenty (20) nested (two-well) vapor extraction wells and Six (6) Horizontal vapor extraction wells. The blower is capable of producing a maximum 10" of Hg vacuum. Maximum rated flow for the blower is nominally 500 SCFM. The pump inlet vacuum is sufficient to pull the vapors through the rest of the system. Through action of the vacuum pump soil vapors are drawn from the wells and enter the VES through a 4" valve mounted on an entrainment separator.

This unit is designed to remove any free liquids contained in the vapor stream. The vapors then pass through the first 2000 lb. carbon canister. Note: This system is designed as a "pull" carbon system.

VOCs are adsorbed by the granulated activated carbon contained in the canister. The process air flow continues through the system to a second 2000 lb. carbon canister and then exits the system through blower discharge outlet through the effluent stack.

The unit is also equipped with an hour meter for tracking total run time, influent and effluent sampling ports and pressure gauges for monitoring carbon canister operational pressure.

The system will be sampled during the initial start up period. Influent and Effluent samples for the system will be analyzed for PCE using EPA Method TO-15. E<sub>2</sub>C proposes monthly grab sampling utilizing an FID, PID or other district approved VOC detection device.

The blower curve and Carbon adsorption isotherm is included in Appendix A.

#### **4. Expected Emissions of Air Contaminants**

The source of power for operation of the vapor phase carbon system is electrical and will not result in additional site emissions.

E<sub>2</sub>C will perform a sixty (60) day Pilot Test followed by long term operation of the remediation system upon receipt of a valid ATC. E<sub>2</sub>C will calculate removal rates, carbon utilization rates and projected breakthrough for the system utilizing the data collected during the Pilot Test. Soil and Groundwater Analytical Data collected during the Site Investigation performed during July & August 2008 is presented in Appendix B.

#### **5 Operating Schedule**

The remediation system is designed to operate 24 hours per day during the entire project.

6. **Process Weight**  
Discussed in Section 4 above.
7. **Fuels and Burners Used**  
Not applicable.
8. **Process and Instrumentation Flow Diagrams**  
See attached Figures 3
9. **Equipment Drawings**  
See attached Figures 4

# FIGURES

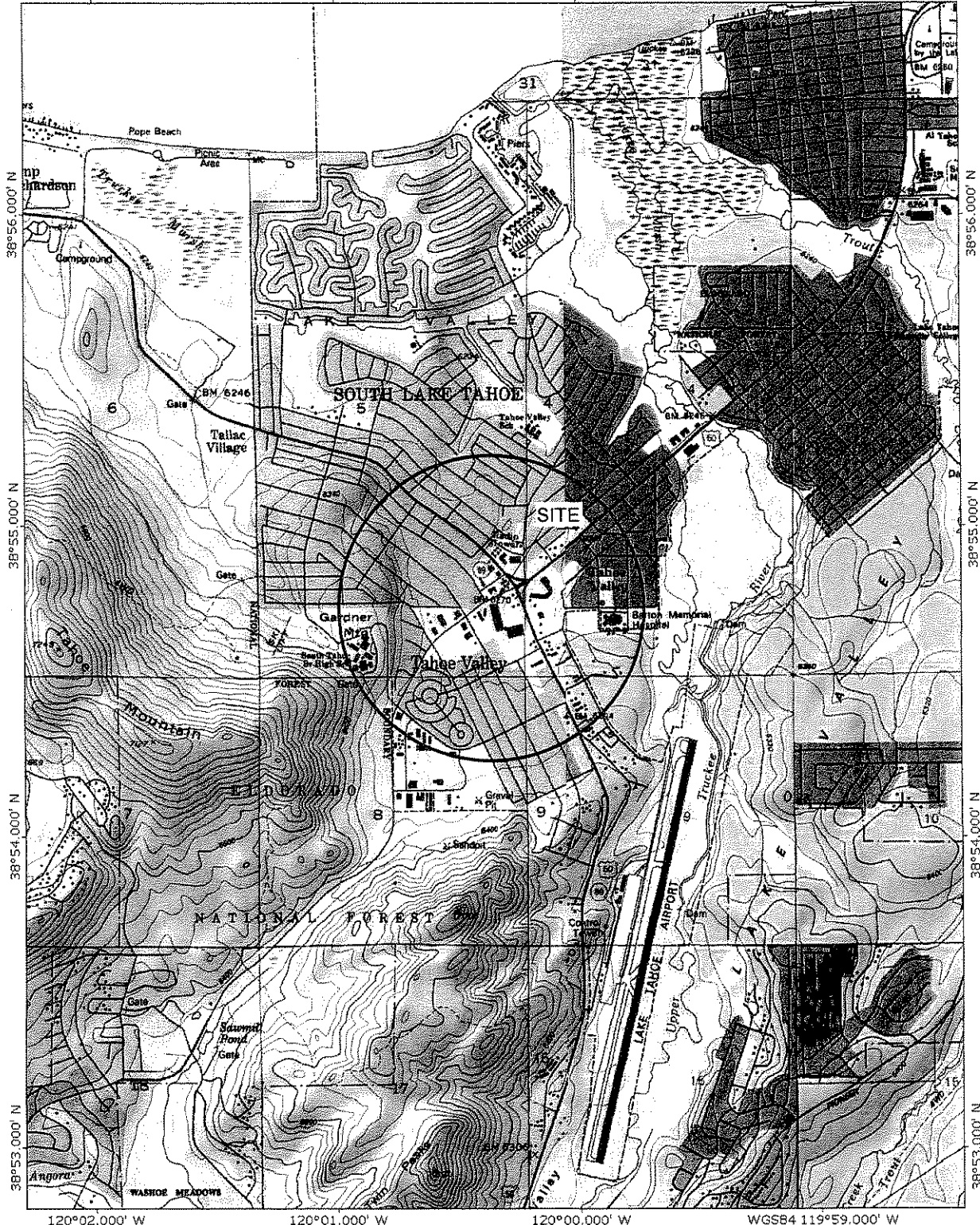
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120°01.000' W

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WGS84 119°59.000' W



38°56.000' N

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38°54.000' N

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120°01.000' W

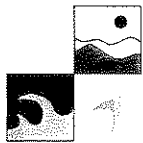
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WGS84 119°59.000' W

TM 15°



Map created with TOPOI® ©2003 National Geographic (www.nationalgeographic.com/topo)



### E<sub>2</sub>C Remediation

5300 Woodmere Dr., Suite 105  
Bakersfield, CA 93313

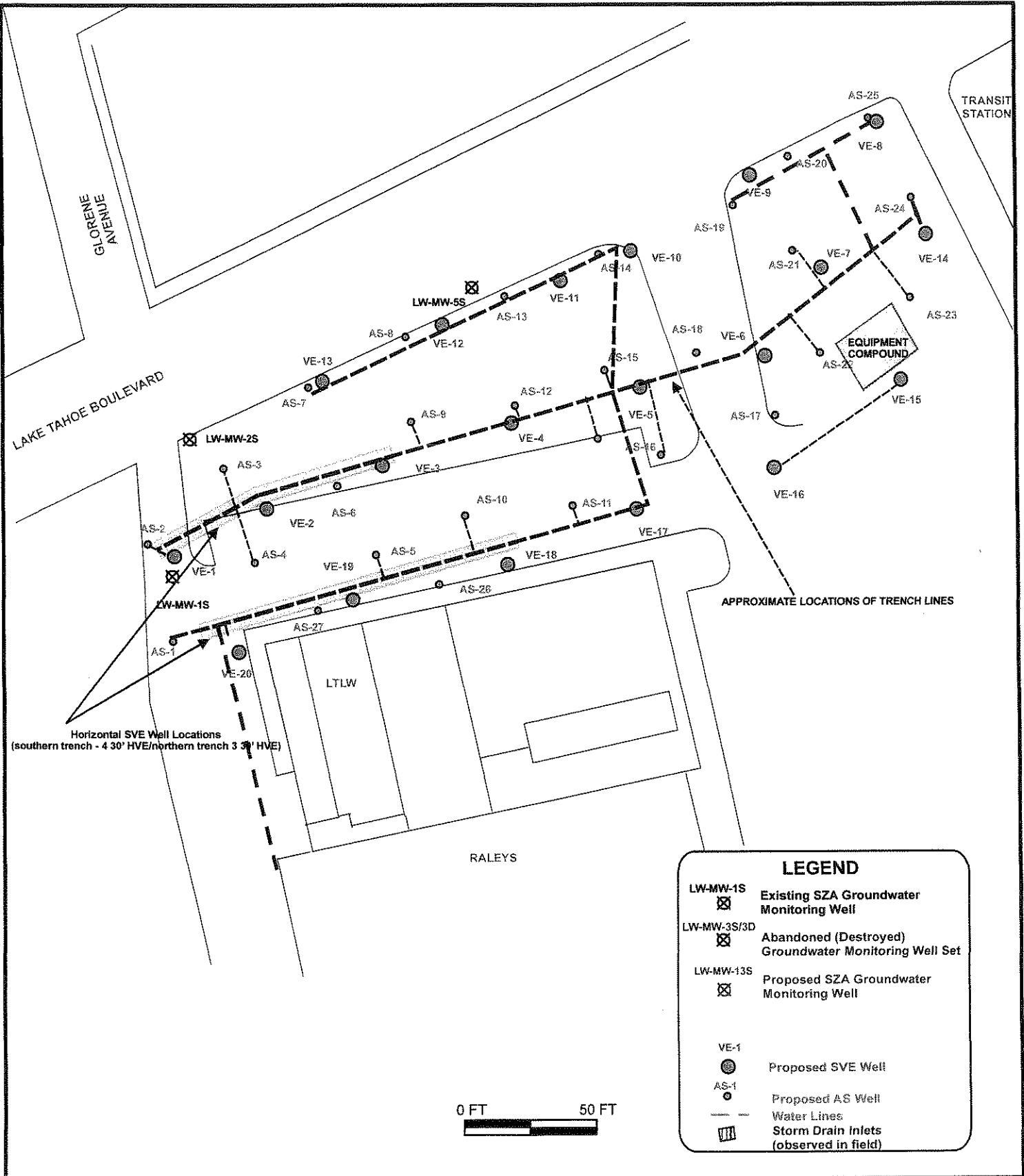
Phone: (661) 831-6906  
Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS**  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA

**SITE LOCATION MAP**

# FIGURE

# 1

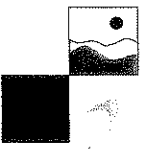


Horizontal SVE Well Locations  
(southern trench - 4 30' HVE/northern trench 3 30' HVE)

**LEGEND**

- LW-MW-1S Existing SZA Groundwater Monitoring Well
- LW-MW-3S/3D Abandoned (Destroyed) Groundwater Monitoring Well Set
- LW-MW-13S Proposed SZA Groundwater Monitoring Well
- VE-1 Proposed SVE Well
- AS-1 Proposed AS Well
- Water Lines
- Storm Drain Inlets (observed in field)

0 FT 50 FT



**E<sub>2</sub>C Remediation**  
 5300 Woodmere Dr., Suite 105  
 Bakersfield, CA 93313

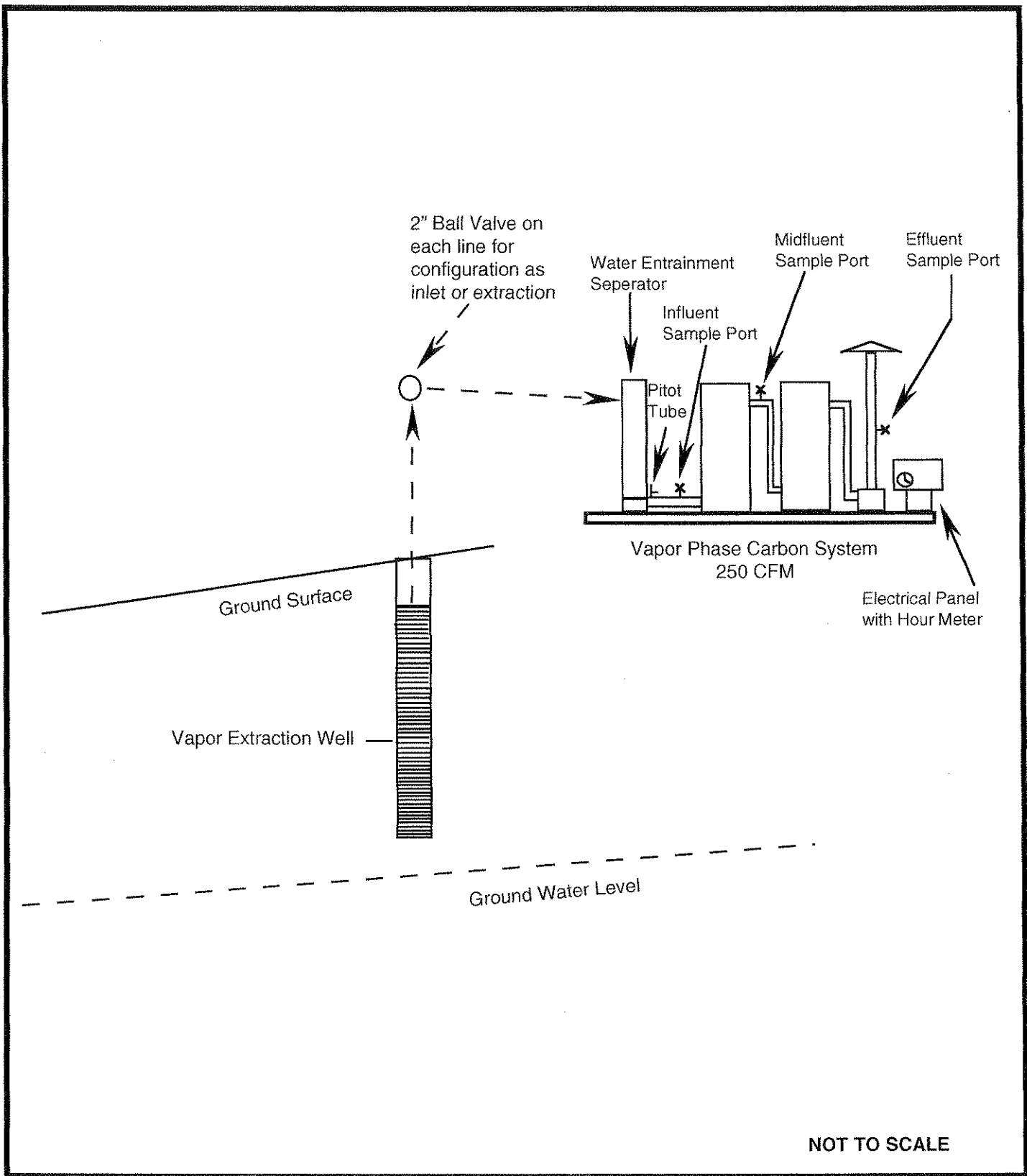
Phone: (661) 831-6906  
 Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS**  
**1024 LAKE TAHOE BOULEVARD**  
**SOUTH LAKE TAHOE, CALIFORNIA**

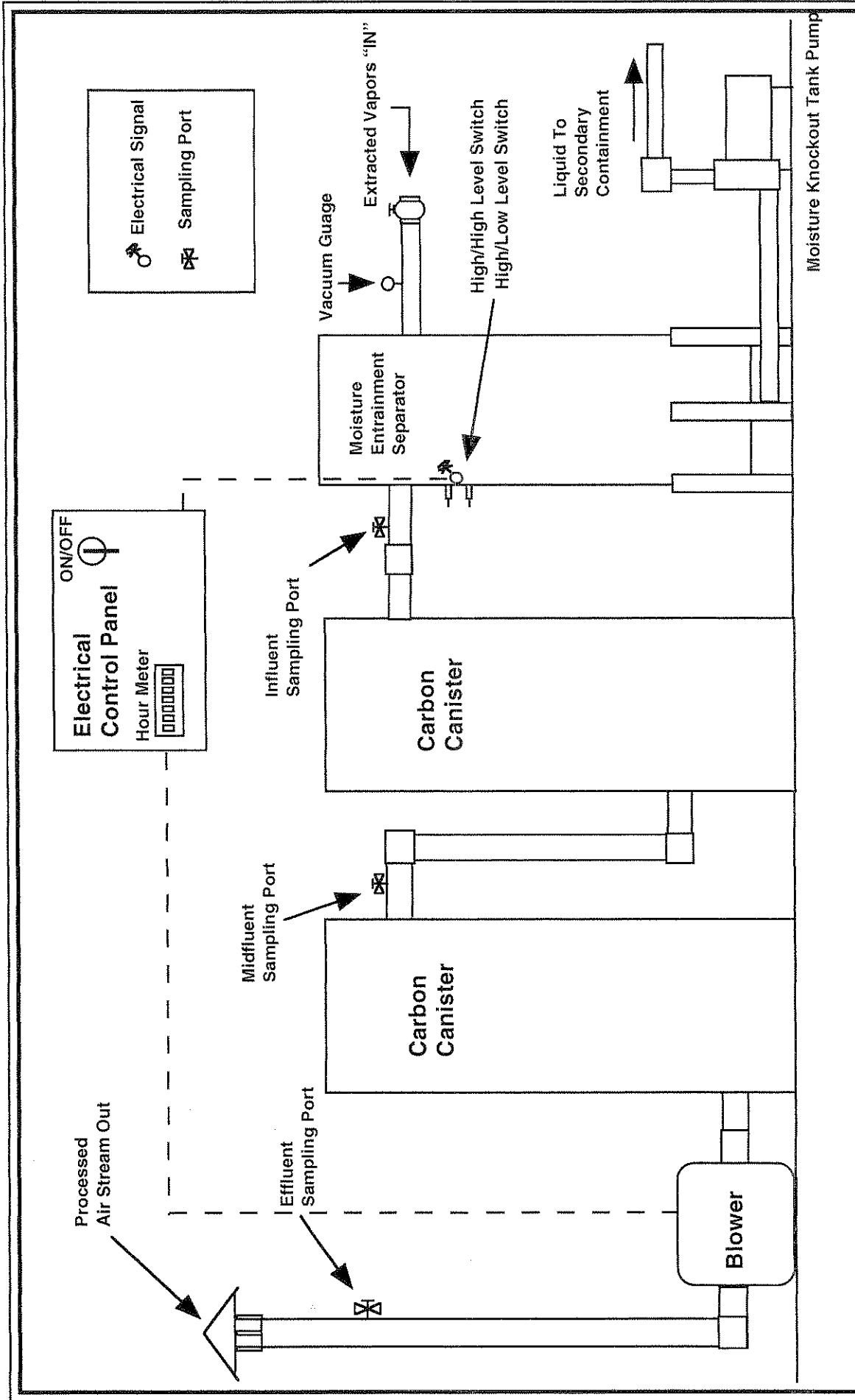
**TRENCHING SCHEMATIC**

**FIGURE**

**2**



<p><b><i>E2C Remediation</i></b>          5300 Woodmere Dr., Suite 105          Bakersfield, California 93313          Telephone: (661) 831-6906          Facsimile: (661) 831-6234</p>	<p><b>Lake Tahoe Laundry Works</b>  <b>1024 Lake Tahoe Boulevard</b>  <b>South Lake Tahoe, California</b></p> <hr/> <p><b>CONCEPTUAL PROCESS FLOW FOR VAPOR          PHASE CARBON SYSTEM</b></p>	<p><b>FIGURE</b>  <b>3</b></p>
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**FIGURE 4**

**Lake Tahoe Laundry Works**  
 1024 Lake Tahoe Boulevard  
 South Lake Tahoe, California

**PROCESS AND INSTRUMENTATION FLOW DIAGRAM**

**E2C Remediation**  
 5300 Woodmere Dr., Suite 105  
 Bakersfield, California 93313  
 Telephone: (661) 831-6906  
 Facsimile: (661) 831-6234



## **APPENDIX A**

**Sutorbilt 7M Positive Displacement Air Blower- Blower Curve  
Gardener Denver 25 HP Compressor Specifications  
Carbon Adsorption Isotherm**

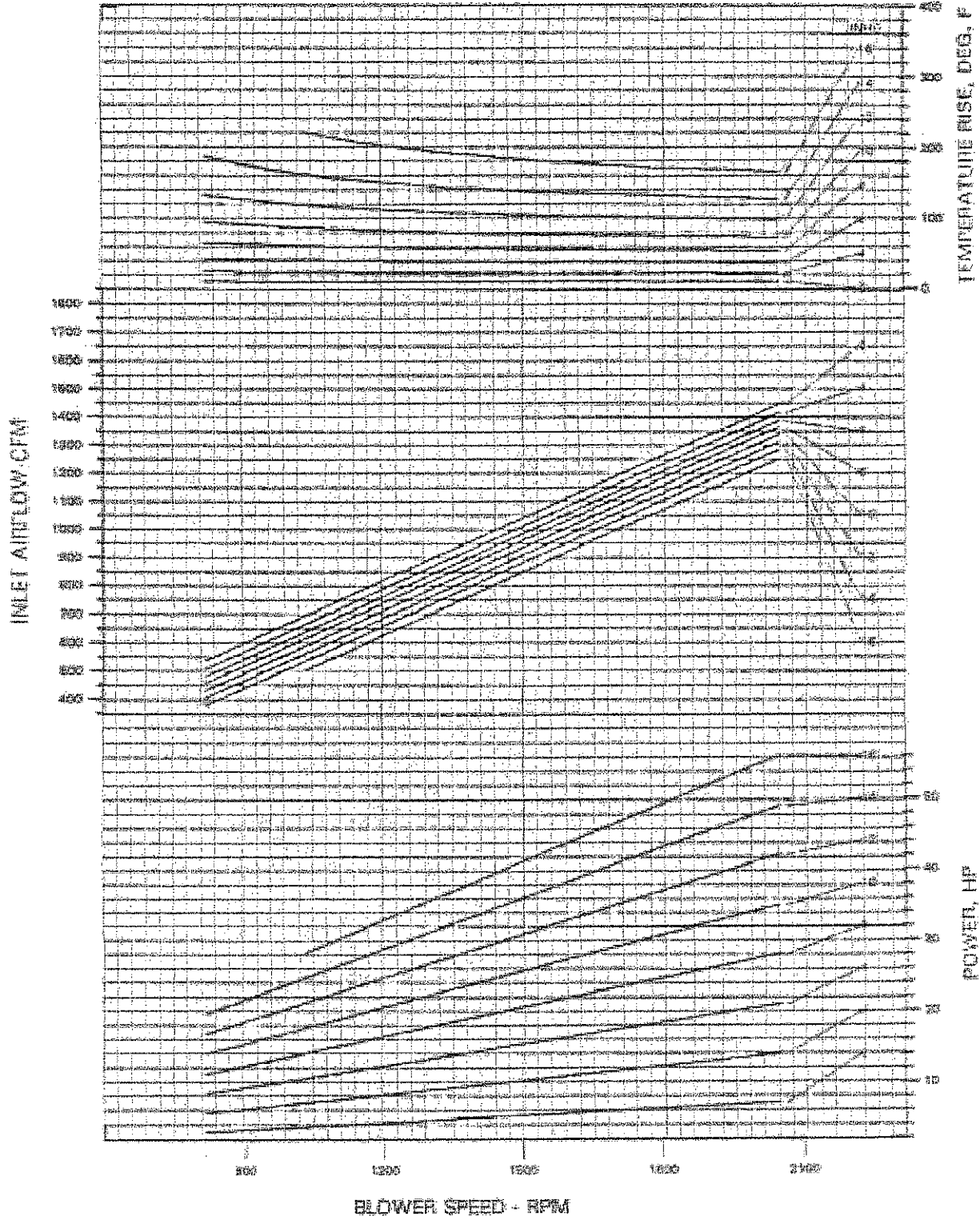
**SUTORBILT LEGEND™  
MODEL 7M  
P-VERSION**

DATA SHEET: SA-3-3600

DATED: 4-6-65

VACUUM PERFORMANCE CURVE

INLET AIR AT 68 DEG F, SPECIFIC GRAVITY = 1.0, DISCHARGE AT 29.92 IN HG ABS  
DISPLACEMENT 0.733 FT<sup>3</sup>/REV





[ [Home](#) ] [ [Back to Gardner Denver Product Page](#) ] [ [Ober-Read Sutorbilt Inventory](#) ]



[ [Low Vacuum Performance](#) ] [ [Medium Vacuum Performance](#) ] [ [High Vacuum Performance](#) ]  
 [ [Horizontal Unit Dimensions](#) ] [ [Vertical Unit Dimensions](#) ]

Vacuum Performance Data for air at Standard Conditions: Sea Level 14.7 PSIA, 68 F Inlet Temperature, 36% Relative Humidity. For performance with gases other than air, or at non-standard conditions, contact your Sutorbilt distributor. To view a PDF file showing the actual performance curve for any blower, click on that size.

LOW VACUUM UNITS															
Size	Dia Inlet Outlet	Displ. Cu. Ft. Rev.	RPM	2" HG		4" HG		8" HG		10" HG		12" HG		14" HG	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
<u>2LP</u> <u>2LVP</u>	2" -S	0.035	2800	82	0.7	74	1.1	61	2.0	55	2.5				
			3250	98	0.7	90	1.3	77	2.3	71	2.8	64	3.4		
			3560	109	0.8	101	1.4	88	2.5	82	3.1	75	3.7		
			4165	130	0.9	122	1.6	109	2.9	103	3.6	96	4.3		
			5275	168	1.1	161	1.9	148	3.6	142	4.5	135	5.2	128	6.0
<u>3LP</u> <u>3LVP</u>	2.5" -S	0.104	1760	158	1.1	147	1.9	128	3.6	118	4.5	108	5.1		
			2265	211	1.3	199	2.4	180	4.6	170	5.5	160	6.6		
			2770	263	1.5	252	2.9	233	5.4	223	6.7	213	8.0		
			3600	350	1.9	338	3.7	319	7.0	309	8.7	299	10.5	288	12.2
<u>4LP</u> <u>4LVP</u>	3" -S	0.710	1760	266	1.6	250	3.0	224	5.6	211	7.0	197	8.4		
			2190	339	1.9	323	3.7	297	6.9	284	8.7	270	10.4		
			2620	412	2.3	396	4.3	370	8.3	357	10.4	343	12.4	328	14.5
			3600	579	3.0	563	5.7	537	11.4	524	14.2	510	17.1	495	19.9
<u>5LP</u> <u>5LVP</u>	4" -S	0.350	1500	480	2.6	459	5.1	423	9.8	406	12.2	387	14.7		
			1760	571	3.1	550	5.7	514	11.5	497	14.3	478	17.2	458	20.1
			2100	690	3.6	669	6.8	633	13.7	616	17.1	597	20.5	577	24.0
			2850	953	4.8	931	9.3	896	18.6	878	23.2	860	27.9	840	32.5
<u>6LP</u> <u>6LVP</u>	6" -F	0.718	1170	766	4.1	732	7.8	673	15.6	645	19.6	614	23.5		
			1760	1190	5.9	1155	11.8	1097	23.5	1068	29.4	1038	35.3	1005	41.2
			1930	1312	6.5	1277	12.9	1219	25.8	1190	32.3	1160	38.7	1127	45.2
			2350	1614	7.9	1579	15.7	1521	31.4	1492	39.3	1461	47.1	1428	55.0
<u>7LP</u> <u>7LVP</u>	8" -F	1.200	1170	1311	6.5	1268	13.1	1195	26.2	1159	32.7	1121	39.2		
			1465	1665	8.2	1622	16.4	1549	32.7	1513	40.9	1475	49.1		
			1760	2019	9.8	1976	19.7	1903	39.3	1867	49.2	1829	59.0		
			2050	2367	11.5	2324	22.9	2251	45.8	2215	57.3	2177	68.7		
<u>8LP</u> <u>8LVP</u>	10" -F	1.740	880	1411	7.1	1355	14.3	1261	28.5	1214	35.7	1164	42.8		
			1170	1916	9.5	1860	19.0	1765	37.9	1718	47.4	1669	56.9		
			1375	2273	11.1	2217	22.3	2122	44.6	2075	55.7	2026	66.8		
			1800	3012	14.6	2956	29.2	2861	58.3	2815	72.9	2765	87.5		
MEDIUM VACUUM UNITS															
	Dia	Displ.													

Size	Inlet Outlet	Cu. Ft. Rev.	RPM	6" HG		10" HG		12" HG		14" HG		15" HG		16" HG		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	
2MP 2MVP	1" -S	0.017	2800	31	0.8	24	1.2									
			3250	39	0.9	32	1.4									
			3560	44	0.9	37	1.5	34	1.8							
			4165	54	1.1	48	1.7	44	2.1	40	2.4					
3MP 3MVP	2" -S	0.060	1760	76	1.6	63	2.6	57	3.1							
			2265	106	2.0	93	3.3	87	3.9							
			2770	136	2.4	124	4.0	117	4.7	110	5.4					
			3600	186	3.1	174	5.0	167	6.0	160	7.0	156	7.5			
4MP 4MVP	2.5" -S	0.117	1760	161	3.0	142	4.9	132	5.8							
			2190	211	3.7	193	6.0	183	7.2							
			2620	262	4.4	243	7.1	233	8.6	222	10.0					
			3600	376	5.9	357	9.8	348	11.8	337	13.7	331	14.7	325	15.7	
5MP 5MVP	4" -S	0.210	1500	258	4.5	235	7.3	223	8.8	209	10.3					
			1760	313	5.2	290	8.6	277	10.3	264	12.0					
			2100	384	6.2	361	10.3	349	12.3	335	14.4	328	15.4			
			2850	542	8.4	518	13.9	506	16.7	492	19.5	485	20.9	477	22.3	
6MP 6MVP	5" -S	0.383	1170	363	6.3	328	10.4	310	12.5	289	14.6	278	15.6	266	16.7	
			1760	589	9.4	554	15.7	536	18.8	515	22.0	504	23.5	492	25.1	
			1930	654	10.3	619	17.2	601	20.7	580	24.1	569	25.8	558	27.5	
			2350	815	12.6	780	21.0	762	25.1	741	29.3	730	31.4	718	33.5	
7MP 7MVP	6" -F	0.733	1170	738	12.0	688	20.0	662	24.0	633	28.0	617	30.0	601	31.9	
			1465	954	15.0	904	25.0	878	30.0	849	35.0	834	37.5	817	40.0	
			1760	1170	18.0	1120	30.0	1094	36.0	1065	42.1	1050	45.1	1033	48.1	
			2050	1383	21.0	1333	35.0	1307	42.0	1278	49.0	1262	52.5	1246	56.0	
8MP 8MVP	8" -F	1.040	880	765	12.8	703	21.3	670	25.6	634	29.8	614	32.0	593	34.1	
			1170	1067	17.0	1004	28.3	971	34.0	936	39.7	916	42.5	895	45.3	
			1375	1280	20.0	1218	33.3	1185	40.0	1149	46.6	1129	49.9	1108	53.3	
			1800	1722	26.2	1660	43.6	1627	52.3	1591	61.0	1571	65.4	1550	69.7	

HIGH VACUUM UNITS

Size	Dia Inlet Outlet	Displ. Cu. Ft. Rev.	RPM	6" HG		8" HG		12" HG		14" HG		15" HG		16" HG		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	
3HP 3HVP	1.25" -S	0.045	1760	55	1.3	50	1.7	40	2.4							
			2265	78	1.6	73	2.1	62	3.0							
			2770	100	1.9	95	2.5	85	3.7	79	4.3	76	4.6			
			3600	138	2.5	133	3.2	122	4.7	117	5.3	113	5.7	110	6.0	
4HP 4HVP	1.5" -S	0.069	1760	91	1.9	85	2.5	72	3.6							
			2190	121	2.3	115	3.0	102	4.4	95	5.1	91	5.3			
			2620	151	2.7	144	3.6	132	5.1	124	5.9	120	6.3			
			3600	218	3.7	212	4.8	199	6.9	192	8.1	188	8.7	184	9.3	
5HP 5HVP	2.5" -S	0.140	1500	170	3.1	161	4.1	144	5.9	134	6.8					
			1760	206	3.6	198	4.8	180	6.9	171	8.0	165	8.6			
			2100	254	4.3	245	5.5	228	8.2	218	9.6	213	10.3			
			2850	359	5.6	350	7.4	333	11.1	323	13.0	318	13.9	312	14.9	
6HP 6HVP	3" -S	0.227	1170	209	3.9	197	5.1	173	7.4	159	8.7	152	9.3			
			1760	343	5.6	331	7.4	307	11.2	293	13.0	286	14.0	278	14.9	
			1930	381	6.1	370	8.2	345	12.2	332	14.3	324	15.3	316	16.3	
			2350	477	7.5	465	9.9	441	14.9	427	17.4	420	18.6	412	19.9	
7HP 7HVP	4" -S	0.367	1170	359	6.0	344	8.0	314	12.0	297	14.0	288	15.0	278	16.0	
			1465	467	7.5	452	10.0	422	15.0	405	17.5	396	18.8	386	20.0	
			1760	575	9.0	561	12.0	530	18.0	514	21.1	504	22.6	495	24.1	
			2050	882	10.5	667	14.0	637	21.0	620	24.5	611	26.3	601	28.0	
8HP	4"		880	400	7.0	380	9.3	338	13.9	314	16.2	302	17.4			
			1170	564	9.3	544	12.3	502	18.5	479	21.6	466	23.1	452	24.7	

8HVP	-S	0.566	1375	680	10.9	660	14.5	618	21.7	595	25.4	582	27.2	568	29.0
			1800	921	14.2	901	19.0	859	28.5	835	33.2	822	35.6	809	38.0

[\[Back to Top of Page\]](#)

# Sutorbilt® Legend™ Gas Blowers/Vacuum Pumps for Methane Gas Recovery

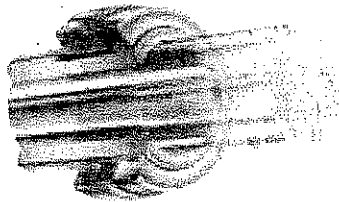
Today, government regulation of methane gas is strict, requiring the use of blowers/vacuum pumps specifically equipped with gas seals to prevent leakage of gas into the atmosphere.

Designed specially for methane gas well head applications, Legend CBM Series positive displacement lobe blowers/vacuum pumps provide the necessary vacuum and pressure to extract methane gas from the coal beds and transport it to local collection pods.

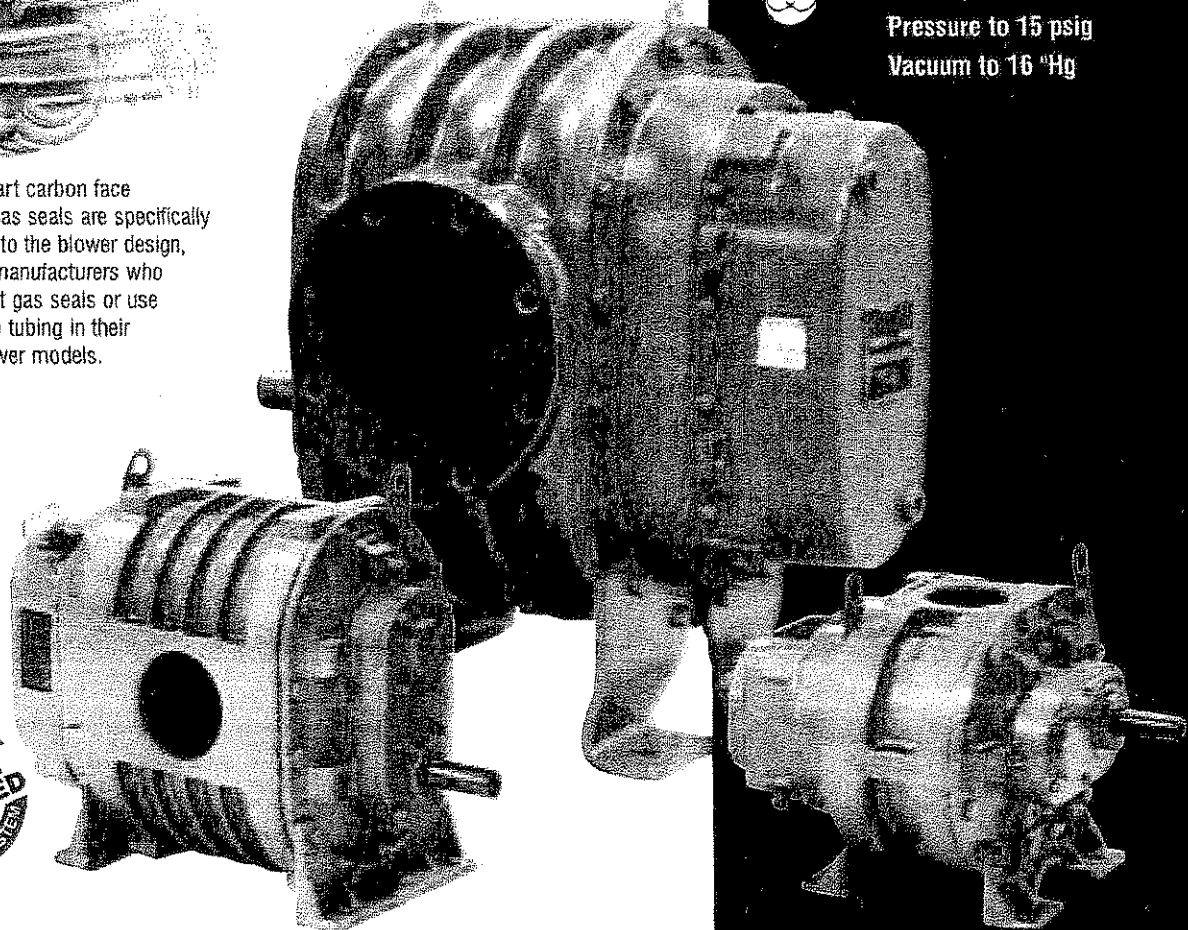
Exclusive on the Legend CBM Series is its specially designed mechanical gas seals, able to withstand differential pressure, unlike traditional lip seals. These gas seals allow seal vents in the head plate to be plugged minimizing gas leakage to the atmosphere for enhanced performance.

Cylindrical roller bearings are used on the drive shaft for maximum service life on belt drive installations. The bearing position on the impeller shaft provides added overhang load capacity for extended blower life.

Designed for reliable, continuous duty operation in harsh environments, Legend CBM Series blowers/vacuum pumps are the proven standard for methane gas applications. No lubrication within the cylinder is required as the specially designed figure eight impellers are held in close tolerance to each other and do not make contact.



State-of-the-art carbon face mechanical gas seals are specifically engineered into the blower design, unlike other manufacturers who merely retrofit gas seals or use bypass purge tubing in their standard blower models.



**Sutorbilt**

## Positive Displacement Lobe Gas Blowers/Vacuum Pumps



Legend CBM Overview

25 to 1,750 cfm

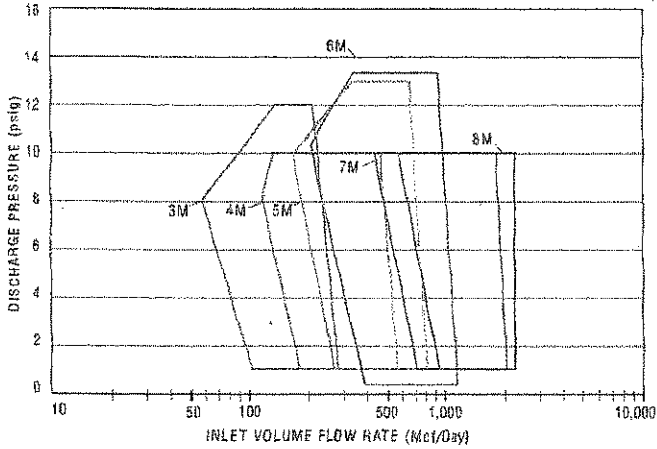
Pressure to 15 psig

Vacuum to 16 "Hg

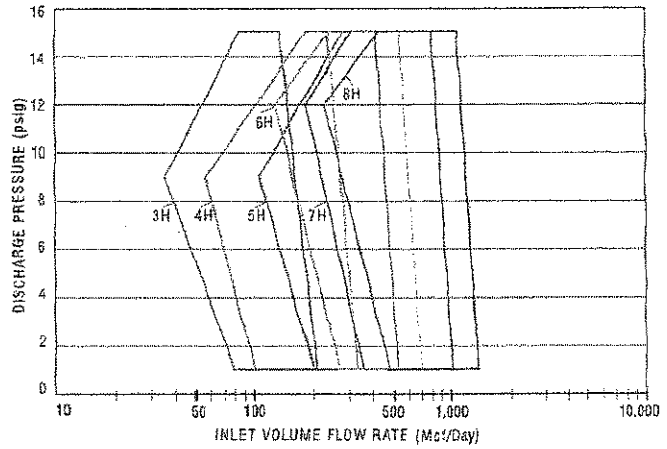


**Sutorbilt® Legend™ CBM Performance and Dimensional Data**

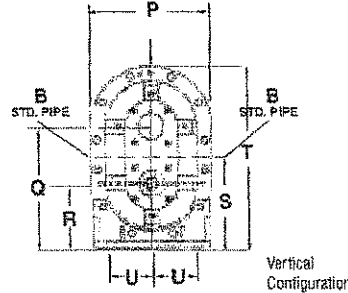
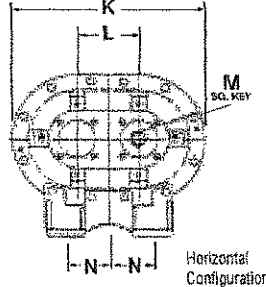
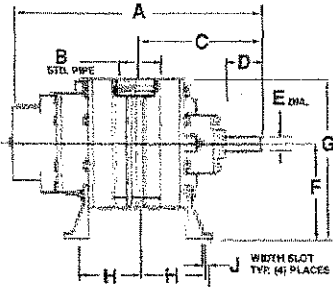
**SUTORBILT MEDIUM PRESSURE MODELS**



**SUTORBILT HIGH PRESSURE MODELS**



Model	3M	3H	4M	4H	5M	5H	6M	6H	7M	7H	8M	8H
Maximum airflow, cfm	195	145	390	230	560	370	840	490	1400	700	1750	950
Maximum pressure, psig	12	15	10	15	18	15	14	15	10	15	10	15



Performance data for methane gas at standard conditions: Sea level 14.7 PSIA, 29.92°Hg, 68°F inlet temperature, 36% relative humidity. For sizing assistance for your specific system elevation, humidity, Mcf output or vacuum requirements up to 16°Hg, contact your authorized Sutorbilt representative.

SIZE	WT.	CONN.	A	B	D	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
3H	71	S	11 1/4	1 1/2	5 3/4	2	.750	5	8 1/2	2 1/8	1/2 x 3/4	11 1/4	3 1/4	1/2	2 1/2	7 1/2	8	4 1/2	6 1/2	11 1/4	2 1/2
3M	79	S	12 1/4	2	5 3/4	2	.750	5	8 1/2	2 1/8	1/2 x 3/4	11 1/4	3 1/4	1/2	2 1/2	7 1/2	8	4 1/2	6 1/2	11 1/4	2 1/2
4H	106	S	13 1/4	1 1/2	6 1/4	2 1/2	.875	6 1/4	10 1/2	3	1/2 x 3/4	12 1/4	4	3/4	3	8 1/4	8 1/4	4 1/2	6 1/2	12 1/4	3
4M	125	S	16	2 1/2	6 1/4	2 1/2	.875	6 1/4	10 1/2	3	1/2 x 3/4	12 1/4	4	3/4	3	8 1/4	8 1/4	4 1/2	6 1/2	12 1/4	3
5H	205	S	17 1/4	2 1/2	8 1/4	2 1/2	1.125	7	12 1/2	3 1/4	1/2 x 3/4	15 1/4	5	1/2	3 1/2	10 1/4	10 1/4	5 1/2	8	15 1/4	3 1/2
5M	237	S	18 1/4	3	8 1/4	2 1/2	1.125	7	12 1/2	3 1/4	1/2 x 3/4	15 1/4	5	1/2	3 1/2	10 1/4	10 1/4	5 1/2	8	15 1/4	3 1/2
6H	389	S	19 1/4	3	9 1/4	2 1/2	1.375	8 1/4	14 1/4	3 3/4	1/2 x 1	18	6	1/2	4	12	14 1/4	6 1/2	11 1/4	20 1/4	4
6M	426	S	22 1/4	3 1/2	10 1/4	2 1/2	1.375	8 1/4	15 1/4	3 3/4	1/2 x 1	18	6	1/2	4	12	14 1/4	6 1/2	11 1/4	20 1/4	4
7H	523	S	21 1/4	4	10	3 1/2	1.562	11	20 1/4	4 1/4	1/2 x 1	22	7	1/2	5 1/2	19 1/4	18	11	14 1/4	25 1/4	5 1/2
7M	671	F	26 1/4	4 1/2	12 1/4	3 1/2	1.562	11	20 1/4	4 1/4	1/2 x 1	22	7	1/2	5 1/2	19 1/4	18	11	14 1/4	25 1/4	5 1/2
8H	820	S	24	4	11 1/4	3 1/2	1.750	12 1/4	22 1/4	5 1/4	1/2 x 1	25 1/4	8	1/2	6	20	20 1/4	12 1/2	18 1/2	29 1/4	6
8M	996	F	29 1/4	4 1/2	14 1/4	3 1/2	1.750	12 1/4	22 1/4	5 1/4	1/2 x 1	25 1/4	8	1/2	6	20	20 1/4	12 1/2	18 1/2	29 1/4	6

Dimensions in inches, weight in lbs. Connections: S=FNPT, F=flange

**Contact Your Sutorbilt Representative**

**For More Information on Gardner Denver CBM Products**



For additional information contact your local representative or Gardner Denver, 1800 Gardner Expressway, Quincy, IL 62305  
 Customer Service Department Telephone: (800) 682-9868 FAX: (217) 221-8780  
 Sales and Service in all major cities.  
[www.gardnerdenver.com](http://www.gardnerdenver.com) [pdblowers@gardnerdenver.com](mailto:pdblowers@gardnerdenver.com)

## **APPENDIX G**

### Interim Remediation System Vapor Laboratory Reports



# PROVERA ANALYTICAL LABORATORIES

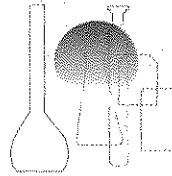
# Chain of Custody Form

Client Name: E2C Remediation		Analysis Requested							Sample Matrix
Project Name: <u>LTW</u>		BTEX (EPA TO-15) _____ MTBE (EPA TO-15) _____ TPH Gasoline (EPA TO-3) _____ METHANE (EPA TO-3) _____ FULL VOC (EPA TO-15) _____ 8010 Volatile list (EPA TO-15) _____ EDB _____ Naphthalene _____ Tetrafluoroethane _____							<input checked="" type="checkbox"/> Air <input type="checkbox"/> <input type="checkbox"/>
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA									Comments
Project Manager: <u>PAUL GOALWIN</u>									
Sampler Name: <u>MARK EKUMB</u>		Sample Description and Container Type							
Sample Date	Sample Time								
<u>6/24/10</u>	<u>1130</u>	<u>VES-EFF</u>							<u>P16764-w1</u>
<u>✓</u>	<u>1145</u>	<u>VES-MID</u>							<u>-w2</u>
	<u>1200</u>	<u>VES-INF</u>							<u>-w3</u>

**Sampling Event:** MONTHLY SAMPLES-SYSTEM    EDF Type: GW Monitoring    Other \_\_\_\_\_  
 Turnaround Time Requested:    24 Hour \_\_\_\_\_    48 Hour \_\_\_\_\_    5-Day \_\_\_\_\_    Standard X

Relinquished By: [Signature]    Date: 6/24/10    Relinquished By: \_\_\_\_\_    Date: \_\_\_\_\_  
 Received By: [Signature]    Date: 6/25/10    Received By: \_\_\_\_\_    Date: \_\_\_\_\_

# ProVera

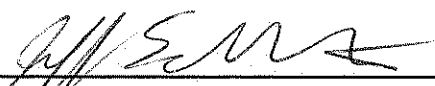


Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	7/7/2010
5300 Woodmere Dr. Suite 105			Analysis Type:	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

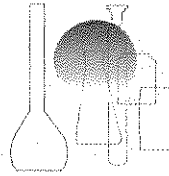
Sample ID: **10764-001**

Analyte	Result	Reporting Limit	Units	Analysis Date
Chloromethane	ND	0.01	ppmV	6/30/2010
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	6/30/2010
Methane, bromo-	ND	0.01	ppmV	6/30/2010
Chloroethane	ND	0.01	ppmV	6/30/2010
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	6/30/2010
1,1 Dichloroethene	ND	0.01	ppmV	6/30/2010
Methylene Chloride	ND	0.01	ppmV	6/30/2010
trans 1,2 Diclroethene	ND	0.01	ppmV	6/30/2010
cis 1,2 dichloroethene	ND	0.01	ppmV	6/30/2010
Chloroform (Trichloromethane)	ND	0.01	ppmV	6/30/2010
1,1,1 Tricloroethane	ND	0.01	ppmV	6/30/2010
Carbon Tetrachloride	ND	0.01	ppmV	6/30/2010
1,2 Dichloroethane	ND	0.01	ppmV	6/30/2010
Trichloroethylene	ND	0.01	ppmV	6/30/2010
Propane, 1,2-dichloro-	ND	0.01	ppmV	6/30/2010
Methane, bromodichloro-	ND	0.01	ppmV	6/30/2010
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	6/30/2010
Tetrachloroethylene	ND	0.01	ppmV	6/30/2010
Methane, dibromochloro-	ND	0.01	ppmV	6/30/2010
Benzene, chloro-	ND	0.01	ppmV	6/30/2010
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	6/30/2010
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,3-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,4-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,2-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	6/30/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	6/30/2010

  
Principal Analyst: Jeff Scheidemantel

5300 Woodmere Drive, Suite 103, Bakersfield, CA 93313  
Phone: (661) 827-5240 Fax: (661)827-5244

ProVera  
Analytical Laboratories, Inc.



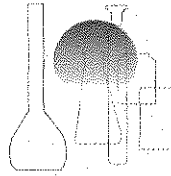
E2C Remediation	Project:	LTLW	Report Date:	7/7/2010
5300 Woodmere Dr. Suite 105			Analysis Type:	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

Sample ID: **10764-002**

Analyte	Result	Reporting Limit	Units	Analysis Date
Chloromethane	ND	0.01	ppmV	6/30/2010
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	6/30/2010
Methane, bromo-	ND	0.01	ppmV	6/30/2010
Chloroethane	ND	0.01	ppmV	6/30/2010
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	6/30/2010
1,1 Dichloroethene	ND	0.01	ppmV	6/30/2010
Methylene Chloride	ND	0.01	ppmV	6/30/2010
trans 1,2 Dichloroethene	ND	0.01	ppmV	6/30/2010
cis 1,2 dichloroethene	ND	0.01	ppmV	6/30/2010
Chloroform (Trichloromethane)	ND	0.01	ppmV	6/30/2010
1,1,1 Trichloroethane	ND	0.01	ppmV	6/30/2010
Carbon Tetrachloride	ND	0.01	ppmV	6/30/2010
1,2 Dichloroethane	ND	0.01	ppmV	6/30/2010
Trichloroethylene	ND	0.01	ppmV	6/30/2010
Propane, 1,2-dichloro-	ND	0.01	ppmV	6/30/2010
Methane, bromodichloro-	ND	0.01	ppmV	6/30/2010
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	6/30/2010
Tetrachloroethylene	ND	0.01	ppmV	6/30/2010
Methane, dibromochloro-	ND	0.01	ppmV	6/30/2010
Benzene, chloro-	ND	0.01	ppmV	6/30/2010
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	6/30/2010
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,3-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,4-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,2-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	6/30/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	6/30/2010

  
Principal Analyst: Jeff Scheidmantel


ProVera  
Analytical Laboratories, Inc.

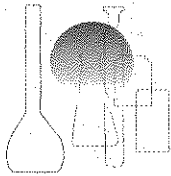


E2C Remediation	Project:	LTLW	Report Date:	7/7/2010
5300 Woodmere Dr. Suite 105			Analysis Type:	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

Sample ID: **10764-003**

Analyte	Result	Reporting Limit	Units	Analysis Date
Chloromethane	ND	0.01	ppmV	6/30/2010
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	6/30/2010
Methane, bromo-	ND	0.01	ppmV	6/30/2010
Chloroethane	ND	0.01	ppmV	6/30/2010
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	6/30/2010
1,1 Dichloroethene	ND	0.01	ppmV	6/30/2010
Methylene Chloride	ND	0.01	ppmV	6/30/2010
trans 1,2 Diclouroethene	ND	0.01	ppmV	6/30/2010
cis 1,2 dichloroethene	ND	0.01	ppmV	6/30/2010
Chloroform (Trichloromethane)	ND	0.01	ppmV	6/30/2010
1,1,1 Trichloroethane	ND	0.01	ppmV	6/30/2010
Carbon Tetrachloride	ND	0.01	ppmV	6/30/2010
1,2 Dichloroethane	ND	0.01	ppmV	6/30/2010
Trichloroethylene	ND	0.01	ppmV	6/30/2010
Propane, 1,2-dichloro-	ND	0.01	ppmV	6/30/2010
Methane, bromodichloro-	ND	0.01	ppmV	6/30/2010
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	6/30/2010
Tetrachloroethylene	0.204	0.01	ppmV	6/30/2010
Methane, dibromochloro-	ND	0.01	ppmV	6/30/2010
Benzene, chloro-	ND	0.01	ppmV	6/30/2010
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	6/30/2010
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,3-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,4-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,2-dichloro-	ND	0.01	ppmV	6/30/2010
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	6/30/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	6/30/2010

  
Principal Analyst: Jeff Scheidemantel

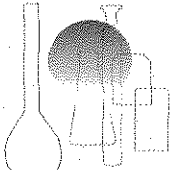
  
**ProVera**  
 Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  Phil Goalwin	Report Date: 7/7/2010  Analysis Type: <b>EPA Method TO-15</b>
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Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
Propylene	51.3	ppmV	100	ppmV	51.3%	65-135
Dichlorodifluoromethane (Freon 12)	110	ppmV	100	ppmV	110.0%	65-135
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	111	ppmV	100	ppmV	111.0%	65-135
Chloromethane	101	ppmV	100	ppmV	101.0%	65-135
Ethene, chloro-(Vinyl Chloride)	98.4	ppmV	100	ppmV	98%	65-135
1,3 Butadiene	108	ppmV	100	ppmV	108%	65-135
Methane, bromo-	61.8	ppmV	100	ppmV	61.8%	65-135
Chloroethane	45.9	ppmV	100	ppmV	45.9%	65-135
Trichloromonofluoromethane (Freon 11)	107	ppmV	100	ppmV	107.0%	65-135
Isopropyl alcohol	134	ppmV	100	ppmV	134.0%	65-135
Freon 113	103	ppmV	100	ppmV	103.0%	65-135
1,1 Dichloroethene	109	ppmV	100	ppmV	109.0%	65-135
Acetone	80.8	ppmV	100	ppmV	80.8%	65-135
Carbon Disulfide	105.0	ppmV	100	ppmV	105.0%	65-135
Methylene Chloride	103	ppmV	100	ppmV	103.0%	65-135
MTBE (Propane, 2-methoxy-2-methyl-)	101	ppmV	100	ppmV	101.0%	65-135
trans 1,2 Dichloroethene	106	ppmV	100	ppmV	106.0%	65-135
n-Hexane	105	ppmV	100	ppmV	105.0%	65-135
Vinyl acetate	101	ppmV	100	ppmV	101%	65-135
Ethane, 1,1-dichloro-	100	ppmV	100	ppmV	100%	65-135
Methyl Ethyl Ketone	82.7	ppmV	100	ppmV	83%	65-135
cis 1,2 dichloroethene	97.9	ppmV	100	ppmV	98%	65-135
Tetrahydrofuran	112	ppmV	100	ppmV	112.0%	65-135
Chloroform (Trichloromethane)	98.4	ppmV	100	ppmV	98.4%	65-135
1,1,1 Trichloroethane	99.7	ppmV	100	ppmV	99.7%	65-135
Cyclohexane	96	ppmV	100	ppmV	96%	65-135
Carbon Tetrachloride	71.8	ppmV	100	ppmV	72%	65-135
Ethyl Acetate	151	ppmV	100	ppmV	151%	65-135
Benzene	101	ppmV	100	ppmV	101%	65-135
1,2 Dichloroethane	99.3	ppmV	100	ppmV	99%	65-135

5300 Woodmere Drive, Suite 103, Bakersfield, CA 93313  
 Phone: (661) 827-5240 Fax: (661)827-5244



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	LTLW Phil Goalwin	Report Date: Analysis Type:	7/7/2010 EPA Method TO-15
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Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
n-Heptane	110	ppmV	100	ppmV	110%	65-135
Trichloroethylene	103	ppmV	100	ppmV	103%	65-135
Propane, 1,2-dichloro-	101	ppmV	100	ppmV	101%	65-135
1,4 Dioxane	99.4	ppmV	100	ppmV	99.4%	65-135
Methane, bromodichloro-	100	ppmV	100	ppmV	100%	65-135
cis-1-Propene, 1,3-dichloro-	105	ppmV	100	ppmV	105%	65-135
MIBK (2,4-Pentanedione3-(1-methylethyl)-	127	ppmV	100	ppmV	127%	65-135
Toluene	104	ppmV	100	ppmV	104%	65-135
trans-1-Propene, 1,3-dichloro-	106	ppmV	100	ppmV	106%	65-135
Ethane, 1,1,2-trichloro-	104	ppmV	100	ppmV	104.0%	65-135
MBK		ppmV	100	ppmV	0%	65-135
Tetrachloroethylene	96.6	ppmV	100	ppmV	96.6%	65-135
Methane, dibromochloro-	103	ppmV	100	ppmV	103.0%	65-135
Ethane, 1,2-dibromo-	103	ppmV	100	ppmV	103.0%	65-135
Benzene, chloro-	113	ppmV	100	ppmV	113%	65-135
Ethylbenzene	105	ppmV	100	ppmV	105%	65-135
m+p-Xylene	106	ppmV	100	ppmV	106%	65-135
o-Xylene	106	ppmV	100	ppmV	106%	65-135
Styrene	118	ppmV	100	ppmV	118%	65-135
Bromoform (Methane, tribromo-)	156	ppmV	100	ppmV	156%	65-135
Ethane, 1,1,2,2-tetrachloro-	122	ppmV	100	ppmV	122%	65-135
4-Ethyltoluene	89.9	ppmV	100	ppmV	90%	65-135
Benzene, 1,3,5-trimethyl-	27.4	ppmV	100	ppmV	27%	65-135
Benzene, 1,2,4-trimethyl-	147	ppmV	100	ppmV	147.0%	65-135
Benzene, 1,3-dichloro-	113	ppmV	100	ppmV	113.0%	65-135
Benzene, 1,4-dichloro-	114	ppmV	100	ppmV	114.0%	65-135
Benzyl chloride	128	ppmV	100	ppmV	128%	65-135
Benzene, 1,2-dichloro-	117	ppmV	100	ppmV	117%	65-135
Benzene, 1,2,4-trichloro-	149	ppmV	100	ppmV	149%	65-135
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	144	ppmV	100	ppmV	144%	65-135

# PROVERA ANALYTICAL LABORATORIES

# Chain of Custody Form


Client Name: E2C Remediation		Project Name: LAKE TANGHE LAUNDRY WORKS		Sample Matrix							
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA		Project Manager: PHIL GOALWIN		<input checked="" type="checkbox"/> Air <input type="checkbox"/> <input type="checkbox"/>							
Sampler Name: NICK JENSEN				Comments							
Sample Date	Sample Time	Sample Description and Container Type	BTEX (EPA TO-15)	MTBE (EPA TO-15)	TPH Gasoline (EPA TO-3)	METHANE (EPA TO-3)	FULL VOC (EPA TO-15)	8010 Volatile list (EPA TO-15)	EDB	Naphthalene	Tetrafluoroethane
7/15/10	2:30 pm	SYSTEM INFLUENT 1 TEOLAK					X	X			
7/15/10	2:33 pm	SYSTEM MID 1 TEOLAK					X	X			
7/15/10	2:35 pm	SYSTEM EFFLUENT 1 TEOLAK					X	X			

Sampling Event: SYSTEM SAMPLING EDF Type: GW Monitoring Other     

Turnaround Time Requested: 24 Hour      48 Hour      5-Day      Standard X

Relinquished By: [Signature] Date: 7/15/10 Relinquished By:      Date:     


Received By: [Signature] Date: 7/16/10 Received By:      Date:

  
**ProVer**  
 Analytical Laboratories, Inc.

E2C Remediation	Project: LTLW	Report Date: 7/17/2010	
5300 Woodmere Dr. Suite 105			<b>EPA Method TO-15</b>
Bakersfield CA 93313	Project Mgr. PHIL GOALWIN	Analysis Type:	

Sample ID: **10778-001 INFLUENT**

Analyte	Result	Reporting Limit	Units	Dilution Factor
Chloromethane	<2.00	2.00	ppmV	250
Ethene, chloro-(Vinyl Chloride)	<2.00	2.00	ppmV	250
Methane, bromo-	<2.00	2.00	ppmV	250
Chloroethane	<2.00	2.00	ppmV	250
Trichloromonofluoromethane (Freon 11)	<2.00	2.00	ppmV	250
1,1 Dichloroethene	<2.00	2.00	ppmV	250
Methylene Chloride	<2.00	2.00	ppmV	250
trans 1,2 Dichloroethene	<2.00	2.00	ppmV	250
cis 1,2 dichloroethene	<2.00	2.00	ppmV	250
Chloroform (Trichloromethane)	<2.00	2.00	ppmV	250
1,1,1 Trichloroethane	<2.00	2.00	ppmV	250
Carbon Tetrachloride	<2.00	2.00	ppmV	250
1,2 Dichloroethane	<2.00	2.00	ppmV	250
Trichloroethylene	0.281	2.00	ppmV	250
Propane, 1,2-dichloro-	<2.00	2.00	ppmV	250
Methane, bromodichloro-	<2.00	2.00	ppmV	250
Ethane, 1,1,2-trichloro-	<2.00	2.00	ppmV	250
Tetrachloroethylene	6.61	2.00	ppmV	250
Methane, dibromochloro-	<2.00	2.00	ppmV	250
Benzene, chloro-	<2.00	2.00	ppmV	250
Bromoform (Methane, tribromo-)	<2.00	2.00	ppmV	250
Ethane, 1,1,2,2-tetrachloro-	<2.00	2.00	ppmV	250
Benzene, 1,3-dichloro-	<2.00	2.00	ppmV	250
Benzene, 1,4-dichloro-	<2.00	2.00	ppmV	250
Benzene, 1,2-dichloro-	<2.00	2.00	ppmV	250
Benzene, 1,2,4-trichloro-	<2.00	2.00	ppmV	250
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<2.00	2.00	ppmV	250

  
 Principal Analyst: Jeff Scheidemantel



# ProVera



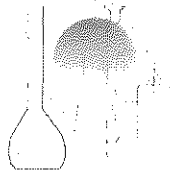
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	LTLW PHIL GOALWIN	Report Date: Analysis Type:	7/17/2010 EPA Method TO-15
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Sample ID: **10778-002 MID**

Analyte	Result	Reporting Limit	Units	Dilution Factor
Chloromethane	<2.00	2.00	ppmV	231
Ethene, chloro-(Vinyl Chloride)	<2.00	2.00	ppmV	231
Methane, bromo-	<2.00	2.00	ppmV	231
Chloroethane	<2.00	2.00	ppmV	231
Trichloromonofluoromethane (Freon 11)	<2.00	2.00	ppmV	231
1,1 Dichloroethene	<2.00	2.00	ppmV	231
Methylene Chloride	<2.00	2.00	ppmV	231
trans 1,2 Dichloroethene	<2.00	2.00	ppmV	231
cis 1,2 dichloroethene	<2.00	2.00	ppmV	231
Chloroform (Trichloromethane)	<2.00	2.00	ppmV	231
1,1,1 Trichloroethane	<2.00	2.00	ppmV	231
Carbon Tetrachloride	<2.00	2.00	ppmV	231
1,2 Dichloroethane	<2.00	2.00	ppmV	231
Trichloroethylene	<2.00	2.00	ppmV	231
Propane, 1,2-dichloro-	<2.00	2.00	ppmV	231
Methane, bromodichloro-	<2.00	2.00	ppmV	231
Ethane, 1,1,2-trichloro-	<2.00	2.00	ppmV	231
Tetrachloroethylene	<2.00	2.00	ppmV	231
Methane, dibromochloro-	<2.00	2.00	ppmV	231
Benzene, chloro-	<2.00	2.00	ppmV	231
Bromoform (Methane, tribromo-)	<2.00	2.00	ppmV	231
Ethane, 1,1,2,2-tetrachloro-	<2.00	2.00	ppmV	231
Benzene, 1,3-dichloro-	<2.00	2.00	ppmV	231
Benzene, 1,4-dichloro-	<2.00	2.00	ppmV	231
Benzene, 1,2-dichloro-	<2.00	2.00	ppmV	231
Benzene, 1,2,4-trichloro-	<2.00	2.00	ppmV	231
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<2.00	2.00	ppmV	231

ProVera



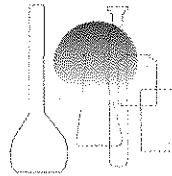
Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	7/17/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: **10778-003 EFFLUENT**

Analyte	Result	Reporting Limit	Units	Dilution Factor
Chloromethane	<2.00	2.00	ppmV	233
Ethene, chloro-(Vinyl Chloride)	<2.00	2.00	ppmV	233
Methane, bromo-	<2.00	2.00	ppmV	233
Chloroethane	<2.00	2.00	ppmV	233
Trichloromonofluoromethane (Freon 11)	<2.00	2.00	ppmV	233
1,1 Dichloroethene	<2.00	2.00	ppmV	233
Methylene Chloride	<2.00	2.00	ppmV	233
trans-1,2 Dichloroethene	<2.00	2.00	ppmV	233
cis-1,2 dichloroethene	<2.00	2.00	ppmV	233
Chloroform (Trichloromethane)	<2.00	2.00	ppmV	233
1,1,1 Trichloroethane	<2.00	2.00	ppmV	233
Carbon Tetrachloride	<2.00	2.00	ppmV	233
1,2 Dichloroethane	<2.00	2.00	ppmV	233
Trichloroethylene	<2.00	2.00	ppmV	233
Propane, 1,2-dichloro-	<2.00	2.00	ppmV	233
Methane, bromodichloro-	<2.00	2.00	ppmV	233
Ethane, 1,1,2-trichloro-	<2.00	2.00	ppmV	233
Tetrachloroethylene	<2.00	2.00	ppmV	233
Methane, dibromochloro-	<2.00	2.00	ppmV	233
Benzene, chloro-	<2.00	2.00	ppmV	233
Bromoform (Methane, tribromo-)	<2.00	2.00	ppmV	233
Ethane, 1,1,2,2-tetrachloro-	<2.00	2.00	ppmV	233
Benzene, 1,3-dichloro-	<2.00	2.00	ppmV	233
Benzene, 1,4-dichloro-	<2.00	2.00	ppmV	233
Benzene, 1,2-dichloro-	<2.00	2.00	ppmV	233
Benzene, 1,2,4-trichloro-	<2.00	2.00	ppmV	233
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<2.00	2.00	ppmV	233

ProVera



Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	LTW Phil Goalwin	Report Date: Analysis Type:	7/17/2010 EPA Method TO-15
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Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
Propylene	82.3	ppmV	100	ppmV	82.3%	65-135
Dichlorodifluoromethane (Freon 12)	75.6	ppmV	100	ppmV	75.6%	65-135
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	76.2	ppmV	100	ppmV	76.2%	65-135
Chloromethane	91.4	ppmV	100	ppmV	91.4%	65-135
Ethene, chloro-(Vinyl Chloride)	76.5	ppmV	100	ppmV	77%	65-135
1,3 Butadiene	81.2	ppmV	100	ppmV	81%	65-135
Methane, bromo-	78.6	ppmV	100	ppmV	78.6%	65-135
Chloroethane	94.6	ppmV	100	ppmV	94.6%	65-135
Trichloromonofluoromethane (Freon 11)	74	ppmV	100	ppmV	74.0%	65-135
Isopropyl alcohol	92	ppmV	100	ppmV	92.0%	65-135
Freon 113	78.7	ppmV	100	ppmV	78.7%	65-135
1,1 Dichloroethene	78.4	ppmV	100	ppmV	78.4%	65-135
Acetone	70	ppmV	100	ppmV	70.0%	65-135
Carbon Disulfide	78.8	ppmV	100	ppmV	78.8%	65-135
Methylene Chloride	76.8	ppmV	100	ppmV	76.8%	65-135
MTBE (Propane, 2-methoxy-2-methyl-)	71.2	ppmV	100	ppmV	71.2%	65-135
trans 1,2 Dichloroethene	69.5	ppmV	100	ppmV	69.5%	65-135
n-Hexane	81.5	ppmV	100	ppmV	81.5%	65-135
Vinyl acetate	80.9	ppmV	100	ppmV	81%	65-135
Ethane, 1,1-dichloro-	79.5	ppmV	100	ppmV	80%	65-135
Methyl Ethyl Ketone	86.3	ppmV	100	ppmV	86%	65-135
cis 1,2 dichloroethene	85.9	ppmV	100	ppmV	86%	65-135
Tetrahydrofuran	84.9	ppmV	100	ppmV	84.9%	65-135
Chloroform (Trichloromethane)	79.9	ppmV	100	ppmV	79.9%	65-135
1,1,1 Trichloroethane	79.1	ppmV	100	ppmV	79.1%	65-135
Cyclohexane	68.8	ppmV	100	ppmV	69%	65-135
Carbon Tetrachloride	81.6	ppmV	100	ppmV	82%	65-135
Ethyl Acetate	66.3	ppmV	100	ppmV	66%	65-135
Benzene	74.1	ppmV	100	ppmV	74%	65-135
1,2 Dichloroethane	88.6	ppmV	100	ppmV	89%	65-135

5300 Woodmere Drive, Suite 103, Bakersfield, CA 93313  
Phone: (661) 827-5240 Fax: (661)827-5244

  
**ProVera**  
 Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr:	Busy Bee  Phil Goalwin	Report Date: 7/17/2010  Analysis Type: EPA Method TO-15
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Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
n-Heptane	75.2	ppmV	100	ppmV	75%	65-135
Trichloroethylene	79	ppmV	100	ppmV	79%	65-135
Propane, 1,2-dichloro-	74.2	ppmV	100	ppmV	74%	65-135
1,4 Dioxane	66.8	ppmV	100	ppmV	66.8%	65-135
Methane, bromodichloro-	84.2	ppmV	100	ppmV	84%	65-135
cis-1-Propene, 1,3-dichloro-	88.8	ppmV	100	ppmV	89%	65-135
MIBK (2,4-Pentanedione3-(1-methylethyl)-	74	ppmV	100	ppmV	74%	65-135
Toluene	77.1	ppmV	100	ppmV	77%	65-135
trans-1-Propene, 1,3-dichloro-	70.6	ppmV	100	ppmV	71%	65-135
Ethane, 1,1,2-trichloro-		ppmV	100	ppmV	0.0%	65-135
MBK	70.2	ppmV	100	ppmV	70%	65-135
Tetrachloroethylene	66.2	ppmV	100	ppmV	66.2%	65-135
Methane, dibromochloro-	54.9	ppmV	100	ppmV	54.9%	65-135
Ethane, 1,2-dibromo-	58.7	ppmV	100	ppmV	58.7%	65-135
Benzene, chloro-	72.1	ppmV	100	ppmV	72%	65-135
Ethylbenzene	66.8	ppmV	100	ppmV	67%	65-135
m+p-Xylene	66	ppmV	100	ppmV	66%	65-135
o-Xylene	72.5	ppmV	100	ppmV	73%	65-135
Styrene	73.4	ppmV	100	ppmV	73%	65-135
Bromoform (Methane, tribromo-)	91.2	ppmV	100	ppmV	91%	65-135
Ethane, 1,1,2,2-tetrachloro-	75.6	ppmV	100	ppmV	76%	65-135
4-Ethyltoluene	80.4	ppmV	100	ppmV	80%	65-135
Benzene, 1,3,5-trimethyl-	88.7	ppmV	100	ppmV	89%	65-135
Benzene, 1,2,4-trimethyl-	72	ppmV	100	ppmV	72.0%	65-135
Benzene, 1,3-dichloro-	74.6	ppmV	100	ppmV	74.6%	65-135
Benzene, 1,4-dichloro-	85.9	ppmV	100	ppmV	85.9%	65-135
Benzyl chloride	71	ppmV	100	ppmV	71%	65-135
Benzene, 1,2-dichloro-	62.5	ppmV	100	ppmV	63%	65-135
Benzene, 1,2,4-trichloro-	64.8	ppmV	100	ppmV	65%	65-135
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	69.8	ppmV	100	ppmV	70%	65-135

**PROVERA ANALYTICAL LABORATORIES**

**Chain of Custody Form**

Client Name: E2C Remediation		Analysis Requested										Sample Matrix
Project Name: Lake Tahoe Laundry works		8010 Volatile list (EPA TO-15)										<input checked="" type="checkbox"/> Air
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA		METHANE (EPA TO-3)										<input type="checkbox"/>
Project Manager: Phil Gonzalez		TPH Gasoline (EPA TO-3)										<input type="checkbox"/>
Sampler Name: Jose Vojvoda		MTBE (EPA TO-15)										Comments
Sample Date	Sample Time	Sample Description and Container Type	BTEX (EPA TO-15)	MTBE (EPA TO-15)	TPH Gasoline (EPA TO-3)	METHANE (EPA TO-3)	ELL VOC (EPA TO-15)	8010 Volatile list (EPA TO-15)	EDB	Naphthalene	Tetrafluoroethane	
8-18-10	1:35	REFL	X	X	X	X	X	X				P10822-a1
	1:40	MID	X	X	X	X	X	X				~a2
	1:45	INFL	X	X	X	X	X	X				~a3

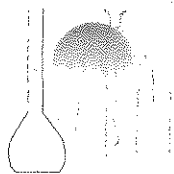
Sampling Event: Weekly cdm EDF Type: GW Monitoring    Other   

Turnaround Time Requested: 24 Hour    48 Hour    5-Day    Standard

Relinquished By: [Signature] Date: 8-18-10 Relinquished By:    Date:   

Received By: [Signature] Date: 8/19/10 Received By:    Date:

ProVer

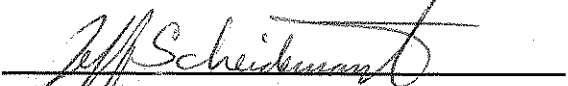


Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	8/19/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

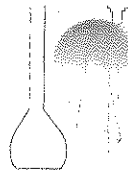
Sample ID: 10822-001 EFFLUENT

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.01	0.01	ppmV	1	8/19/2010
Ethene, chloro-(Vinyl Chloride)	<0.01	0.01	ppmV	1	8/19/2010
Methane, bromo-	<0.01	0.01	ppmV	1	8/19/2010
Chloroethane	<0.01	0.01	ppmV	1	8/19/2010
Trichloromonofluoromethane (Freon 11)	<0.01	0.01	ppmV	1	8/19/2010
1,1 Dichloroethene	<0.01	0.01	ppmV	1	8/19/2010
Methylene Chloride	<0.01	0.01	ppmV	1	8/19/2010
trans 1,2 Dichloroethene	<0.01	0.01	ppmV	1	8/19/2010
cis 1,2 dichloroethene	0.192	0.01	ppmV	1	8/19/2010
Chloroform (Trichloromethane)	<0.01	0.01	ppmV	1	8/19/2010
1,1,1 Trichloroethane	<0.01	0.01	ppmV	1	8/19/2010
Carbon Tetrachloride	<0.01	0.01	ppmV	1	8/19/2010
1,2 Dichloroethane	<0.01	0.01	ppmV	1	8/19/2010
Trichloroethylene	<0.01	0.01	ppmV	1	8/19/2010
Propane, 1,2-dichloro-	<0.01	0.01	ppmV	1	8/19/2010
Methane, bromodichloro-	<0.01	0.01	ppmV	1	8/19/2010
Ethane, 1,1,2-trichloro-	<0.01	0.01	ppmV	1	8/19/2010
Tetrachloroethylene	<0.01	0.01	ppmV	1	8/19/2010
Methane, dibromochloro-	<0.01	0.01	ppmV	1	8/19/2010
Benzene, chloro-	<0.01	0.01	ppmV	1	8/19/2010
Bromoform (Methane, tribromo-)	<0.01	0.01	ppmV	1	8/19/2010
Ethane, 1,1,1,2-tetrachloro-	<0.01	0.01	ppmV	1	8/19/2010
Benzene, 1,3-dichloro-	<0.01	0.01	ppmV	1	8/19/2010
Benzene, 1,4-dichloro-	<0.01	0.01	ppmV	1	8/19/2010
Benzene, 1,2-dichloro-	<0.01	0.01	ppmV	1	8/19/2010
Benzene, 1,2,4-trichloro-	<0.01	0.01	ppmV	1	8/19/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.01	0.01	ppmV	1	8/19/2010

  
Principal Analyst: Jeff Scheidemantel

5300 Woodmere Drive, Suite 103, Bakersfield, CA 93313  
Phone: (661) 827-5240 Fax: (661)827-5244

# ProVera



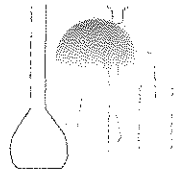
Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	8/19/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

**Sample ID: 10822-002 MID**

Analyte	Result	Reporting Limit	Units	Dilution Factor	
Chloromethane	<0.02	0.02	ppmV	2.0	8/19/2010
Ethene, chloro-(Vinyl Chloride)	<0.02	0.02	ppmV	2.0	8/19/2010
Methane, bromo-	<0.02	0.02	ppmV	2.0	8/19/2010
Chloroethane	<0.02	0.02	ppmV	2.0	8/19/2010
Trichloromonofluoromethane (Freon 11)	<0.02	0.02	ppmV	2.0	8/19/2010
1,1 Dichloroethene	<0.02	0.02	ppmV	2.0	8/19/2010
Methylene Chloride	<0.02	0.02	ppmV	2.0	8/19/2010
trans 1,2 Dichloroethene	<0.02	0.02	ppmV	2.0	8/19/2010
cis 1,2 dichloroethene	0.19	0.02	ppmV	2.0	8/19/2010
Chloroform (Trichloromethane)	<0.02	0.02	ppmV	2.0	8/19/2010
1,1,1 Trichloroethane	0.29	0.02	ppmV	2.0	8/19/2010
Carbon Tetrachloride	<0.02	0.02	ppmV	2.0	8/19/2010
1,2 Dichloroethane	<0.02	0.02	ppmV	2.0	8/19/2010
Trichloroethylene	0.27	0.02	ppmV	2.0	8/19/2010
Propane, 1,2-dichloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Methane, bromodichloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Ethane, 1,1,2-trichloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Tetrachloroethylene	2.23	0.02	ppmV	2.0	8/19/2010
Methane, dibromochloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Benzene, chloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Bromoform (Methane, tribromo-)	<0.02	0.02	ppmV	2.0	8/19/2010
Ethane, 1,1,2,2-tetrachloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Benzene, 1,3-dichloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Benzene, 1,4-dichloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Benzene, 1,2-dichloro-	<0.02	0.02	ppmV	2.0	8/19/2010
Benzene, 1,2,4-trichloro-	<0.02	0.02	ppmV	2.0	8/19/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.02	0.02	ppmV	2.0	8/19/2010

ProVera



Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	8/19/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: 10822-003 INFLUENT

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.043	0.043	ppmV	4.3	8/19/2010
Ethene, chloro-(Vinyl Chloride)	<0.043	0.043	ppmV	4.3	8/19/2010
Methane, bromo-	<0.043	0.043	ppmV	4.3	8/19/2010
Chloroethane	<0.043	0.043	ppmV	4.3	8/19/2010
Trichloromonofluoromethane (Freon 11)	<0.043	0.043	ppmV	4.3	8/19/2010
1,1 Dichloroethene	<0.043	0.043	ppmV	4.3	8/19/2010
Methylene Chloride	<0.043	0.043	ppmV	4.3	8/19/2010
trans 1,2 Dichloroethene	<0.043	0.043	ppmV	4.3	8/19/2010
cis 1,2 dichloroethene	0.047	0.043	ppmV	4.3	8/19/2010
Chloroform (Trichloromethane)	<0.043	0.043	ppmV	4.3	8/19/2010
1,1,1 Trichloroethane	0.117	0.043	ppmV	4.3	8/19/2010
Carbon Tetrachloride	<0.043	0.043	ppmV	4.3	8/19/2010
1,2 Dichloroethane	<0.043	0.043	ppmV	4.3	8/19/2010
Trichloroethylene	0.096	0.043	ppmV	4.3	8/19/2010
Propane, 1,2-dichloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Methane, bromodichloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Ethane, 1,1,2-trichloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Tetrachloroethylene	9.14	0.043	ppmV	4.3	8/19/2010
Methane, dibromochloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Benzene, chloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Bromoform (Methane, tribromo-)	<0.043	0.043	ppmV	4.3	8/19/2010
Ethane, 1,1,2,2-tetrachloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Benzene, 1,3-dichloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Benzene, 1,4-dichloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Benzene, 1,2-dichloro-	<0.043	0.043	ppmV	4.3	8/19/2010
Benzene, 1,2,4-trichloro-	<0.043	0.043	ppmV	4.3	8/19/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.043	0.043	ppmV	4.3	8/19/2010



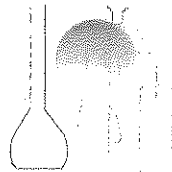
  
**ProVera**  
*Analytical Laboratories, Inc.*

E2C Remediation	Project: LTLW	Report Date: 8/19/2010
5300 Woodmere Dr. Suite 105		Analysis Type: <b>A Method TO-15</b>
Bakersfield CA 93313	Project Mgr. Phil Goalwin	

Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
Propylene	132	ppmV	100	ppmV	132.0%	65-135
Dichlorodifluoromethane (Freon 12)	88.4	ppmV	100	ppmV	88.4%	65-135
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	82.3	ppmV	100	ppmV	82.3%	65-135
Chloromethane	91.2	ppmV	100	ppmV	91.2%	65-135
Ethene, chloro-(Vinyl Chloride)	92.3	ppmV	100	ppmV	92%	65-135
1,3 Butadiene	97.5	ppmV	100	ppmV	98%	65-135
Methane, bromo-	77.1	ppmV	100	ppmV	77.1%	65-135
Chloroethane	72.3	ppmV	100	ppmV	72.3%	65-135
Trichloromonofluoromethane (Freon 11)	63.9	ppmV	100	ppmV	63.9%	65-135
Isopropyl alcohol	78.8	ppmV	100	ppmV	78.8%	65-135
Freon 113	74.9	ppmV	100	ppmV	74.9%	65-135
1,1 Dichloroethene	80.4	ppmV	100	ppmV	80.4%	65-135
Acetone	69.3	ppmV	100	ppmV	69.3%	65-135
Carbon Disulfide	78.9	ppmV	100	ppmV	78.9%	65-135
Methylene Chloride	74.9	ppmV	100	ppmV	74.9%	65-135
MTBE (Propane, 2-methoxy-2-methyl-)	88	ppmV	100	ppmV	88.0%	65-135
trans 1,2 Dichloroethene	57.9	ppmV	100	ppmV	57.9%	65-135
n-Hexane	101	ppmV	100	ppmV	101.0%	65-135
Vinyl acetate	112	ppmV	100	ppmV	112%	65-135
Ethane, 1,1-dichloro-	102	ppmV	100	ppmV	102%	65-135
Methyl Ethyl Ketone	91.2	ppmV	100	ppmV	91%	65-135
cis 1,2 dichloroethene	77.4	ppmV	100	ppmV	77%	65-135
Tetrahydrofuran	78.9	ppmV	100	ppmV	78.9%	65-135
Chloroform (Trichloromethane)	81.2	ppmV	100	ppmV	81.2%	65-135
1,1,1 Trichloroethane	82.3	ppmV	100	ppmV	82.3%	65-135
Cyclohexane	71.9	ppmV	100	ppmV	72%	65-135
Carbon Tetrachloride	72.8	ppmV	100	ppmV	73%	65-135
Ethyl Acetate	78	ppmV	100	ppmV	78%	65-135
Benzene	90.1	ppmV	100	ppmV	90%	65-135
1,2 Dichloroethane	78.4	ppmV	100	ppmV	78%	65-135

ProVer



Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	LTW Phil Goalwin	Report Date: Analysis Type:	8/19/2010 EPA Method TO-15
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Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
n-Heptane	113	ppmV	100	ppmV	113%	65-135
Trichloroethylene	68.7	ppmV	100	ppmV	69%	65-135
Propane, 1,2-dichloro-	72.1	ppmV	100	ppmV	72%	65-135
1,4 Dioxane	77.6	ppmV	100	ppmV	77.6%	65-135
Methane, bromodichloro-	81.2	ppmV	100	ppmV	81%	65-135
cis-1-Propene, 1,3-dichloro-	96.6	ppmV	100	ppmV	97%	65-135
MIBK (2,4-Pentanedione3-(1-methylethyl)-	84	ppmV	100	ppmV	84%	65-135
Toluene	78.4	ppmV	100	ppmV	78%	65-135
trans-1-Propene, 1,3-dichloro-	63.2	ppmV	100	ppmV	63%	65-135
Ethane, 1,1,2-trichloro-	85.6	ppmV	100	ppmV	85.6%	65-135
MBK	74.2	ppmV	100	ppmV	74%	65-135
Tetrachloroethylene	77.3	ppmV	100	ppmV	77.3%	65-135
Methane, dibromochloro-	71.1	ppmV	100	ppmV	71.1%	65-135
Ethane, 1,2-dibromo-	84.6	ppmV	100	ppmV	84.6%	65-135
Benzene, chloro-	55.6	ppmV	100	ppmV	56%	65-135
Ethylbenzene	89.9	ppmV	100	ppmV	90%	65-135
m+p-Xylene	84	ppmV	100	ppmV	84%	65-135
o-Xylene	85.1	ppmV	100	ppmV	85%	65-135
Styrene	86.2	ppmV	100	ppmV	86%	65-135
Bromoform (Methane, tribromo-)	88.1	ppmV	100	ppmV	88%	65-135
Ethane, 1,1,2,2-tetrachloro-	75	ppmV	100	ppmV	75%	65-135
4-Ethyltoluene	101	ppmV	100	ppmV	101%	65-135
Benzene, 1,3,5-trimethyl-	102	ppmV	100	ppmV	102%	65-135
Benzene, 1,2,4-trimethyl-	103	ppmV	100	ppmV	103.0%	65-135
Benzene, 1,3-dichloro-	105	ppmV	100	ppmV	105.0%	65-135
Benzene, 1,4-dichloro-	111	ppmV	100	ppmV	111.0%	65-135
Benzyl chloride	92.8	ppmV	100	ppmV	93%	65-135
Benzene, 1,2-dichloro-	93.9	ppmV	100	ppmV	94%	65-135
Benzene, 1,2,4-trichloro-	95.1	ppmV	100	ppmV	95%	65-135
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	92.1	ppmV	100	ppmV	92%	65-135

Client Name: E2C Remediation		Analysis Requested										Sample Matrix
Project Name: LAKE Tahoe Boundary works												<input checked="" type="checkbox"/> Air
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA												<input type="checkbox"/>
Project Manager: Phil Goolan												<input type="checkbox"/>
Sampler Name: Joe VoVoda												Comments
Sample Date	Sample Time	Sample Description and Container Type	BTEX (EPA TO-15)	MTBE (EPA TO-15)	TPH Gasoline (EPA TO-3)	METHANE (EPA TO-3)	FULL VOC (EPA TO-15)	8010 Volatile list (EPA TO-15)	EDB	Naphthalene	Tetrafluoroethane	
8-25-10	1:35	EFFL	X									P10829 -001
	1:40	MID	X									-002
	1:45	INFL	X									-003

Sampling Event: Weekly oem EDF Type: GW Monitoring    Other   

Turnaround Time Requested: 24 Hour    48 Hour    5-Day    Standard   

Relinquished By: [Signature] Date: 8-25-10 Relinquished By:    Date:   

Received By: [Signature] Date: 8/25/10 Received By:    Date:

# ProVera

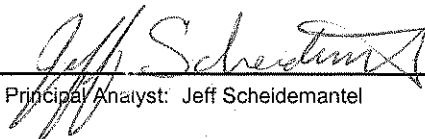


Analytical Laboratories, Inc.

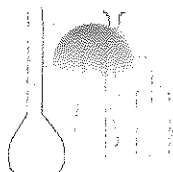
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: LTLW Project Mgr. PHIL GOALWIN	Report Date: 8/29/2010 Analysis Type: EPA Method TO-15
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Sample ID: 10829-001 EFFLUENT

Analyte	Result	Reporting Limit	Units	Dilution Factor	Notes	Analysis Date
Chloromethane	<0.01	0.01	ppmV	1		8/28/2010
Ethene, chloro-(Vinyl Chloride)	<0.01	0.01	ppmV	1		8/28/2010
Methane, bromo-	<0.01	0.01	ppmV	1		8/28/2010
Chloroethane	<0.01	0.01	ppmV	1		8/28/2010
Trichloromonofluoromethane (Freon 11)	<0.01	0.01	ppmV	1		8/28/2010
1,1 Dichloroethene	<0.01	0.01	ppmV	1		8/28/2010
Methylene Chloride	<0.01	0.01	ppmV	1		8/28/2010
trans 1,2 Dichloroethene	<0.01	0.01	ppmV	1		8/28/2010
cis 1,2 dichloroethene	0.175	0.01	ppmV	1		8/28/2010
Chloroform (Trichloromethane)	<0.01	0.01	ppmV	1		8/28/2010
1,1,1 Trichloroethane	<0.01	0.01	ppmV	1		8/28/2010
Carbon Tetrachloride	<0.01	0.01	ppmV	1		8/28/2010
1,2 Dichloroethane	<0.01	0.01	ppmV	1		8/28/2010
Trichloroethylene	<0.01	0.01	ppmV	1		8/28/2010
Propane, 1,2-dichloro-	<0.01	0.01	ppmV	1		8/28/2010
Methane, bromodichloro-	<0.01	0.01	ppmV	1		8/28/2010
Ethane, 1,1,2-trichloro-	<0.01	0.01	ppmV	1		8/28/2010
Tetrachloroethylene	<0.01	0.01	ppmV	1		8/28/2010
Methane, dibromochloro-	<0.01	0.01	ppmV	1		8/28/2010
Benzene, chloro-	<0.01	0.01	ppmV	1		8/28/2010
Bromoform (Methane, tribromo-)	<0.01	0.01	ppmV	1		8/28/2010
Ethane, 1,1,2,2-tetrachloro-	<0.01	0.01	ppmV	1		8/28/2010
Benzene, 1,3-dichloro-	<0.01	0.01	ppmV	1		8/28/2010
Benzene, 1,4-dichloro-	<0.01	0.01	ppmV	1		8/28/2010
Benzene, 1,2-dichloro-	<0.01	0.01	ppmV	1		8/28/2010
Benzene, 1,2,4-trichloro-	<0.01	0.01	ppmV	1		8/28/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.01	0.01	ppmV	1		8/28/2010

  
Principal Analyst: Jeff Scheidmantel

ProVera



Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: LTLW	Report Date: 8/29/2010
Project Mgr. PHIL GOALWIN	Analysis Type: EPA Method TO-15	

Sample ID: 10829-002 MID

Analyte	Result	Reporting Limit	Units	Dilution Factor	Notes	Analysis Date
Chloromethane	<0.02	0.02	ppmV	2.0		8/28/2010
Ethene, chloro-(Vinyl Chloride)	<0.02	0.02	ppmV	2.0		8/28/2010
Methane, bromo-	<0.02	0.02	ppmV	2.0		8/28/2010
Chloroethane	<0.02	0.02	ppmV	2.0		8/28/2010
Trichloromonofluoromethane (Freon 11)	<0.02	0.02	ppmV	2.0		8/28/2010
1,1 Dichloroethene	<0.02	0.02	ppmV	2.0		8/28/2010
Methylene Chloride	<0.02	0.02	ppmV	2.0		8/28/2010
trans 1,2 Dichloroethene	<0.02	0.02	ppmV	2.0		8/28/2010
cis 1,2 dichloroethene	0.161	0.02	ppmV	2.0		8/28/2010
Chloroform (Trichloromethane)	<0.02	0.02	ppmV	2.0		8/28/2010
1,1,1 Trichloroethane	0.276	0.02	ppmV	2.0		8/28/2010
Carbon Tetrachloride	<0.02	0.02	ppmV	2.0		8/28/2010
1,2 Dichloroethane	<0.02	0.02	ppmV	2.0		8/28/2010
Trichloroethylene	0.272	0.02	ppmV	2.0		8/28/2010
Propane, 1,2-dichloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Methane, bromodichloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Ethane, 1,1,2-trichloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Tetrachloroethylene	3.98	0.02	ppmV	2.0		8/28/2010
Methane, dibromochloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Benzene, chloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Bromoform (Methane, tribromo-)	<0.02	0.02	ppmV	2.0		8/28/2010
Ethane, 1,1,2,2-tetrachloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Benzene, 1,3-dichloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Benzene, 1,4-dichloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Benzene, 1,2-dichloro-	<0.02	0.02	ppmV	2.0		8/28/2010
Benzene, 1,2,4-trichloro-	<0.02	0.02	ppmV	2.0		8/28/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.02	0.02	ppmV	2.0		8/28/2010

ProVera

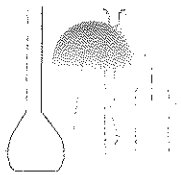


Analytical Laboratories, Inc.

E2C Remediation	Project:	LTW	Report Date:	8/29/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: 10829-003 INFLUENT

Analyte	Result	Reporting Limit	Units	Dilution Factor	Notes	Analysis Date
Chloromethane	<0.041	0.041	ppmV	4.1		8/28/2010
Ethene, chloro-(Vinyl Chloride)	<0.041	0.041	ppmV	4.1		8/28/2010
Methane, bromo-	<0.041	0.041	ppmV	4.1		8/28/2010
Chloroethane	<0.041	0.041	ppmV	4.1		8/28/2010
Trichloromonofluoromethane (Freon 11)	<0.041	0.041	ppmV	4.1		8/28/2010
1,1 Dichloroethene	<0.041	0.041	ppmV	4.1		8/28/2010
Methylene Chloride	<0.041	0.041	ppmV	4.1		8/28/2010
trans 1,2 Dichloroethene	<0.041	0.041	ppmV	4.1		8/28/2010
cis 1,2 dichloroethene	4.32	0.041	ppmV	4.1		8/28/2010
Chloroform (Trichloromethane)	<0.041	0.041	ppmV	4.1		8/28/2010
1,1,1 Trichloroethane	1.85	0.041	ppmV	4.1		8/28/2010
Carbon Tetrachloride	<0.041	0.041	ppmV	4.1		8/28/2010
1,2 Dichloroethane	<0.041	0.041	ppmV	4.1		8/28/2010
Trichloroethylene	1.83	0.041	ppmV	4.1		8/28/2010
Propane, 1,2-dichloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Methane, bromodichloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Ethane, 1,1,2-trichloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Tetrachloroethylene	11.4	0.041	ppmV	4.1		8/28/2010
Methane, dibromochloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Benzene, chloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Bromoform (Methane, tribromo-)	<0.041	0.041	ppmV	4.1		8/28/2010
Ethane, 1,1,1,2-tetrachloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Benzene, 1,3-dichloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Benzene, 1,4-dichloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Benzene, 1,2-dichloro-	<0.041	0.041	ppmV	4.1		8/28/2010
Benzene, 1,2,4-trichloro-	<0.041	0.041	ppmV	4.1		8/28/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.041	0.041	ppmV	4.1		8/28/2010



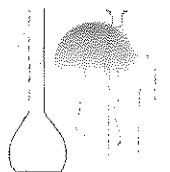
**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	8/28/2010
5300 Woodmere Dr. Suite 105			Analysis	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	Phil Goalwin	Type:	

Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
Propylene	127	ppmV	100	ppmV	127.0%	65-135
Dichlorodifluoromethane (Freon 12)	105	ppmV	100	ppmV	105.0%	65-135
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	93.2	ppmV	100	ppmV	93.2%	65-135
Chloromethane	81.6	ppmV	100	ppmV	81.6%	65-135
Ethene, chloro-(Vinyl Chloride)	84.5	ppmV	100	ppmV	85%	65-135
1,3 Butadiene	71.2	ppmV	100	ppmV	71%	65-135
Methane, bromo-	78.9	ppmV	100	ppmV	78.9%	65-135
Chloroethane	94.6	ppmV	100	ppmV	94.6%	65-135
Trichloromonofluoromethane (Freon 11)	69.2	ppmV	100	ppmV	69.2%	65-135
Isopropyl alcohol	115	ppmV	100	ppmV	115.0%	65-135
Freon 113	114	ppmV	100	ppmV	114.0%	65-135
1,1 Dichloroethene	84.5	ppmV	100	ppmV	84.5%	65-135
Acetone	77.4	ppmV	100	ppmV	77.4%	65-135
Carbon Disulfide	77.4	ppmV	100	ppmV	77.4%	65-135
Methylene Chloride	110	ppmV	100	ppmV	110.0%	65-135
MTBE (Propane, 2-methoxy-2-methyl-)	104	ppmV	100	ppmV	104.0%	65-135
trans 1,2 Dichloroethene	84.3	ppmV	100	ppmV	84.3%	65-135
n-Hexane	151	ppmV	100	ppmV	151.0%	65-135
Vinyl acetate	93.3	ppmV	100	ppmV	93%	65-135
Ethane, 1,1-dichloro-	107	ppmV	100	ppmV	107%	65-135
Methyl Ethyl Ketone	124	ppmV	100	ppmV	124%	65-135
cis 1,2 dichloroethene	84.2	ppmV	100	ppmV	84%	65-135
Tetrahydrofuran	74.6	ppmV	100	ppmV	74.6%	65-135
Chloroform (Trichloromethane)	91.2	ppmV	100	ppmV	91.2%	65-135
1,1,1 Trichloroethane	89.4	ppmV	100	ppmV	89.4%	65-135
Cyclohexane	129	ppmV	100	ppmV	129%	65-135
Carbon Tetrachloride	72.8	ppmV	100	ppmV	73%	65-135
Ethyl Acetate	79	ppmV	100	ppmV	79%	65-135
Benzene	92.3	ppmV	100	ppmV	92%	65-135
1,2 Dichloroethane	85.9	ppmV	100	ppmV	86%	65-135

# ProVera



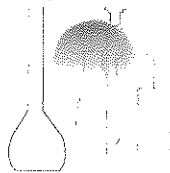
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTW  Phil Goalwin	Report Date:  Analysis Type:	8/28/2010  EPA Method TO-15
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Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
n-Heptane	94.6	ppmV	100	ppmV	95%	65-135
Trichloroethylene	77.8	ppmV	100	ppmV	78%	65-135
Propane, 1,2-dichloro-	93.4	ppmV	100	ppmV	93%	65-135
1,4 Dioxane	84.5	ppmV	100	ppmV	84.5%	65-135
Methane, bromodichloro-	85.6	ppmV	100	ppmV	86%	65-135
cis-1-Propene, 1,3-dichloro-	68.5	ppmV	100	ppmV	69%	65-135
MIBK (2,4-Pentanedione3-(1-methylethyl)-	96	ppmV	100	ppmV	96%	65-135
Toluene	97.5	ppmV	100	ppmV	98%	65-135
trans-1-Propene, 1,3-dichloro-	77.1	ppmV	100	ppmV	77%	65-135
Ethane, 1,1,2-trichloro-	74.2	ppmV	100	ppmV	74.2%	65-135
MBK	63.2	ppmV	100	ppmV	63%	65-135
Tetrachloroethylene	90.3	ppmV	100	ppmV	90.3%	65-135
Methane, dibromochloro-	91.5	ppmV	100	ppmV	91.5%	65-135
Ethane, 1,2-dibromo-	88.3	ppmV	100	ppmV	88.3%	65-135
Benzene, chloro-	87.4	ppmV	100	ppmV	87%	65-135
Ethylbenzene	96.3	ppmV	100	ppmV	96%	65-135
m+p-Xylene	93.8	ppmV	100	ppmV	94%	65-135
o-Xylene	97.7	ppmV	100	ppmV	98%	65-135
Styrene	90.7	ppmV	100	ppmV	91%	65-135
Bromoform (Methane, tribromo-)	87.7	ppmV	100	ppmV	88%	65-135
Ethane, 1,1,2,2-tetrachloro-	84	ppmV	100	ppmV	84%	65-135
4-Ethyltoluene	90.6	ppmV	100	ppmV	91%	65-135
Benzene, 1,3,5-trimethyl-	112	ppmV	100	ppmV	112%	65-135
Benzene, 1,2,4-trimethyl-	110	ppmV	100	ppmV	110.0%	65-135
Benzene, 1,3-dichloro-	98.2	ppmV	100	ppmV	98.2%	65-135
Benzene, 1,4-dichloro-	114	ppmV	100	ppmV	114.0%	65-135
Benzyl chloride	127	ppmV	100	ppmV	127%	65-135
Benzene, 1,2-dichloro-	91.4	ppmV	100	ppmV	91%	65-135
Benzene, 1,2,4-trichloro-	84.6	ppmV	100	ppmV	85%	65-135
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	95.6	ppmV	100	ppmV	96%	65-135





**Data Qualifiers & Definitions**

A1 - More than one compound of similar molecule structure was identified with equal probability

ca - The calibration results for this range fell outside of acceptance criteria.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc - The compound is a common laboratory and field contaminant.

ht - The samples was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - the reported concentration was generated from a library search.

pc - The samples was received in a container not approved by the method. The value reported should be considered and estimate.

pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

df - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of gasoline

y - The pattern of peaks present is not indicative of diesel.

\*TPHg result does not include MTBE or TBA

mi - Compounds in the sample matrix interfered with the sample recovery and quantification of analyte.

Client Name: E2C Remediation		Analysis Requested								Sample Matrix	
Project Name: Lake Tahoe Laundry works		TPH Gasoline (EPA TO-3)	METHANE (EPA TO-3)	FULL VOC (EPA TO-15)	8010 Volatile list (EPA TO-15)	EDB	Naphthalene	Tetrafluoroethane		<input checked="" type="checkbox"/> Air <input type="checkbox"/> <input type="checkbox"/>	
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA											
Project Manager: Paul Galwin											
Sampler Name: Joe Vojvoda											
Sample Date	Sample Time	Sample Description and Container Type									Comments
9-15-10	2:30	EFFL									P10883-a1
	2:35	MID									-a2
	2:45	INFL									-a3

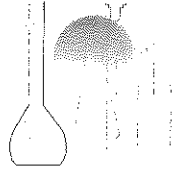
Sampling Event: \_\_\_\_\_ EDF Type: GW Monitoring \_\_\_\_\_ Other \_\_\_\_\_

Turnaround Time Requested: 24 Hour \_\_\_\_\_ 48 Hour \_\_\_\_\_ 5-Day \_\_\_\_\_ Standard

Relinquished By: *[Signature]* Date: 9-15-10 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_

Received By: *[Signature]* Date: 9/16/10 Received By: \_\_\_\_\_ Date: \_\_\_\_\_

# ProVera

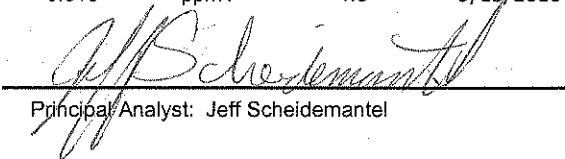


Analytical Laboratories, Inc.

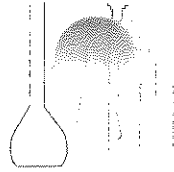
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/20/2010  EPA Method TO-15
--	------------------------------	--------------------------	------------------------------------	-----------------------------------

**Sample ID: 10883-001 EFFLUENT**

Analyte	Result	Reporting Limit	Units	Dilution Factor	Analysis Date
Chloromethane	<0.019	0.019	ppmV	1.9	9/15/2010
Ethene, chloro-(Vinyl Chloride)	<0.019	0.019	ppmV	1.9	9/15/2010
Methane, bromo-	<0.019	0.019	ppmV	1.9	9/15/2010
Chloroethane	<0.019	0.019	ppmV	1.9	9/15/2010
Trichloromonofluoromethane (Freon 11)	<0.019	0.019	ppmV	1.9	9/15/2010
1,1 Dichloroethene	<0.019	0.019	ppmV	1.9	9/15/2010
Methylene Chloride	<0.019	0.019	ppmV	1.9	9/15/2010
trans 1,2 Dichloroethene	<0.019	0.019	ppmV	1.9	9/15/2010
cis 1,2 dichloroethene	0.221	0.019	ppmV	1.9	9/15/2010
Chloroform (Trichloromethane)	<0.019	0.019	ppmV	1.9	9/15/2010
1,1,1 Trichloroethane	<0.019	0.019	ppmV	1.9	9/15/2010
Carbon Tetrachloride	<0.019	0.019	ppmV	1.9	9/15/2010
1,2 Dichloroethane	<0.019	0.019	ppmV	1.9	9/15/2010
Trichloroethylene	<0.019	0.019	ppmV	1.9	9/15/2010
Propane, 1,2-dichloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Methane, bromodichloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Ethane, 1,1,2-trichloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Tetrachloroethylene	<0.019	0.019	ppmV	1.9	9/15/2010
Methane, dibromochloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Benzene, chloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Bromoform (Methane, tribromo-)	<0.019	0.019	ppmV	1.9	9/15/2010
Ethane, 1,1,2,2-tetrachloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Benzene, 1,3-dichloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Benzene, 1,4-dichloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Benzene, 1,2-dichloro-	<0.019	0.019	ppmV	1.9	9/15/2010
Benzene, 1,2,4-trichloro-	<0.019	0.019	ppmV	1.9	9/15/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.019	0.019	ppmV	1.9	9/15/2010

  
Principal Analyst: Jeff Scheidemantel

# ProVera



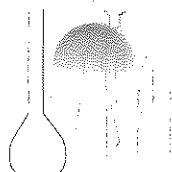
Analytical Laboratories, Inc.

E2C Remediation	Project:	LTW	Report Date:	9/20/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: 10883-002 MID

Analyte	Result	Reporting Limit	Units	Dilution Factor	
Chloromethane	<0.021	0.021	ppmV	2.1	9/15/2010
Ethene, chloro-(Vinyl Chloride)	<0.021	0.021	ppmV	2.1	9/15/2010
Methane, bromo-	<0.021	0.021	ppmV	2.1	9/15/2010
Chloroethane	<0.021	0.021	ppmV	2.1	9/15/2010
Trichloromonofluoromethane (Freon 11)	<0.021	0.021	ppmV	2.1	9/15/2010
1,1 Dichloroethene	<0.021	0.021	ppmV	2.1	9/15/2010
Methylene Chloride	<0.021	0.021	ppmV	2.1	9/15/2010
trans 1,2 Dichloroethene	<0.021	0.021	ppmV	2.1	9/15/2010
cis 1,2 dichloroethene	0.097	0.021	ppmV	2.1	9/15/2010
Chloroform (Trichloromethane)	<0.021	0.021	ppmV	2.1	9/15/2010
1,1,1 Trichloroethane	0.139	0.021	ppmV	2.1	9/15/2010
Carbon Tetrachloride	<0.021	0.021	ppmV	2.1	9/15/2010
1,2 Dichloroethane	<0.021	0.021	ppmV	2.1	9/15/2010
Trichloroethylene	0.133	0.021	ppmV	2.1	9/15/2010
Propane, 1,2-dichloro-	<0.021	0.021	ppmV	2.1	9/15/2010
Methane, bromodichloro-	<0.021	0.021	ppmV	2.1	9/15/2010
Ethane, 1,1,2-trichloro-	<0.021	0.021	ppmV	2.1	9/15/2010
Tetrachloroethylene	3.29	0.021	ppmV	2.1	9/15/2010
Methane, dibromochloro-	<0.021	0.021	ppmV	2.1	9/15/2010
Benzene, chloro-	0.036	0.021	ppmV	2.1	9/15/2010
Bromoform (Methane, tribromo-)	<0.021	0.021	ppmV	2.1	9/15/2010
Ethane, 1,1,2,2-tetrachloro-	<0.021	0.021	ppmV	2.1	9/15/2010
Benzene, 1,3-dichloro-	<0.021	0.021	ppmV	2.1	9/15/2010
Benzene, 1,4-dichloro-	<0.021	0.021	ppmV	2.1	9/15/2010
Benzene, 1,2-dichloro-	<0.021	0.021	ppmV	2.1	9/15/2010
Benzene, 1,2,4-trichloro-	<0.021	0.021	ppmV	2.1	9/15/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.021	0.021	ppmV	2.1	9/15/2010

ProVera



Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	9/20/2010
5300 Woodmere Dr. Suite 105				
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

**Sample ID: 10883-003 INFLUENT**

Analyte	Result	Reporting Limit	Units	Dilution Factor	
Chloromethane	<0.027	0.027	ppmV	2.7	9/15/2010
Ethene, chloro-(Vinyl Chloride)	<0.027	0.027	ppmV	2.7	9/15/2010
Methane, bromo-	<0.027	0.027	ppmV	2.7	9/15/2010
Chloroethane	<0.027	0.027	ppmV	2.7	9/15/2010
Trichloromonofluoromethane (Freon 11)	<0.027	0.027	ppmV	2.7	9/15/2010
1,1 Dichloroethene	<0.027	0.027	ppmV	2.7	9/15/2010
Methylene Chloride	<0.027	0.027	ppmV	2.7	9/15/2010
trans 1,2 Dichloroethene	<0.027	0.027	ppmV	2.7	9/15/2010
cis 1,2 dichloroethene	0.046	0.027	ppmV	2.7	9/15/2010
Chloroform (Trichloromethane)	0.161	0.027	ppmV	2.7	9/15/2010
1,1,1 Trichloroethane	<0.027	0.027	ppmV	2.7	9/15/2010
Carbon Tetrachloride	<0.027	0.027	ppmV	2.7	9/15/2010
1,2 Dichloroethane	<0.027	0.027	ppmV	2.7	9/15/2010
Trichloroethylene	0.154	0.027	ppmV	2.7	9/15/2010
Propane, 1,2-dichloro-	<0.027	0.027	ppmV	2.7	9/15/2010
Methane, bromodichloro-	<0.027	0.027	ppmV	2.7	9/15/2010
Ethane, 1,1,2-trichloro-	<0.027	0.027	ppmV	2.7	9/15/2010
Tetrachloroethylene	16.4	0.027	ppmV	2.7	9/15/2010
Methane, dibromochloro-	<0.027	0.027	ppmV	2.7	9/15/2010
Benzene, chloro-	0.105	0.027	ppmV	2.7	9/15/2010
Bromoform (Methane, tribromo-)	<0.027	0.027	ppmV	2.7	9/15/2010
Ethane, 1,1,2,2-tetrachloro-	<0.027	0.027	ppmV	2.7	9/15/2010
Benzene, 1,3-dichloro-	<0.027	0.027	ppmV	2.7	9/15/2010
Benzene, 1,4-dichloro-	<0.027	0.027	ppmV	2.7	9/15/2010
Benzene, 1,2-dichloro-	<0.027	0.027	ppmV	2.7	9/15/2010
Benzene, 1,2,4-trichloro-	<0.027	0.027	ppmV	2.7	9/15/2010
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	<0.027	0.027	ppmV	2.7	9/15/2010

# ProVera



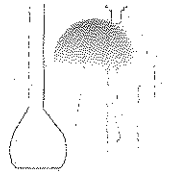
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  Phil Goalwin	Report Date:  Analysis Type:	9/20/2010  EPA Method TO-15
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Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
Propylene	141	ppmV	100	ppmV	141.0%	65-135
Dichlorodifluoromethane (Freon 12)	121	ppmV	100	ppmV	121.0%	65-135
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	94.5	ppmV	100	ppmV	94.5%	65-135
Chloromethane	131	ppmV	100	ppmV	131.0%	65-135
Ethene, chloro-(Vinyl Chloride)	129	ppmV	100	ppmV	129%	65-135
1,3 Butadiene	88.4	ppmV	100	ppmV	88%	65-135
Methane, bromo-	91.2	ppmV	100	ppmV	91.2%	65-135
Chloroethane	90.8	ppmV	100	ppmV	90.8%	65-135
Trichloromonofluoromethane (Freon 11)	111	ppmV	100	ppmV	111.0%	65-135
Isopropyl alcohol	125	ppmV	100	ppmV	125.0%	65-135
Freon 113	124	ppmV	100	ppmV	124.0%	65-135
1,1 Dichloroethene	109	ppmV	100	ppmV	109.0%	65-135
Acetone	84.4	ppmV	100	ppmV	84.4%	65-135
Carbon Disulfide	106.0	ppmV	100	ppmV	106.0%	65-135
Methylene Chloride	122	ppmV	100	ppmV	122.0%	65-135
MTBE (Propane, 2-methoxy-2-methyl-)	117	ppmV	100	ppmV	117.0%	65-135
trans 1,2 Dichloroethene	94.6	ppmV	100	ppmV	94.6%	65-135
n-Hexane	125	ppmV	100	ppmV	125.0%	65-135
Vinyl acetate	121	ppmV	100	ppmV	121%	65-135
Ethane, 1,1-dichloro-	119	ppmV	100	ppmV	119%	65-135
Methyl Ethyl Ketone	77.4	ppmV	100	ppmV	77%	65-135
cis 1,2 dichloroethene	89.6	ppmV	100	ppmV	90%	65-135
Tetrahydrofuran	45.6	ppmV	100	ppmV	45.6%	65-135
Chloroform (Trichloromethane)	101	ppmV	100	ppmV	101.0%	65-135
1,1,1 Trichloroethane	112	ppmV	100	ppmV	112.0%	65-135
Cyclohexane	104	ppmV	100	ppmV	104%	65-135
Carbon Tetrachloride	93.3	ppmV	100	ppmV	93%	65-135
Ethyl Acetate	114	ppmV	100	ppmV	114%	65-135
Benzene	120	ppmV	100	ppmV	120%	65-135
1,2 Dichloroethane	106	ppmV	100	ppmV	106%	65-135

ProVera



Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	LTLW Phil Goalwin	Report Date: Analysis Type:	9/20/2010 EPA Method TO-15
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Sample ID: **Laboratory Control Standard**

Analyte	Result	Units	Analyte Concentration	Units	% Recovery	% Recovery Limits
n-Heptane	133	ppmV	100	ppmV	133%	65-135
Trichloroethylene	104	ppmV	100	ppmV	104%	65-135
Propane, 1,2-dichloro-	95.2	ppmV	100	ppmV	95%	65-135
1,4 Dioxane	140	ppmV	100	ppmV	140.0%	65-135
Methane, bromodichloro-	96.7	ppmV	100	ppmV	97%	65-135
cis-1-Propene, 1,3-dichloro-	91.9	ppmV	100	ppmV	92%	65-135
MIBK (2,4-Pentanedione3-(1-methylethyl)-	84.8	ppmV	100	ppmV	85%	65-135
Toluene	101	ppmV	100	ppmV	101%	65-135
trans-1-Propene, 1,3-dichloro-	116	ppmV	100	ppmV	116%	65-135
Ethane, 1,1,2-trichloro-	115	ppmV	100	ppmV	115.0%	65-135
MBK	107	ppmV	100	ppmV	107%	65-135
Tetrachloroethylene	120	ppmV	100	ppmV	120.0%	65-135
Methane, dibromochloro-	118	ppmV	100	ppmV	118.0%	65-135
Ethane, 1,2-dibromo-	114	ppmV	100	ppmV	114.0%	65-135
Benzene, chloro-	113	ppmV	100	ppmV	113%	65-135
Ethylbenzene	108	ppmV	100	ppmV	108%	65-135
m+p-Xylene	109	ppmV	100	ppmV	109%	65-135
o-Xylene	94.7	ppmV	100	ppmV	95%	65-135
Styrene	95.6	ppmV	100	ppmV	96%	65-135
Bromoform (Methane, tribromo-)	105	ppmV	100	ppmV	105%	65-135
Ethane, 1,1,2,2-tetrachloro-	104	ppmV	100	ppmV	104%	65-135
4-Ethyltoluene	101	ppmV	100	ppmV	101%	65-135
Benzene, 1,3,5-trimethyl-	121	ppmV	100	ppmV	121%	65-135
Benzene, 1,2,4-trimethyl-	119	ppmV	100	ppmV	119.0%	65-135
Benzene, 1,3-dichloro-	116	ppmV	100	ppmV	116.0%	65-135
Benzene, 1,4-dichloro-	115	ppmV	100	ppmV	115.0%	65-135
Benzyl chloride	116	ppmV	100	ppmV	116%	65-135
Benzene, 1,2-dichloro-	121	ppmV	100	ppmV	121%	65-135
Benzene, 1,2,4-trichloro-	114	ppmV	100	ppmV	114%	65-135
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	103	ppmV	100	ppmV	103%	65-135

# **EXHIBIT LL**





October 31, 2012

Mr. Scott Reisch, Partner  
Hogan Lovells US LLP  
One Tabor Center, Suite 1500  
1200 Seventeenth Street  
Denver, CO 80202

Mr. Brooks M. Beard, Esq.  
Morrison & Foerster LLP  
425 Market Street  
San Francisco, CA 94105

**SUBJECT: Third Quarter 2012 Groundwater Monitoring Report and Interim Remediation Status Report**

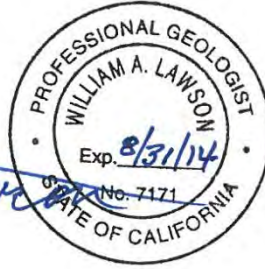
**Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Dear Mssrs. Reisch and Beard:

Pursuant to your request, please find attached the above-captioned Groundwater Monitoring Report (QMR) and Interim Remediation Status Report (IRSR). The document was prepared to comply with the Interim Remedial Action Workplan, which was approved by the State of California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) letter dated September 9, 2009 and on telecommunication with the CRWQCB on September 21, 2012.

If you have any questions, or comments, please call the undersigned, or Phil Goalwin, at 661-831-6906.

Sincerely,  
E2C Remediation



William A. Lawson, P.G. #7171  
Director of Technical Operations

cc: Ms. Lisa Dernbach, C.H.G.  
Senior Engineering Geologist  
CRWQCB – Lahontan Region, South Lake Tahoe Office  
2501 Lake Tahoe Boulevard  
South Lake Tahoe, CA 96150

Mr. Levi Ford  
CEDAQMD  
330 Fair Lane  
Placerville, CA 95667



**THIRD QUARTER 2012 GROUNDWATER MONITORING REPORT AND  
INTERIM REMEDIATION STATUS REPORT**

**Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

**October 31, 2012  
Project Number: 1950BK26**

**Prepared For:**

**Fox Capital Management Corporation  
4582 S. Ulster Street Parkway, Suite 1100  
Denver, CO 80237**

**Seven Springs Limited Partnership  
c/o Christopher Blair  
Vice President  
The Commerce Trust Company  
118 West 47th Street  
Kansas City, MO 64112**

**Prepared By:**

**E2C Remediation  
Environmental/Engineering Consultants  
5300 Woodmere Drive, Suite 105  
Bakersfield, California 93313**

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## **EXECUTIVE SUMMARY**

This report documents Third Quarter 2012 groundwater and shallow soil vapor monitoring activities conducted at the Lake Tahoe Laundry Works (LTLW) facility located at 1024 Lake Tahoe Boulevard in South Lake Tahoe, California (Site). In addition, this report documents on-going interim remediation activities. This work was conducted in accordance with the State of California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) letter, dated September 1, 2009.

### ***Discussion of Monitoring Data***

#### Groundwater Elevation Monitoring

Based on the August 2012 groundwater elevation data, groundwater beneath the Site decreased, in average elevation, approximately 1.09 foot and appeared to flow generally northerly. The northerly flow direction does not appear to match the groundwater chemical data, which, in August 2012, continued to indicate an east-northeast plume migration direction.

#### Groundwater Chemical Conditions Monitoring

PCE in groundwater (dissolved-phase) continued to exhibit overall decreasing trends across the Site with significant reduction in concentrations at LW-MW-1S, LW-MW-2S, LW-MW-5S, LW-MW-9S, and LW-MW-12S. At LW-MW-13S, a slight increasing trend was noted for the Second and Third Quarters 2012; however, the reported concentrations for those two (2) quarters were well below the State Maximum Contaminant Level (MCL) of 5 micrograms per liter ( $\mu\text{g/L}$ ) and represent an overall decreasing trend in that well. The decreasing trends noted have been the direct result of ongoing interim remedial action, specifically from the focused action in the area of LW-MW-1S, LW-MW-2S and LW-MW-5S.

In the far off-site area, at OS-1, PCE has exhibited fluctuating concentration trends dependent upon season, increasing in winter-spring months, decreasing in summer-fall months.

#### Shallow Soil Vapor Monitoring

Concentrations of VOCs were reported in vapor samples from all vapor point monitoring wells (VP wells) at lower to moderate concentrations, except VP-3 and VP-4, which were reported as non-detect) and VP-2, which was reported to contain a somewhat elevated concentration that has exhibited an increasing trend since September 2011. Vapor concentration changes reflect the effects of the groundwater air sparging system in the Source Area (area of LW-MW-1S and LW-MW-2S).

### ***Discussion of Interim Remediation Data***

Based on laboratory-derived vapor influent concentrations and incremental running time, approximately 851.5 pounds (lbs) of VOC mass have been removed via the interim remedial system operations from system startup (April 9, 2010) to September 28, 2012.

Operation and maintenance visits are conducted on a weekly basis. During each visit, the system is optimized to affect the areas showing the highest degree of residual impact.

On September 13, 2012, the influent was 'zero', as determined in the analytical laboratory. This suggests that SVE combined with air sparging may have reached its limit of effectiveness for removal of dissolved-phase VOCs. Additional remedial measures appear to be necessary to enhance degradation/removal of dissolved-phase VOCs.

### **Conclusions**

Based on the monitoring data collected to date, the following conclusions can be made:

- Groundwater elevation data indicate that flow beneath the Site at the time of the August 2012 monitoring event was generally northerly;
- The groundwater table elevation decreased an average of 1.09 feet since June 2012;
- Based on August 2012 groundwater analytical data, VOC plume migration under the Site appeared to be east-northeasterly, which was generally consistent with the historically interpreted easterly plume migration direction;
- Since start of site interim remedial operations, dissolved-phase PCE concentrations have exhibited significant overall decreasing trends;
- During each site operation and maintenance visit, the vapor extraction wellfield was optimized to affect the areas showing the greatest degree of impact, with specific focus from the Third Quarter 2011 to the Third Quarter 2012 in the areas of LW-MW-1S and LW-MW-2S. In the Second and Third Quarters 2012, the system was optimized and the focused area expanded to include the area of LW-MW-5S;
- Since startup of the Interim Remediation system, approximately 851.5 lbs of VOC mass has been removed from the subsurface;
- On September 13, 2012, influent to the Interim Remediation system was 'zero' (non-detect), as derived at the analytical laboratory. This indicates that additional remedial measures will be needed to assist in removal of subsurface VOCs; and
- Future monitoring should continue for evaluation of dissolved-phase and shallow soil-vapor concentration trends at the Site during the interim remedial operations.

### **Recommendations**

Based on the above conclusions, E<sub>2</sub>C recommends the following:

- Supplement the existing soil vapor extraction/air sparging system to attempt to achieve further concentration reduction of subsurface VOCs. E<sub>2</sub>C recommends using 'pulsed' ozone sparging as the mechanism (Workplan included in report);
- Continue to optimize the vapor extraction system and air sparging system to focus on removal of vadose zone and groundwater contaminants in the areas showing the greatest degree of residual impact;
- Continue interim remedial system operation in accordance with the Interim Remedial Action Work Plan (IRAWP) until the Draft Final Remedial Action Plan has been reviewed and approved for final by the CRWQCB; and



- Continue groundwater and soil vapor monitoring and status reporting in accordance with the approved IRAWP.

#### ***'Pulsed' Ozone Sparging Workplan***

Based on the recommendations made above, and as discussed with the CRWQCB, E<sub>2</sub>C proposes to conduct 'pulsed' ozone sparging to enhance cleanup of VOCs in the subsurface at the Site. Prior to start of the ozone sparging, baseline groundwater samples will be collected from select wells LW-MW-1S, LW-MW-2S, LW-MW-5S and downgradient well LW-MW-13S. The samples will be analyzed for hexavalent chromium. The resultant data will be made available to the CRWQCB prior to ozone sparging operations. Upon approval by the CRWQCB, the first episode of 'pulsed' ozone sparging will be performed for a one (1) week period. The ozone system will then be shut down and approximately three (3) weeks later the Fourth Quarter 2012 groundwater monitoring event (includes post-first episode 'pulsed' ozone sparging monitoring) will be performed. All data will be reported in the Fourth Quarter 2012 status report. Following review and approval of the Fourth Quarter 2012 status report by the CRWQCB, the pulsed ozone sparging will resume on an ongoing basis.

## **1.0 INTRODUCTION**

On behalf of Seven Springs Limited Partnership and Fox Capital Management, E<sub>2</sub>C Remediation is submitting this report documenting groundwater monitoring activities that were conducted in August 2012 at the Lake Tahoe Laundry Works (LTLW) facility located at 1024 Lake Tahoe Boulevard in South Lake Tahoe, California (Site). Third Quarter 2012 groundwater monitoring activities were conducted during ongoing interim soil vapor extraction/groundwater air sparging remedial activity as described in the Interim Remedial Action Work Plan (IRAWP). The IRAWP was submitted to the State of California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) on June 4, 2009. Additionally, an addendum to the IRAWP was submitted to the CRWQCB on August 26, 2009. On September 1, 2009, the CRWQCB approved the IRAWP and its addendum by letter. This combined report documents groundwater monitoring activities and presents the interim remediation status of the Site.

### **1.1 Site Description**

The Site is located approximately 9,000 feet south of Lake Tahoe in the City of South Lake Tahoe, El Dorado County (see Figure 1). The Site is situated in the northwest corner of the South Y Shopping Center, along Lake Tahoe Boulevard between U.S. Highway 50 and Tata Lane and is cross-corner from the dead-end intersection of Glorene Avenue with Lake Tahoe Boulevard (see Figure 2).

### **1.2 Previous Investigations**

Based on a review of previous investigations, it appeared that shallow soils (vadose zone) beneath the Site and shallow groundwater beneath and immediately adjacent to the Site had been impacted by low to moderate concentrations of volatile organic compounds (VOCs), principally tetrachloroethene (a.k.a. tetrachloroethylene or perchloroethene) (PCE) and trichloroethene (a.k.a. trichloroethylene) (TCE). From October 2003 through November 2005, PES Environmental, Inc. (PES) conducted soil and shallow groundwater investigation work (PES, 2003, 2004, 2005 and PES 2006). In August and September 2008, E<sub>2</sub>C Remediation (E<sub>2</sub>C) conducted a site investigation to further evaluate vadose zone and groundwater conditions beneath and adjacent to the Site. The findings of the 2008 investigation were presented in the *Site Investigation Report of Findings* (E<sub>2</sub>C, 2008).

## **2.0 THIRD QUARTER 2012 GROUNDWATER MONITORING**

Third Quarter 2012 groundwater monitoring was conducted on August 21, 2012.

### **2.1 Groundwater Elevation Monitoring**

Initially, depths to groundwater were measured at the eight (8) shallow zone aquifer (SZA) wells (LW-MW-1S, LW-MW-2S, LW-MW-5S and LW-MW-9S through LW-MW-13S) located at the Site and at the one (1) far offsite monitoring well OS-1. Depths to water were measured from a mark placed at the top of each well casing (generally the north side) using a Solinst water level meter recorded to the nearest 0.01-foot (see Appendix A for field data sheets). Depths to groundwater from the site wells were used to calculate the groundwater elevation at each well for generation of a groundwater gradient plot.

### **2.1.1 Groundwater Gradient**

On August 21, 2012, depths to water ranged from 9.37 feet below top of casing (BTOC) (LW-MW-12S) to 13.92 feet BTOC (LW-MW-9S) (see Table 1 for a summary of depth to groundwater data and Table 2 for summary of historical depth to groundwater data). Groundwater elevations decreased an average of 1.09 feet since June 2012 (see Table 2 and Graph 1). Depth to groundwater data were used to calculate the SZA groundwater elevations across the Site (see Figure 3). Based on the groundwater elevation data, the groundwater flow in the SZA beneath the Site at the time of the August 2012 monitoring event was generally northerly.

## **2.2 Groundwater Sampling**

In accordance with the approved IRAWP, groundwater purging and sampling was conducted using low-flow purging and sampling method. At least three well casing volumes of groundwater were removed using the low-flow cell. A casing volume is calculated by multiplying the height of the freestanding water column in the well by the cross-sectional area of the well casing. During purging, groundwater parameters of temperature, pH, and conductivity were measured as water was purged from a well. Once the parameters stabilized groundwater in the monitoring well casing was considered representative of formation groundwater and a sample was collected (see Appendix A for copies of field data sheets).

Each groundwater sample was collected using a clean plastic bailer. Liquid in the bailer was decanted into laboratory supplied glassware consisting of three (3) 40-milliliter volatile organic analysis (VOA) vials. Each VOA was sealed using a tight fitting Teflon®-lined screw cap. Care was taken so that no headspace or bubbles were present in the VOA vials. All samples were labeled and documented on a Chain-of-Custody record immediately after sealing and placed into an iced cooler and maintained at approximately 4° Centigrade for transport to the analytical laboratory.

### **2.2.1 Chemical Analysis of Groundwater Samples**

Groundwater samples collected by E2C were analyzed at ProVera Analytical Laboratories, Inc. of Bakersfield, California (ELAP-Certification #2606) (ProVera) for the following by the appropriate EPA Method (see Appendix B for analytical laboratory report):

- Volatile Organic Compounds, including PCE, TCE and associated PCE and TCE degradation products, using EPA Method 8260b.

Pursuant to a request (email communication, August 2012) from the CRWCB, the CRWQCB collected 'split' samples from wells LW-MW-1S, LW-MW-2S and LW-MW-5S. The CRWQCB sent their samples to a laboratory of their choosing for laboratory analysis and provided E2C copies of laboratory analytical results. As a quality assurance check, E<sub>2</sub>C also collected spilt samples from those three wells and sent them for analysis at a third analytical laboratory, California Laboratory Services of Rancho Cordova, California (CLS) (ELAP Certification #1233). 'Split' samples were analyzed for the following:

- Volatile Organic Compounds, including PCE, TCE and associated PCE and TCE degradation products, using EPA Method 8260b.

### **2.2.2 Summary of Groundwater Analytical Results**

The reported results are summarized as follows (see Table 1 for summary of current data and Table 3 for summary of historical data):

#### Site Wells

- For all samples, including ‘split’ samples, PCE was reported at all site monitoring wells, except LW-MW-9S, at concentrations ranging from a low of 2.02 micrograms per liter ( $\mu\text{g/L}$ ) (LW-MW-10S) to a high of 44.1  $\mu\text{g/L}$  (LW-MW-2S) (48  $\mu\text{g/L}$  in CLS ‘split’ and 20.8  $\mu\text{g/L}$  in CRWQCB ‘split’) (see Figure 4);
- For all samples, including ‘splits’, TCE was reported at only one (1) well, LW-MW-2S, at concentrations of 3.22  $\mu\text{g/L}$  (ProVera), 2.70  $\mu\text{g/L}$  (CLS ‘split’) and 2.30  $\mu\text{g/L}$  (CRWQCB ‘split’) (see Figure 5);
- For all samples, including ‘splits’, cis-1,2-DCE was reported at only one (1) well, LW-MW-2S, at concentrations of 1.67  $\mu\text{g/L}$  (ProVera), 1.20  $\mu\text{g/L}$  (CLS ‘split’) and 1.10  $\mu\text{g/L}$  (CRWQCB ‘split’) (see Figure 6);
- Chloroform was reported at two (2) wells (LW-MW-10S and LW-MW-11S) at concentrations of 4.45  $\mu\text{g/L}$  and 3.97  $\mu\text{g/L}$ , respectively (ProVera samples); and
- All other VOCs were reported as non-detect.

#### Off-Site Well OS-1

- PCE was reported at a concentration of 6.3  $\mu\text{g/L}$ ; and
- All other VOCs were reported as non-detect at their respective detection limits.

### **2.2.3 Quality Control Samples**

The ‘split’ samples (CLS and CRWQCB) collected from LW-MW-1S, LW-MW-2S and LW-MW-5S were reported to contain concentrations of VOCs that were within acceptable ranges as compared to the primary sample (ProVera sample) from those wells. The trip blank was reported as non-detect for all of the COCs at their respective MRLs. In addition, the laboratory control samples all had recoveries within acceptable ranges. These results indicate that the analytical data are usable and are of adequate quality and reproducibility to satisfy data validity requirements.

### **2.2.4 Electronic Submittal of Data to GeoTracker Database**

Groundwater monitoring data (elevation and ProVera and CLS chemical) have been uploaded to the State GeoTracker database. A copy of this report has also been uploaded (see Appendix G for copies of recent upload confirmation reports). Any upload not documented in this status report will be documented in the next status report. Note: It is assumed that the CRWQCB will upload its ‘split’ analytical data to the GeoTracker database.

## **2.3 Shallow Soil-Vapor Sampling**

On September 13, 2012, shallow soil-vapor samples were collected from all ten (10) Vapor Point monitoring wells (VP wells). Shallow soil-vapor samples were collected from the VP wells in accordance with soil-gas monitoring procedures outlined in Appendix A of the IRAWP (E<sub>2</sub>C, 2009a) (copy included as Appendix E).

### **2.3.1 Summary of Shallow Soil-Vapor Data**

Shallow soil-vapor analytical data are summarized in Tables 4A and 4B, Figure 7 and as follows:

- High concentrations of VOCs were reported in the vapor sample from VP-2;
- Slightly elevated concentrations were reported in vapor samples from VP-9 and VP-10;
- Low concentrations of VOCs were reported in vapor samples from VP wells VP-1, VP-5, VP-6, and VP-7; and
- VOCs were reported as non-detect in vapor samples from VP-3 and VP-4.

### **2.4 Discussion of Monitoring Data**

#### Groundwater Elevation Monitoring

Based on the August 2012 groundwater elevation data, groundwater beneath the Site decreased in average elevation approximately 1.09 (see Graph 1) and appeared to flow generally northerly. The northerly flow direction does not appear to match the groundwater chemical data, which, in August 2012, continued to indicate an east-northeast plume migration direction.

#### Groundwater Chemical Conditions Monitoring

PCE in groundwater (dissolved-phase) continued to exhibit overall decreasing trends across the Site with significant reduction in concentrations at LW-MW-1S, LW-MW-2S and LW-MW-5S (see Table 3 and Graphs 2 through 8). At LW-MW-13S, a slight increasing trend was noted for the Second and Third Quarters 2012; however, the reported concentrations for those two (2) quarters were well below the State MCL of 5 µg/L and an overall decreasing trend is observed in that well. The decreasing trends noted have been the direct result of ongoing interim remedial action, specifically from the focused action in the area of LW-MW-1S, LW-MW-2S and LW-MW-5S.

In the far off-site area, at OS-1, PCE has exhibited fluctuating concentration trends dependent upon season, increasing in winter-spring months, decreasing in summer-fall months (see Table 3).

#### Shallow Soil Vapor Monitoring

Concentrations of VOCs were reported in vapor samples from all VP wells (except VP-3 and VP-4, which were non-detect) at low to slightly elevated concentrations, except at VP-2, which was reported to contain a somewhat elevated concentration that exhibited an increasing trend since September 2011 (see Table 4A). Concentration changes reflect the effects of the groundwater air sparging system in the Source Area (area of LW-MW-1S and LW-MW-2S) (see Figure 8 for well locations).

## **3.0 INTERIM REMEDIATION STATUS**

In accordance with the CRWQCB approved IRAWP, an Interim Remedial Action system was installed at the Site. The system uses soil vapor extraction (SVE) combined with groundwater air sparging (GAS) (SVE/GASS). On April 6, 2010 the SVE/GASS commenced operation with the start of the 60-day system pilot test. Operation of the SVE/GASS Pilot Test was documented in the report, *Interim Remedial System Installation/Pilot Testing Report of Findings and Draft Remedial Action Plan for Vadose*

Zone Soil and Shallow Groundwater Cleanup, Lake Tahoe Laundry Works, 1024 Lake Tahoe Boulevard, South Lake Tahoe, California' (IRSI/PTROF/DRAP). Pursuant to the approved IRAWP and Addendum to IRAWP, the system was left operational pending review, approval and implementation of the IRSI/PTROF/DRAP.

### **3.1 Interim Remedial System Operations**

The SVE/GASS has operated almost continuously since the end of the Pilot Test period. See Table 6 for system operational data. The Site is visited generally on a weekly basis to record system operating parameters and to measure vapor influent, mid-fluent and effluent. Additionally, vapor samples were collected periodically for laboratory analyses.

#### **3.1.1 Remedial System Focusing**

The remediation system vapor extraction wells were optimized during each visit to maximize removal of subsurface contaminants (see Table 7 for SVE wellfield configurations). Specific well-head configurations since the focus effort commenced are summarized following (see Figure 8 for well locations):

##### April 18, 2012 - May 1, 2012

- All HVE wells were fully opened from 25% open to focus on the Source Area and areas near and adjacent to LW-MW-1S and LW-MW-2S;
- VES-1, VES-2, and VES-3 were partially open to focus on Source Area and VES-5 (located between LW-MW-5S and LW-MW-11S) and VES-6 (located downgradient of LW-MW-11S) were partially open to focus on area immediately downgradient of the Source Area;
- VES-4 (located generally centrally between LW-MW-5S, LW-MW-9S and LW-MW-11S) was fully open to focus on area immediately downgradient of the Source Area;
- All VED wells (VED-1 through VED-20) were closed due to high water table;
- VES-7 through VES-10 and VES-14 through VES-16 were fully open to focus on area near LW-MW-13S. VES-11 and VES-12 were fully open to focus on area of LW-MW-5S. VES-17 and VES-18 were partially open and VES-19 and VES-20 were fully open to focus on area along the north side of the building along the southern edge of the Source Area; and
- VES-13 was partially open to focus on area between LW-MW-2S and LW-MW-5S (VES-13 is located approximately half-way between LW-MW-2S and LW-MW-5S).

##### May 8-23, 2012

- All HVE wells fully opened to focus on Source Area;
- VES-6 through VES-10 were closed;
- VES-11 and VES-12 were left open to focus on area around LW-MW-5S;
- VES-13 remained partially open to focus on area between LW-MW-2S and LW-MW-5S; and
- VES-19 and VES-20 were left open to focus on area along north side of building adjacent to the Source Area.

May 30, 2012

- Wellhead configuration remained same with exception of the following: VES-5 was closed (located near LW-MW-11S);
- VES-7 and VES-9 were opened fully (located approximately two-thirds of way between LW-MW-5S and LW-MW-13S);
- VES-10 (located half-way between LW-MW-5S and LW-MW-13S) and VES-11 (located just downgradient of LW-MW-5S) were opened fully;
- VES-14 (located adjacent to LW-MW-13S) was opened fully;
- VES-15 (located between LW-MW-11S and LW-MW-13S) was opened fully;
- VES-16 (located adjacent to LW-MW-11S) was opened fully; and
- VES-17 (located upgradient of LW-MW-11S) was closed.

June 8-21, 2012

Wellhead configuration remained the same

June 27, 2012 – July 26, 2012

HVE wells 5 and 6 were closed;

VES-1 and VES-2 (located between LW-MW-1S and LW-MW-2S) were fully opened to focus on area between LW-MW-1S and LW-MW-2S;

VES-3 through VES-10 were closed;

VES-11 and VES-12 (both adjacent to LW-MW-5S) remained fully open to focus on that area;

VES-13 (located between LW-MW-2S and LW-MW-5S), which had been partially open, was fully opened; and

VES-18, VES-19 and VES-20 (wells along north edge of building) were closed.

August 1, 2012

- VED wells VED-1, VED-2, VED-8, VED-9, VED-11, VED-12 and VED-13 were partially opened due to a lowering water table for focus in the area between LW-MW-1S, LW-MW-2S and LW-MW-5S;
- VES-8 was partially opened to focus on area of LW-MW-13S; and
- The other wellhead configurations remained the same.

August 8, 2012 – August 21, 2012;

- During this period, VED-1, VED-2 and VED-13 were opened 50% (with a lowered water table) to focus on the area between LW-MW-1S and LW-MW-2S;
- VES-8, VED-8 and VED-9 were opened 50% to focus on the area of the downgradient well LW-MW-13S; and
- VED-11 and VED-12 were opened 50% to combine with VES-11 (fully open) and VES-12 (fully open) to focus on area of LW-MW-5S.

August 28, 2012 – September 28, 2012

VES-8 and VED-9 were closed, otherwise the well-head configuration remained the same. This configuration consisting of HVE-1 through HVE-4 (fully open), VES-1, and VES-2 fully open, VED-1 and VED-2 50% open, VES-11 through VES-13 fully open,

and VED-11 through VED-13 50% open has provided for the optimal removal of subsurface VOCs from the area of LW-MW-1S, LW-MW-2S and the area of LW-MW-5S.

### **3.1.2 System Focusing Conclusions**

The results of the vapor extraction wellhead focusing have been highly effective, as indicated by the significant reductions in dissolved-phase VOCs at well LW-MW -1S (see Graph 2), near- well LW-MW-2S (see Graph 3), the area of downgradient wells LW-MW-5S (see Graph 4), LW-MW-9S (see Graph 5) and LW-MW-11S (see Graph7), and reduction of dissolved-phase VOCs and migration control in the area of LW-MW-13S (see Graph 9), the downgradient sentinel well. In addition, the focusing effort has captured and reduced dissolved-phase VOCs in the upgradient wells LW-MW-10S (see Graph 6) and LW-MW-12S (see Graph 8).

### **3.2 System Vapor Sampling & CEDAQMD Compliance**

During each site visit, vapor influent (pre-carbon), mid-fluent (sampling point between the two carbon units) and effluent (sampling point after the second carbon unit) were measured using a field instrument. These data were recorded on field data sheets. The data are summarized in Table 6. Vapor samples for laboratory analyses were collected via Summa canisters and were transported under Chain-of-Custody to ProVera for analyses as follows:

- PCE, TCE and associated PCE and TCE degradation products and other volatile organic compounds (VOCs) using Modified EPA Method TO-15.

See Table 8 for summary of current and historical laboratory vapor analytical data. See Appendix G for copies of analytical laboratory interim remediation system operations laboratory vapor analytical reports.

#### **3.2.1 VOC Mass Removal**

Laboratory analytical data have been used to estimate the VOC mass removed during SVE/GASS operations (see Table 6). Mass removal calculations are provided for PCE, TCE and cis-1,2-DCE, as each has a significantly different molecular weight (PCE at 165.82 grams per mole (g/mol); TCE at 131.39 g/mol; and cis-1,2-DCE at 96.95 g/mol). 1,1,1-Trichloroethane has also been reported in vapor; however, it has been included in the cis-1,2-DCE calculation as its molecular weight is virtually the same as cis-1,2-DCE. Note: Low concentrations of fuel hydrocarbon compounds have also been reported in influent vapor samples. These concentrations have been included in the 'Total VOC' category for mass removal calculation purposes.

Based on laboratory-derived vapor influent concentrations and incremental running time, approximately 851.5 pounds (lbs) of VOC mass has been removed via the SVE/GASS operations from system startup (April 9, 2010) to September 28, 2012 (see Table 6). Note: Between system influent sampling events, the average of the prior and subsequent laboratory-derived data has been used in the calculations.

Note: On September 13, 2012, the influent was 'zero', as determined in the analytical laboratory (see Table 6). This suggests that SVE combined with air sparging may have reached its limit of effectiveness for removal of dissolved-phase VOCs. Additional mechanisms appear to be needed to enhance degradation/removal of dissolved-phase VOCs.



### 3.2.2 CEDAQMD Compliance

Laboratory analytical data are also used to evaluate compliance with the County of El Dorado Air Quality Management District (CEDAQMD) Permit To Operate (PTO). Based on PTO conditions, the total daily emissions to atmosphere cannot exceed 9.9 lbs/day. This would equate to discharge to atmosphere (discharge after the second carbon unit) of greater than 30 ppmV of PCE, the compound with the highest atomic mass (165.82 pound per pound-mole (lb/lb-mol)) (equivalent to grams per mole (g/mol); TCE and cis-1,2-DCE have atomic masses of 131.39 g/mol and 95.95 g/mol, respectively). The formula for calculating the potential influent to achieve 9.9 lbs/day is:

$$9.9 \text{ (lbs/day)} = \text{Effluent (ppmV)} \times 10^{-6} \times \text{Influent Flow Rate (scfm)} \times 1 \text{ lb-mole/379.5 ft}^3 \times 165.82 \text{ (lb/lb-mole) (PCE mass)} \times 60 \text{ (min/hour)} \times 24 \text{ hours/day}$$

System vapor data are summarized in Table 8. Although minor breakthrough of the second carbon unit had previously occurred, the discharge to atmosphere remained in compliance with the PTO conditions. Note: To maximize the carbon utilization, E<sub>2</sub>C periodically "bumps" the carbon by reversing the flow in the carbon canisters. This helps to minimize channeling, or reduce preferential flow pathways through the carbon. Replacement carbon was installed at the end of November 2011. Ongoing compliance with the PTO since system startup has been demonstrated by the reported non-detect, or detection of only very low concentrations, of VOCs at the effluent vapor sample point (see Table 8).

Pursuant to a request from the CEDAQMD (oral communication August 2012), the Second Quarter 2012 status report was emailed to the CEDAQMD. That report contained the historical interim remedial action system operational data to comply with the CEDAQMD annual inspection requirements. The CEDAQMD will also require submittal of future quarterly status reports to that Agency.

## 4.0 CONCLUSIONS

Based on the monitoring data collected to date, the following conclusions can be made:

- Groundwater elevation data indicate that flow beneath the Site at the time of the August 2012 monitoring event was generally northerly;
- The groundwater table elevation decreased an average of 1.09 feet since June 2012;
- Based on August 2012 groundwater analytical data, VOC plume migration under the Site appeared to be east-northeasterly, which was generally consistent with the historically interpreted easterly plume migration direction;
- Since start of site interim remedial operations, dissolved-phase PCE concentrations have exhibited significant overall decreasing trends;
- During each site operation and maintenance visit, the vapor extraction wellfield was optimized to affect the areas showing the greatest degree of impact, with specific focus from the Third Quarter 2011 to the Third Quarter 2012 in the areas of LW-MW-1S and LW-MW-2S. In the Second and Third Quarters 2012, the system was optimized and expanded to include the area of LW-MW-5S;

- Since startup of the Interim Remediation system, approximately 851.5 lbs of VOC mass has been removed from the subsurface;
- On September 13, 2012, influent to the Interim Remediation system was 'zero' (non-detect), as derived at the analytical laboratory. This indicates that additional remedial measures will be needed to assist the system in removal of subsurface VOCs; and
- Future monitoring should continue for evaluation of dissolved-phase and shallow soil-vapor concentration trends at the Site during the interim and final remedial operations.

## **5.0 RECOMMENDATIONS**

Based on the above conclusions, E<sub>2</sub>C recommends the following:

- Supplement the existing soil vapor extraction/air sparging system to attempt to assist in cleanup of subsurface VOCs. E<sub>2</sub>C recommends using 'pulsed' ozone sparging as the mechanism (Workplan included below);
- Continue to optimize the vapor extraction system and air sparging system to focus on removal of vadose zone and groundwater contaminants in the areas showing the greatest degree of residual impact;
- Continue interim remedial system operation in accordance with the Interim Remedial Action Work Plan (IRAWP) until the Draft Final Remedial Action Plan has been reviewed and approved for final by the CRWQCB; and
- Continue groundwater and soil vapor monitoring and status reporting in accordance with the approved IRAWP.

## **6.0 WORKPLAN TO IMPLEMENT PULSED OZONE SPARGING**

E<sub>2</sub>C proposes to conduct 'pulsed' ozone sparging to enhance the remediation of VOCs in the area encompassed by wells LW-MW-1S, LW-MW-2S, and LW-MW-5S.

The following tasks will be conducted:

- Task 1 Baseline Groundwater Monitoring (pre-Ozone Sparging)
- Task 2 Baseline Monitoring Reporting
- Task 3 First Episode 'Pulsed' Ozone Sparging Operations
- Task 4 Post-Ozone Sparging Operations Groundwater Monitoring
- Task 5 Status Reporting
- Task 6 Ongoing 'Pulsed Ozone Sparging

### **6.1 Task 1 – Baseline Groundwater Monitoring**

Prior to startup of the ozone sparging system, groundwater samples will be collected from wells LW-MW-1S, LW-MW-2S, LW-MW-5S and downgradient well LW-MW-13S. Groundwater purging and sample collection will be performed in the same manner as detailed above in Section 2.2.

### **6.1.1 Subtask 1a – Baseline Chemical Analyses**

The baseline groundwater samples will be chemically analyzed for VOCs using EPA Method 8260b at ProVera and for hexavalent chromium using EPA Method 218.6 at CLS.

### **6.2 Task 2 – Baseline Groundwater Monitoring Reporting**

Upon receipt of the baseline analytical results, the CRWQCB will be notified of the results via electronic communication.

### **6.3 Task 3 – Mobilize Ozone unit and Connect to Sparge Well Manifolding**

The portable ozone unit will be mobilized to the Site, set within the site equipment building and will be connected to the air sparge manifold system, such that ozone sparging can be accomplished through AS wells located in the area encompassed by wells LW-MW-1S, LW-MW-2S and LW-MW-5S.

#### **6.3.1 Subtask 3b - Utility Requirements**

The electrical requirement of the ozone sparge system is single phase, 220 volt, 50-amp service. Power to operate the system is already in place at the Site and no additional service will be required.

#### **6.3.2 Ozone Sparge System Startup & Shakedown**

Ozone sparging will be conducted using a ‘pulsing’ method consisting of one (1) week on three (3) weeks off. After the initial pulsing episode, groundwater samples will be collected from all site monitoring wells.

The ‘pulsing’ method will help minimize the possible creation of undesirable byproducts. Prior to the initiation of cyclic operation of the ozone sparge system, system startup and shakedown procedures will be conducted to verify that the system is operating safely and effectively. The system will first be started and the sparge line connections and exposed fittings on the equipment and at the manifold will be checked using a portable ozone detector for leaks. The ozone detector will also be routinely used to check for leaks at the system compound. If leaks are found, they will be repaired prior to commencing the ‘pulsing’ episode.

Note; During the ‘pulsed’ sparging operations the soil vapor extraction operation will continue, as well as groundwater air sparging at wells other than the select four (4) wells. Also, during the three-week ozone sparging off period prior to the Fourth Quarter 2012 groundwater monitoring event, which includes first episode post-‘pulsed’ sparging monitoring, the soil vapor extraction system and groundwater air sparging system will be operated to focus on the areas with wells showing the highest concentrations of dissolved-phase VOCs, as is the current regimen.

### **6.4 First Episode Post-Ozone Sparging Groundwater Monitoring**

Approximately three (3) weeks after shut-down of the first ozone sparging episode, groundwater samples will be collected from all site monitoring wells as part of the Fourth Quarter 2012 groundwater monitoring event. Groundwater monitoring and groundwater sample collection will be conducted in the same manner as outlined above in Sections 2.1 and 2.2.

Groundwater samples will be chemically analyzed as follows:

- All samples for VOCs using EPA Method 8260b at ProVera; and
- Samples from LW-MW-1S, LW-MW-2S, LW-MW-5S and LW-MW-13S for hexavalent chromium using EPA Method 218.6 at CLS.

### **6.5 Task 5 – First ‘Pulsing’ Episode Post-Ozone Sparging Report**

Upon receipt of the groundwater analytical data from Section 6.4 above, the data (includes baseline monitoring data) from system operation and the analytical data will be documented in the Fourth Quarter 2012 status report.

### **6.6 Task 6 – Ongoing ‘Pulsed’ Ozone Sparging**

After the CRWQCB reviews the Fourth Quarter 2012 status report and approves continuous ‘pulsed’ sparging operations, the ozone sparging will commence on a cyclic basis, operating for one week then being off for two (2) weeks.

Note: Should baseline and/or post-first ozone sparging episode data indicate that hexavalent chromium may be a problem, recommendation will be made to modify this Workplan.

#### **6.6.1 Subtask 5a – Ozone Sparge System Operation and Maintenance**

E<sub>2</sub>C professional staff, experienced in ozone sparge technology, will conduct bi-weekly (approximately 2X per month, or as warranted by site conditions and system operating parameters) O&M of the ozone sparge equipment to achieve efficient remediation of the Site. Equipment operating parameters will be monitored and documented by E<sub>2</sub>C during the on-site inspections. The operation and maintenance of the system is to include all materials and supplies necessary to conduct normal operational activities such as field screening, systems checks and adjustments, and regular lubrication and maintenance. The ozone sparge system is designed to allow for individual sparge well adjustments for flow volume, injection duration, and ozone concentration.

## **7.0 QUALITY ASSURANCE PLAN**

Field and analytical quality-assurance procedures outlined in the IRAWP will be adhered to during implementation of this Workplan.

### **7.1 Sample Collection and Handling Protocol**

Proper sample collection and handling are essential to assure quality of data obtained from a sample. Each sample, therefore, will be collected in the appropriate clean container, preserved correctly for the intended analysis, and stored for no longer than the specified holding time prior to analysis.

### **7.2 Protocol for Sample Identification and Chain-of-Custody Documentation**

Sample identification and Chain-of-Custody procedures are designed to assure sample quality and to document sample possession from the time it is collected to the time of its ultimate disposal. The container for each sample submitted for analysis will have a label affixed with the identifying number or the number will be inscribed directly on the container. The analytical laboratory will assign a separate sample number unique to that sample for internal sample coordination and identification. A description of the

sample including the sample number and other pertinent information regarding its collection and/or significance will be written in field notes by the on-site technician. These field documents will be kept in a permanent project file. All samples will be analyzed by a state certified laboratory for the analyses requested.

A properly completed Chain-of-Custody Form will be submitted to the analytical laboratory along with sample. The laboratory's assigned number will be properly entered on the form. A quality control officer at the lab will verify integrity of submitted sample; proper sample volume, correctness of containers used, and properly executed Chain-of-Custody form. Pertinent information will be entered into a logbook kept by the laboratory.

### **7.3 Analytical Quality Assurance**

In addition to routine calibration of analytical instruments with standards and blanks, the analyst is required to run duplicates and spikes on 10 percent of analyses to assure an added measure of reliability and precision. Accuracy is verified through the following:

1. U.S. EPA and State certification of results;
2. Participation in inter-laboratory round robin program;
3. The quality control officer on a weekly basis submits "Blind" samples for analysis. These are prepared from National Bureau of Standards specifications of EPA reference standards; and
4. Verification of results with an alternative method.

## **8.0 SCHEDULING**

E<sub>2</sub>C will mobilize to the Site and collect the baseline groundwater samples upon approval of this Workplan. The baseline samples will be chemically analyzed on a fast turn-a-round. Once the results are obtained, they will be provided to the CRWQCB with recommendation to commence the first episode of the 'pulsed' ozone sparging (includes operation of interim remediation system during the ozone sparging period). After one (1) week of ozone sparging, the ozone unit will be shut down and the soil vapor extraction and groundwater air sparging system will operate with focus in the high-concentration areas. After approximately three (3) weeks, the Fourth Quarter 2012 groundwater monitoring event will be conducted, which includes post-first episode ozone sparging monitoring. All data will then be documented in the Fourth Quarter 2012 status report. Following review and approval of the Fourth Quarter 2012 status report by the CRWQCB, pulsed ozone sparging will resume on an ongoing basis.

## 9.0 LIMITATIONS AND CERTIFICATION

E<sub>2</sub>C has performed this investigation in accordance with generally accepted standards of care existing in California at this time. It should be recognized that definition and evaluation of geologic conditions is a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with limited knowledge of subsurface conditions present. No warranty expressed or implied is made.

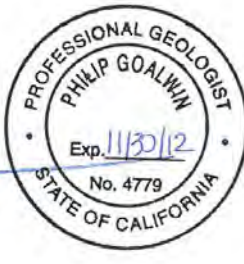
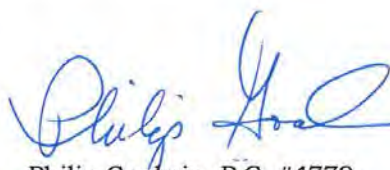
This combined Report/Workplan has been prepared under the professional supervision of the registered professionals whose seals and signatures appear herein. The proposed site monitoring and remediation tasks in this Report are based solely on the Scope of Services outlined and the sources of information referenced in this report. Any additional information that becomes available concerning the Site should be submitted to E<sub>2</sub>C so that our conclusions may be reviewed and modified, if necessary. This Report was prepared for the sole use of Seven Springs Limited Partnership, Fox Capital Management, and/or their agent(s), the CRWQCB and the CEDEMD.

Prepared By:



William A. Lawson, P.G. #7171  
Director of Technical Operations

Reviewed By:



Philip Goalwin, P.G. #4779  
Principal Geologist

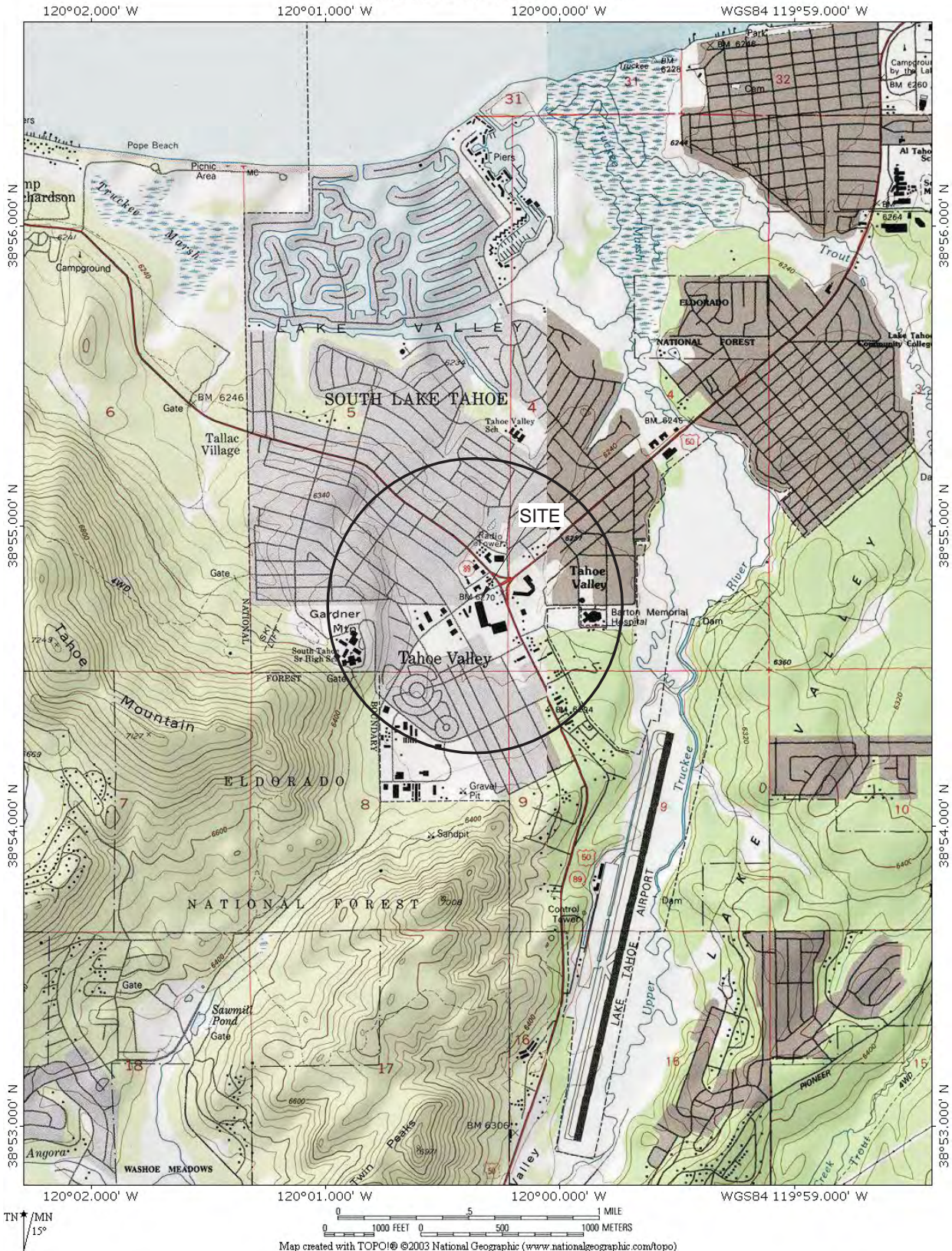
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## **FIGURES**

- Figure 1 Site Location Map
- Figure 2 Site Plan
- Figure 3 Third Quarter 2012 Groundwater Gradient Plot
- Figure 4 Third Quarter 2012 Dissolved-Phase PCE Distribution Plot
- Figure 5 Third Quarter 2012 Dissolved-Phase TCE Distribution Plot
- Figure 6 Third Quarter 2012 Dissolved-Phase cis-1,2-DCE Distribution Plot
- Figure 7 Third Quarter 2012 Shallow Soil-Vapor Distribution Plot
- Figure 8 Remediation Well Location Plot





**E<sub>2</sub>C Remediation**

5300 Woodmere Dr., Suite 105  
Bakersfield, CA 93313

Phone: (661) 831-6906  
Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**SITE LOCATION MAP**

**FIGURE**

**1**

**LEGEND**

☒ Approximate Location of  
Groundwater Monitoring Well  
LW-MW-1S



NOT TO SCALE



*E<sub>2</sub>C Remediation*

5300 Woodmere Dr., Suite 105  
Bakersfield, CA 93313

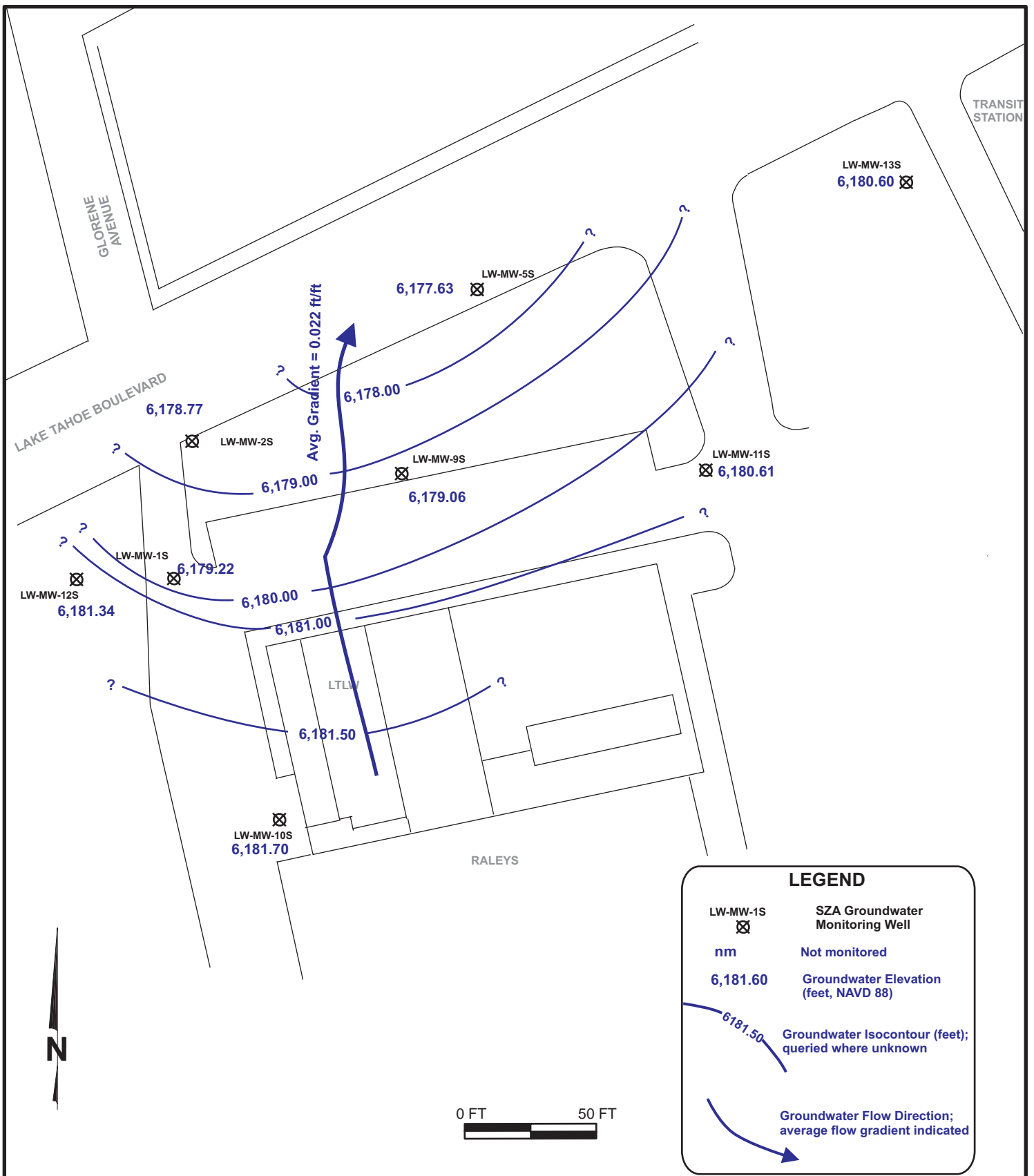
Phone: (661) 831-6906  
Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**SITE PLAN**

**FIGURE**

**2**



**E<sub>2</sub>C Remediation**

5300 Woodmere Dr., Suite 105  
Bakersfield, CA 93313

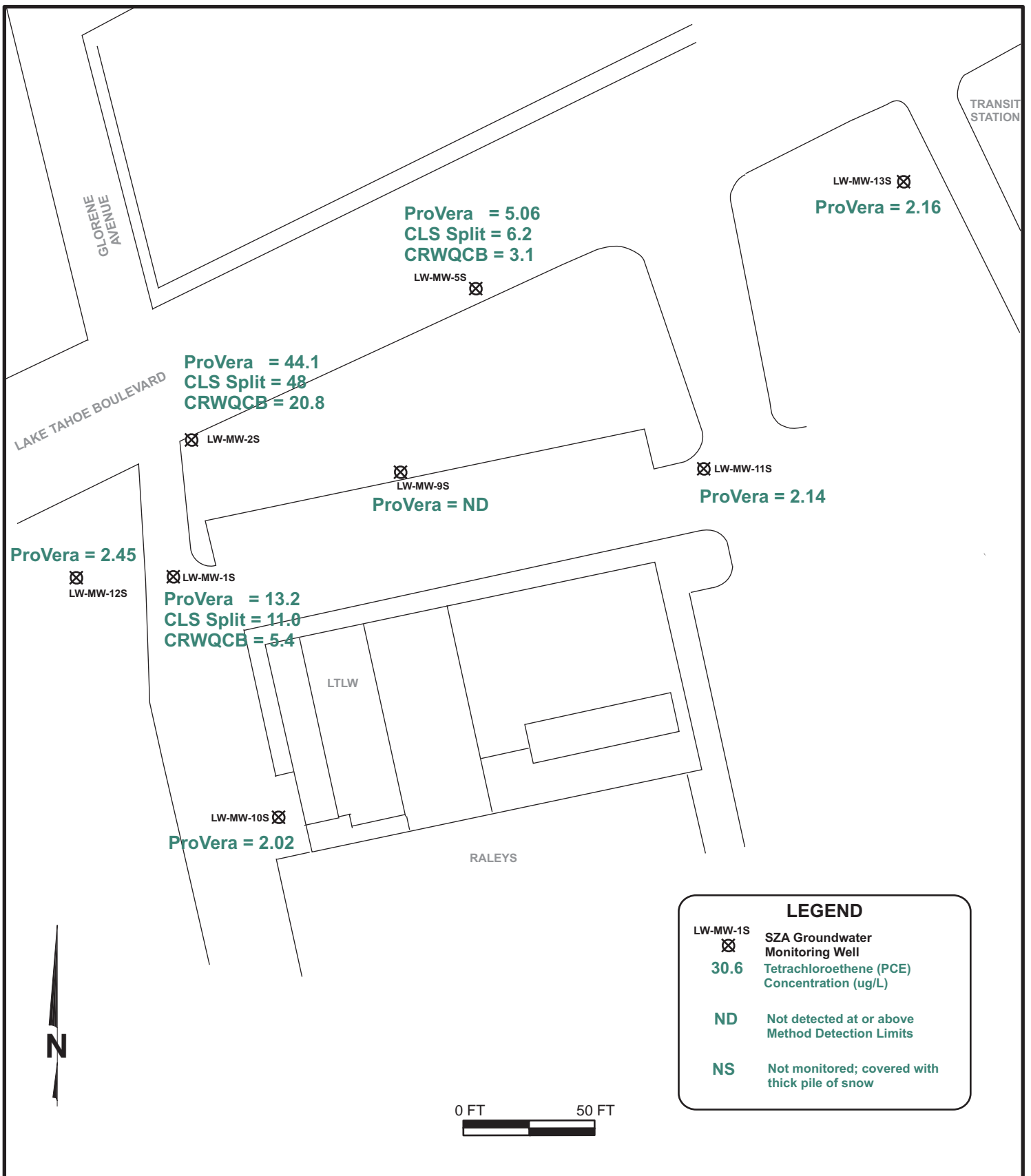
Phone: (661) 831-6906  
Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS**  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA

**THIRD QUARTER 2012**  
**GROUNDWATER GRADIENT PLOT**

**FIGURE**

**3**



**E<sub>2</sub>C Remediation**

5300 Woodmere Dr., Suite 105  
Bakersfield, CA 93313

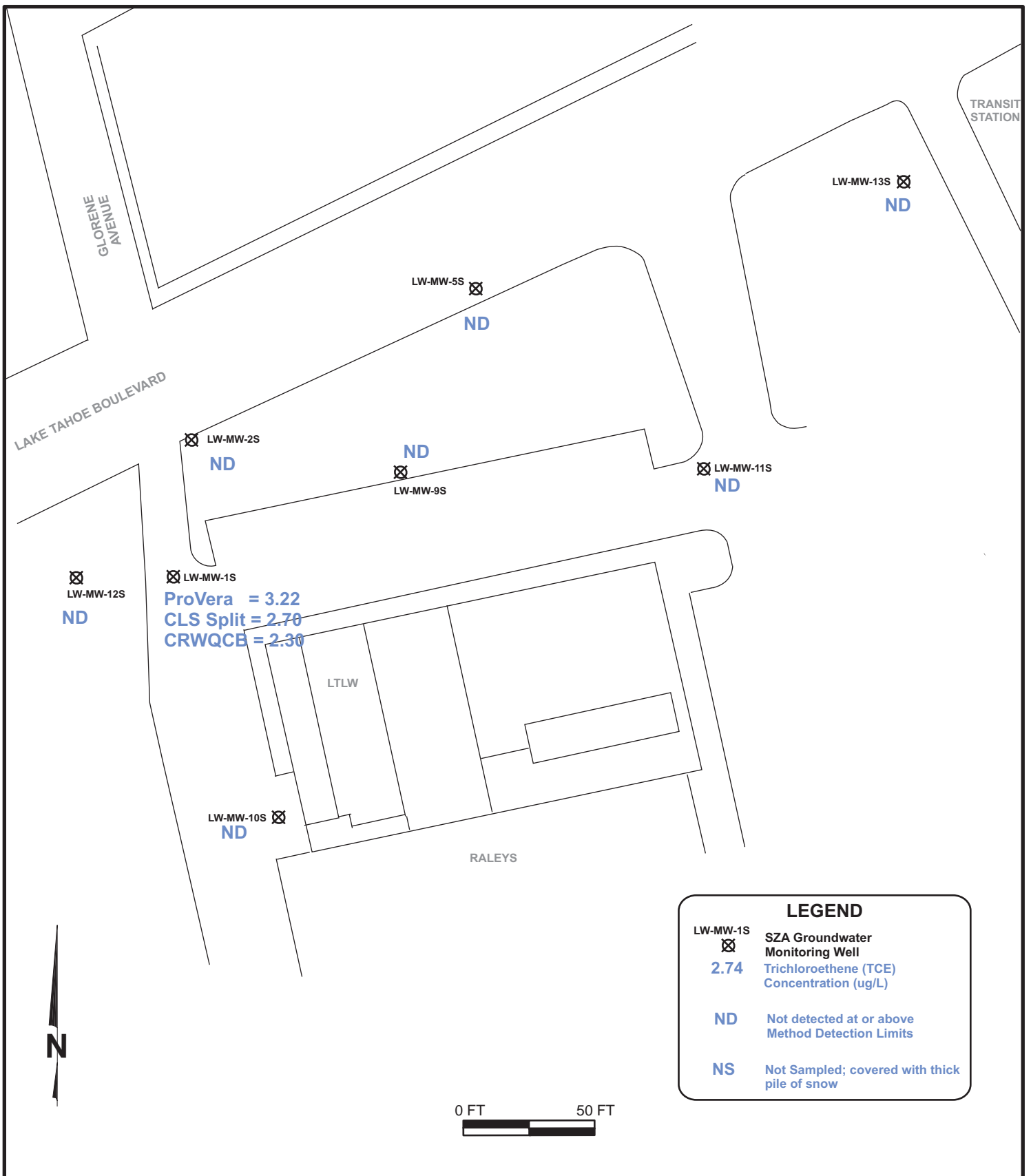
Phone: (661) 831-6906  
Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**THIRD QUARTER 2012  
DISSOLVED-PHASE  
PCE DISTRIBUTION PLOT**

**FIGURE**

**4**



**E<sub>2</sub>C Remediation**

5300 Woodmere Dr., Suite 105  
 Bakersfield, CA 93313

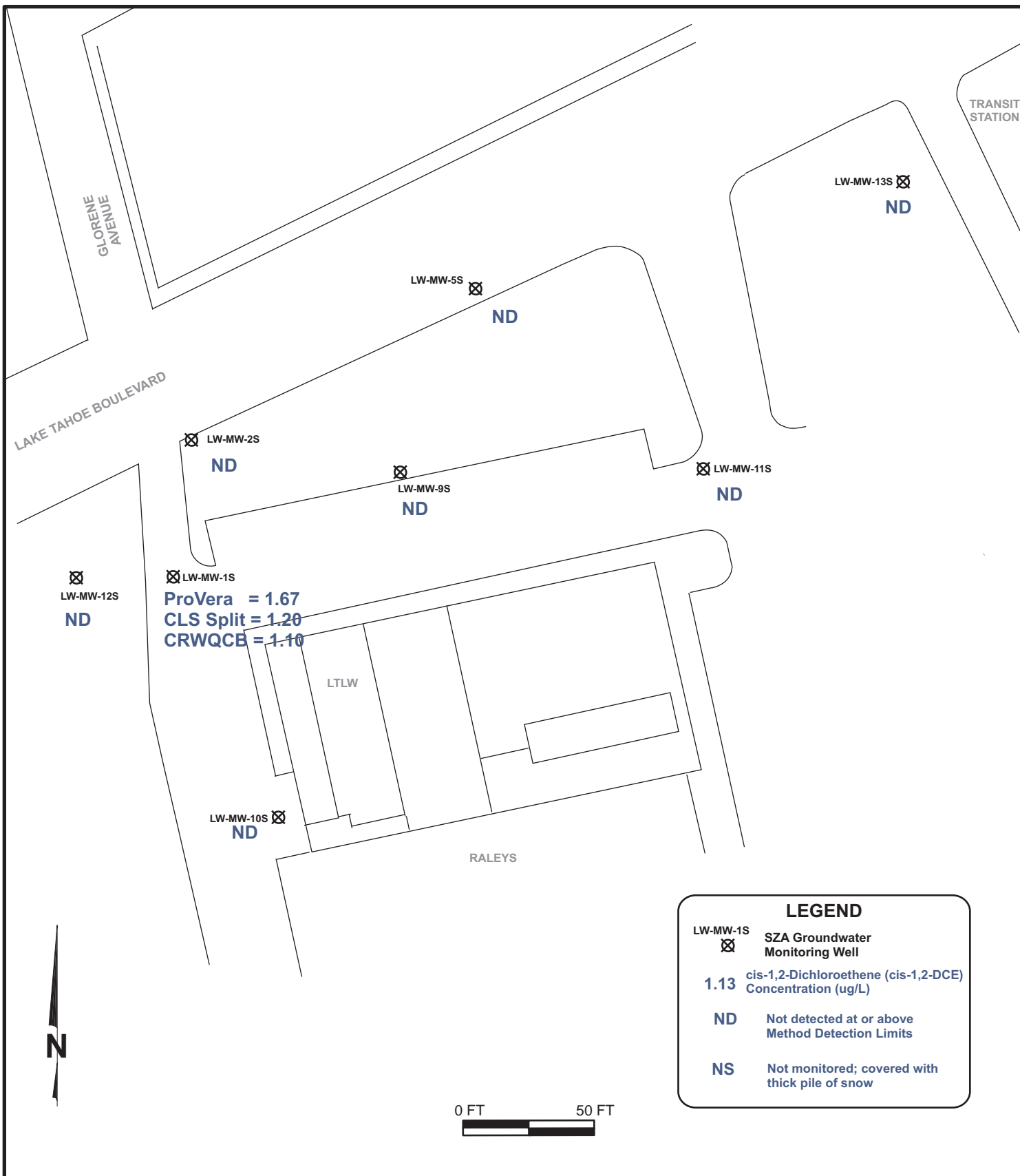
Phone: (661) 831-6906  
 Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS  
 1024 LAKE TAHOE BOULEVARD  
 SOUTH LAKE TAHOE, CALIFORNIA**

**THIRD QUARTER 2012  
 DISSOLVED-PHASE  
 TCE DISTRIBUTION PLOT**

**FIGURE**

**5**



**E<sub>2</sub>C Remediation**

5300 Woodmere Dr., Suite 105  
 Bakersfield, CA 93313

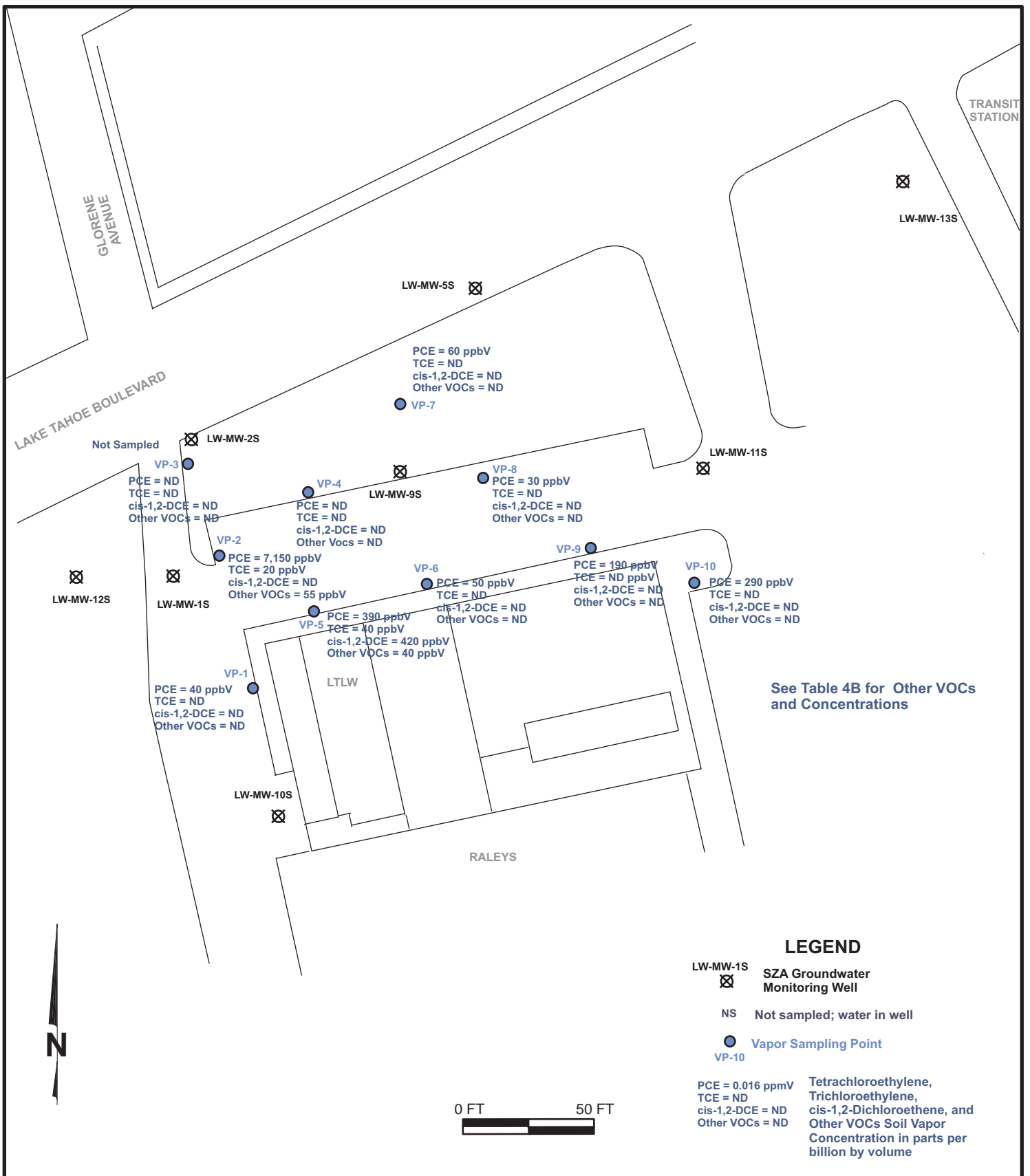
Phone: (661) 831-6906  
 Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS**  
**1024 LAKE TAHOE BOULEVARD**  
**SOUTH LAKE TAHOE, CALIFORNIA**

**THIRD QUARTER 2012**  
**DISSOLVED-PHASE**  
**cis-1,2-DCE DISTRIBUTION PLOT**

**FIGURE**

**6**



**E<sub>2</sub>C Remediation**

5300 Woodmere Dr., Suite 105  
 Bakersfield, CA 93313

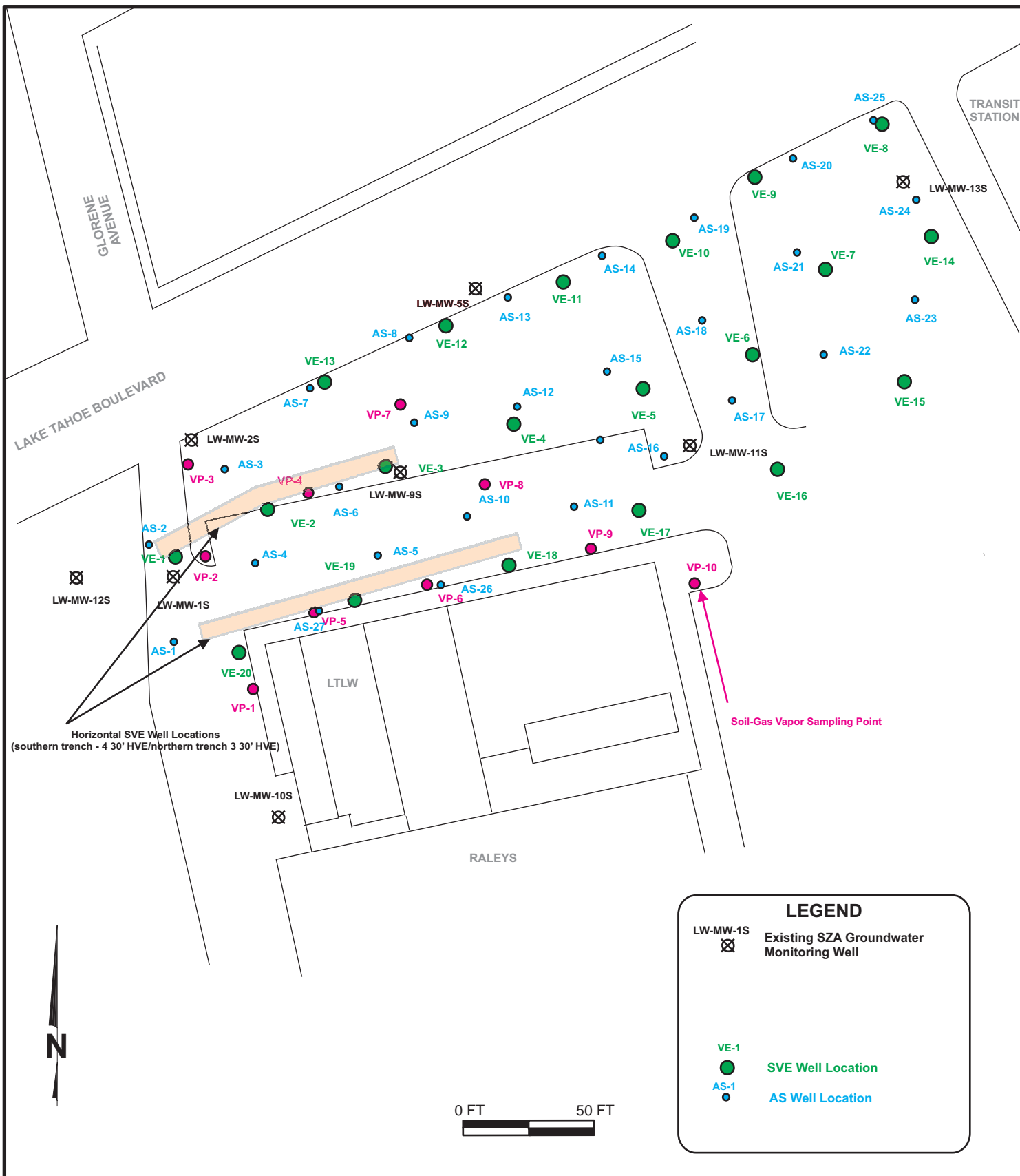
Phone: (661) 831-6906  
 Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS**  
**1024 LAKE TAHOE BOULEVARD**  
**SOUTH LAKE TAHOE, CALIFORNIA**

**Shallow Soil-Vapor Distribution Plot**  
**August 21, 2012**

**FIGURE**

**7**



**LEGEND**

- LW-MW-1S Existing SZA Groundwater Monitoring Well
- VE-1 SVE Well Location
- AS-1 AS Well Location



**E<sub>2</sub>C Remediation**  
 5300 Woodmere Dr., Suite 105  
 Bakersfield, CA 93313

Phone: (661) 831-6906  
 Fax: (661) 831-6234

**LAKE TAHOE LAUNDRY WORKS**  
 1024 LAKE TAHOE BOULEVARD  
 SOUTH LAKE TAHOE, CALIFORNIA

**REMEDIATION WELL  
 LOCATION PLOT**

**FIGURE**

**8**



## **TABLES**

Table 1	Summary of Third Quarter 2012 Groundwater Monitoring Data
Table 2	Summary of Historical Groundwater Elevation Data
Table 3	Summary of Historical Groundwater Analytical Data
Table 4A	Summary of Historical VP Shallow Soil-Gas Analytical Data
Table 4B	Summary of Historical VP Shallow Soil-Gas Analytical Data – Other VOCs
Table 5	Summary of Well Construction Details
Table 6	Summary of SVE/GASS Interim Remediation System Operational Data
Table 7	Summary of VE Wellfield Data
Table 8	Summary of Historical Interim Remedial System Vapor Laboratory Analytical Data

**TABLE 1  
SUMMARY OF THIRD QUARTER 2012 GROUNDWATER MONITORING DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California  
August 21, 2012**

Well ID	TOC Elev. (feet rel MSL)	Depth to GW (feet BTOC)	GW Elevation (feet MSL)	PCE	TCE	VC	CA	CB	1,1-DCE	MC	Trans-1,2- DCE	1,1-DCA	cis-1,2- DCE	1,2-DCA	1,1,1,2- Tetra	1,1,1-TCA	CF	B	EB	MtBE	
LW-MW-1S CLS-Split CRWQCB	6,191.41	12.19	6,179.22	<b>13.2</b> <b>11.0</b> <b>5.4</b>	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	(µg/L) nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	
LW-MW-2S CLS-Split CRWQCB	6,192.41	13.64	6,178.77	<b>44.1</b> <b>48</b> <b>20.8</b>	<b>3.22</b> <b>2.70</b> <b>2.30</b>	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	<b>1.67</b> <b>1.20</b> <b>1.10</b>	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	
LW-MW-5S CLS-Split CRWQCB	6,189.47	11.84	6,177.63	<b>5.06</b> <b>6.2</b> <b>3.1</b>	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	nd<0.500 nd<0.500 nd<0.500	
LW-MW-9S	6,192.98	13.92	6,179.06	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
LW-MW-10S	6,192.15	10.45	6,181.70	<b>2.02</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>4.45</b>	nd<0.500	nd<0.500	nd<0.500
LW-MW-11S	6,191.67	11.06	6,180.61	<b>2.14</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>3.97</b>	nd<0.500	nd<0.500	nd<0.500
LW-MW-12S	6,190.71	9.37	6,181.34	<b>2.45</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
LW-MW-13S	6,190.82	10.22	6,180.60	<b>2.16</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
OS-1	6,188.12	11.06	6,177.06	<b>6.3</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500

Notes:

Results in micrograms per liter (µg/L) (equivalent to parts per billion, ppb)

1,1-DCA = 1,1-Dichloroethane  
 1,1-DCE = 1,2-Dichloroethene  
 1,1,1-TCA = 1,1,1-Trichloroethane  
 1,1,1,2-Tetra = 1,1,1,2-Tetrachloroethane  
 CA = Chloroethane  
 CB = Chlorobenzene  
 cis-1,2-DCE = cis-1,2-Dichloroethene  
 BTOC = Below Top of Casing  
 MC = Methylene Chloride  
 nm = Not monitored  
 PCE = Tetrachloroethene (a.k.a. perchloroethene)  
 TCE = Trichloroethene  
 trans-1,2-DCE = trans-1,2-Dichloroethene  
 VC = Vinyl Chloride  
 MtBE = Methyl tertiary-butyl ether  
 CF = Chloroform  
 B = Benzene  
 EB = Ethylbenzene

MW-15 is the duplicate of OS-1 on Chain-of-Custody

**TABLE 2**  
**SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
LW-MW-1S	08/13/08	6,191.41	---	13.69	6,177.72	---
	12/04/09		23.91	15.09	6,176.32	-1.40
	03/23/10		23.90	13.99	6,177.42	1.10
	06/15/10		23.90	11.16	6,180.25	2.83
	09/08/10		23.90	12.73	6,178.68	-1.57
	12/16/10		23.90	12.49	6,178.92	0.24
	05/11/11		23.90	5.08	6,186.33	7.41
	09/29/11		23.90	10.71	6,180.70	-5.63
	12/09/11		23.90	10.16	6,181.25	0.55
	03/29/12		23.90	9.03	6,182.38	1.13
	06/08/12		23.90	10.75	6,180.66	-1.72
	08/21/12		23.90	12.19	6,179.22	
LW-MW-2S	08/13/08	6,192.41	---	14.99	6,177.42	---
	12/04/09		34.82	17.29	6,175.12	-2.30
	03/23/10		34.85	15.44	6,176.97	1.85
	06/15/10		34.85	13.21	6,179.20	2.23
	09/08/10		34.85	14.85	6,177.56	-1.64
	12/16/10		34.85	14.11	6,178.30	0.74
	05/11/11		34.85	7.41	6,185.00	6.70
	09/29/11		34.85	11.76	6,180.65	-4.35
	12/09/11		34.85	12.63	6,179.78	-0.87
	03/29/12		34.85	11.85	6,180.56	0.78
	06/08/12		34.85	12.73	6,179.68	-0.88
	08/21/12		34.85	13.64	6,178.77	-0.91
LW-MW-5S	08/13/08	6,189.47	---	14.04	6,175.43	---
	12/04/09		29.73	14.85	6,174.62	-0.81
	03/23/10		29.73	14.21	6,175.26	0.64
	06/15/10		29.73	9.75	6,179.72	4.46
	09/08/10		29.73	12.06	6,177.41	-2.31
	12/16/10		29.73	nm		
	05/11/11		29.73	4.75	6,184.72	
	09/29/11		29.73	9.21	6,180.26	-4.46
	12/09/11		29.73	8.94	6,180.53	0.27
	03/29/12		29.73	7.94	6,181.53	1.00
	06/08/12		29.73	8.84	6,180.63	-0.90
	08/21/12		29.73	11.84	6,177.63	-3.00
LW-MW-9S	12/04/09	6,192.98	24.40	16.01	6,176.97	---
	03/23/10		24.25	14.82	6,178.16	1.19
	06/15/10		24.25	12.29	6,180.69	2.53
	09/08/10		24.25	13.91	6,179.07	-1.62
	12/16/10		24.25	14.75	6,178.23	-0.84
	05/11/11		24.25	6.37	6,186.61	8.38
	09/29/11		24.25	12.51	6,180.47	-6.14
	12/09/11		24.25	11.57	6,181.41	0.94
	03/29/12		24.25	10.68	6,182.30	0.89
	06/08/12		24.25	12.76	6,180.22	-2.08
	08/21/12		24.25	13.92	6,179.06	-1.16

**TABLE 2**  
**SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
LW-MW-10S	12/04/09	6,192.15	24.76	14.30	6,177.85	---
	03/23/10		24.60	13.27	6,178.88	1.03
	06/15/10		24.60	10.55	6,181.60	2.72
	09/08/10		24.60	12.13	6,180.02	-1.58
	12/16/10		24.60	11.07	6,181.08	1.06
	05/11/11		24.60	4.41	6,187.74	6.66
	09/29/11		24.60	9.20	6,182.95	-4.79
	12/09/11		24.60	9.80	6,182.35	-0.60
	03/29/12		24.60	9.02	6,183.13	0.78
	06/08/12		24.60	9.43	6,182.72	-0.41
	08/21/12		24.60	10.45	6,181.70	-1.02
LW-MW-11S	12/04/09	6,191.67	24.30	14.91	6,176.76	---
	03/23/10		24.02	14.72	6,176.95	0.19
	06/15/10		24.02	11.38	6,180.29	3.34
	09/08/10		24.02	12.87	6,178.80	-1.49
	12/16/10		24.02	14.95	6,176.72	-2.08
	05/11/11		24.02	5.40	6,186.27	9.55
	09/29/11		24.02	10.25	6,181.42	-4.85
	12/09/11		24.02	10.61	6,181.06	-0.36
	03/29/12		24.02	9.79	6,181.88	0.82
	06/08/12		24.02	10.52	6,181.15	-0.73
	08/21/12		24.02	11.06	6,180.61	-0.54
LW-MW-12S	12/04/09	6,190.71	24.20	15.00	6,175.71	---
	03/23/10		23.80	13.36	6,177.35	1.64
	06/15/10		23.80	9.99	6,180.72	3.37
	09/08/10		23.80	11.57	6,179.14	-1.58
	12/16/10		23.80	nm		
	05/11/11		23.80	4.07	6,186.64	
	09/29/11		23.80	10.75	6,179.96	-6.68
	12/09/11		23.80	9.15	6,181.56	1.60
	03/29/12		nm	nm		
	06/08/12		23.80	9.51	6,181.20	
	08/21/12		23.80	9.37	6,181.34	0.14
LW-MW-13S	12/04/09	6,190.82	24.95	14.39	6,176.43	---
	03/23/10		24.78	13.20	6,177.62	1.19
	06/15/10		24.78	11.02	6,179.80	2.18
	09/08/10		24.78	12.42	6,178.40	-1.40
	12/16/10		24.78	14.09	6,176.73	-1.67
	05/11/11		24.78	5.07	6,185.75	9.02
	09/29/11		24.78	10.61	6,180.21	-5.54
	12/09/11		24.78	10.19	6,180.63	0.42
	03/29/12		24.78	9.37	6,181.45	0.82
	06/08/12		24.78	8.85	6,181.97	0.52
	08/21/12		24.78	10.22	6,180.60	-1.37

**TABLE 2**  
**SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
OS-1	03/24/10	6,188.12	23.45	13.25	6,174.87	---
	06/15/10		24.00	11.17	6,176.95	2.08
	09/08/10		24.00	12.68	6,175.44	-1.51
	12/16/10		24.00	12.13	6,175.99	0.55
	05/11/11		24.00	5.91	6,182.21	6.22
	09/29/11		24.00	9.25	6,178.87	-3.34
	12/09/11		24.00	10.47	6,177.65	-1.22
	03/29/12		24.00	9.93	6,178.19	0.54
	06/08/12		24.00	9.52	6,178.60	0.41
	08/21/12		24.00	11.06	6,177.06	-1.54

Notes:

BTOC = Below Top of Casing

MSL = Mean Sea Level

Avg Groundwater Elevation Change

4th.09-1st.10	1.10
1st.10-2nd.10	2.86
2nd.10-3rd.10	-1.63
3rd. 10-4th.10	-0.29
4th.10-2nd.11	7.71
2nd.11-3rd.11	-4.95
3rd.11-4th.11	-0.16
4th.11-1st.12	0.82
1st.12-2nd.12	-0.70
2nd.12-3rd.12	-1.09





**TABLE 3  
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Well ID	Sample Date	PCE	TCE	VC	CA	CB	1,1-DCE	MC	Trans-1,2-DCE	1,1-DCA	cis-1,2-DCE	1,2-DCA	1,1,1,2-Tetra	1,1,1-TCA	Chloroform	Benzene	EB	MtBE	
		(ug/L)																	
LW-MW-13S	12/04/09	<b>17</b>	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na	na	
	03/23/10	<b>65.2</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>0.784</b>	nd<0.500	nd<0.500	<b>2.92</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>0.645</b>	na	nd<0.500	
	06/15/10	<b>14.1</b>	<b>0.603</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>0.627</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/08/10	<b>4.86</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	12/16/10	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	05/11/11	<b>3.71</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/29/11	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	<b>39</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
	12/09/11	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	03/29/12	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/08/12	<b>1.71</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
08/21/12	<b>2.16</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
OS-1	03/24/10	<b>91.2</b>	<b>1.41</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>1.02</b>	nd<0.500	nd<0.500	<b>0.989</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>0.908</b>	na	<b>0.807</b>	
	06/15/10	<b>75.9</b>	<b>2.91</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>1.41</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/08/10	<b>13.5</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	12/16/10	<b>52.5</b>	<b>2.43</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>4.43</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	05/11/11	<b>7.1</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/29/11	<b>4.6</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	<b>25</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	<b>0.12</b>	nd<0.50	
	12/09/11	<b>20.6</b>	<b>0.617</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/29/12	<b>8.97</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	06/08/12 duplicate	<b>11.60</b> <b>11.20</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
08/21/12	<b>6.3</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500		

Notes:  
 Results in micrograms per liter (ug/L) (equivalent to parts per billion, ppb)  
 1,1-DCA = 1,1-Dichloroethane  
 1,1-DCE = 1,2-Dichloroethene  
 1,1,1-TCA = 1,1,1-Trichloroethane  
 BTOC = Below Top of Casing  
 CA = Chloroethane  
 CB = Chlorobenzene  
 CF = Chloroform  
 cis-1,2-DCE = cis-1,2-Dichloroethene  
 MC = Methylene Chloride  
 MtBE = Methyl-tertiary butyl ether  
 PCE = Tetrachloroethene (a.k.a. perchloroethene)  
 TCE = Trichloroethene  
 trans-1,2-DCE = trans-1,2-Dichloroethene  
 VC = Vinyl Chloride

nd< = Not detected at or above the Method Detection Limit, which is indicated by the value  
 ns- not sampled



**TABLE 4A**  
**SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample ID	Sample Date	PCE		TCE		cis-1,2-DCE		Tracer Gas		Other VOCs	
		(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )
VP-1	4/9/10	16	108.5	nd	nd	nd	nd	nd	nd	nd	nc
	9/8/10	72	488.0	nd	nd	nd	nd	nd	nd	0.031	nc
	12/16/10	133	901.5	nd	nd	nd	nd	nd	nd	nd	nc
	5/11/11	unable to sample - water in well									
	9/29/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	12/9/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	3/29/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	6/8/12	16.8	113.87	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	4.59	nc
	9/13/12	40	271.13	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
VP-2	4/9/10	429	2,908	29	155.7	380	1506	nd	nd	nd	nc
	9/8/10	82	555.8	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	2,510	17,013	174	934.5	150	594.4	nd	nd	186	nc
	5/11/11	unable to sample - water in well									
	9/29/11	189	1,281	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	12/9/11	2,020	13,692	86.1	462.4	42.6	168.8	nd<1.0	nd<5.61	87.8	nc
	3/29/12	4,700	31,860	459	2,470	nd<1.0	nd<3.96	nd<1.0	nd<5.61	861.96	nc
	6/8/12	5,050	34,251	107	575	55.2	218.9	nd<1.0	nd<5.61	108	nc
	9/13/12	7,150	48,464	20	107.41	nd<1.0	nd<3.96	nd<1.0	nd<5.61	55	nc
VP-3	4/9/10	unable to sample - water in well									
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	unable to sample - water in well									
	5/11/11	unable to sample - water in well									
	9/29/11	527	3,572	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	12/9/11	469	3,179	1.96	10.53	nd<1.0	nd<3.96	nd<1.0	nd<5.61	1.98	nc
	3/29/12	900	6,100	3.24	18.4	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	6/8/12	522	3,540	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	9/13/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
VP-4	4/9/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	unable to sample - water in well									
	5/11/11	unable to sample - water in well									
	9/29/11	47	318.6	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	12/9/11	22.1	149.8	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	3/29/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	6/8/12	54.3	368.3	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	9/13/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc

**TABLE 4A**  
**SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample ID	Sample Date	PCE		TCE		cis-1,2-DCE		Tracer Gas		Other VOCs	
		(ppbV)	( $\mu\text{g}/\text{m}^3$ )	(ppbV)	( $\mu\text{g}/\text{m}^3$ )	(ppbV)	( $\mu\text{g}/\text{m}^3$ )	(ppbV)	( $\mu\text{g}/\text{m}^3$ )	(ppbV)	( $\mu\text{g}/\text{m}^3$ )
VP-5	4/9/10	12	81.3	nd	nd	15	59.44	nd	nd	nd	nc
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	63	427	nd	nd	62	245.7	nd	nd	nd	nc
	5/11/11	unable to sample - water in well									
	9/29/11	2,130	14,438	15	80.56	nd<1.0	nd<3.96	nd<1.0	nd<5.61	15.8	nc
	12/9/11	41.5	281.3	1.57	8.432	8.54	33.84	nd<1.0	nd<5.61	nd<1.0	nc
	3/29/12	93.1	631	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	332.3	nc
	6/8/12	393	2,665	nd<1.0	nd<5.37	230	912	nd<1.0	nd<5.61	23.0	nc
	9/13/12	390	2,644	40	214.82	420	1664	nd<1.0	nd<5.61	40	nc
VP-6	4/9/10	28	189.8	nd	nd	nd	nd	nd	nd	nd	nc
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	nd	nd	nd	nd	nd	nd	nd	nd	98	nc
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	9/29/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	12/9/11	1.44	9.76	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	3/29/12	1.77	32.3	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	6/8/12	39.3	267	nd<1.0	nd<5.37	4.95	19.63	nd<1.0	nd<5.61	5.85	nc
9/13/12	50	339	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc	
VP-7	4/9/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	9/8/10	64	433.8	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	32	216.9	nd	nd	nd	nd	nd	nd	247	nc
	5/11/11	73	494.8	nd	nd	nd	nd	nd	nd	nd	nc
	9/29/11	2.0	13.56	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	12/9/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	16.1	nc
	3/29/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	6/8/12	125	855	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
9/13/12	60	407	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc	
VP-8	4/9/10	34	230.5	nd	nd	nd	nd	nd	nd	nd	nc
	9/8/10	133	901.5	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	318	2,156	nd	nd	nd	nd	nd	nd	nd	nc
	5/11/11	281	1,905	nd	nd	nd	nd	173	971.3	nd	nc
	9/29/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	12/9/11	2.01	623.7	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	3/29/12	39.9	271	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	3.33	nc
	6/8/12	537	3,642	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
9/13/12	30	203	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc	

**TABLE 4A**  
**SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample ID	Sample Date	PCE		TCE		cis-1,2-DCE		Tracer Gas		Other VOCs	
		(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )
VP-9	4/9/10	<b>29</b>	<b>196.6</b>	nd	nd	nd	nd	nd	nd	nd	nc
	9/8/10	<b>7,530</b>	<b>51,040</b>	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	<b>1,610</b>	<b>10,913</b>	nd	nd	nd	nd	nd	nd	<b>111</b>	nc
	5/11/11	<b>4,480</b>	<b>30,366</b>	nd	nd	nd	nd	nd	nd	nd	nc
	9/29/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	<b>60</b>	nc
	12/9/11	<b>48.2</b>	<b>326.7</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	3/29/12	<b>1,270</b>	<b>8,610</b>	<b>3.57</b>	<b>19.2</b>	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	6/8/12	<b>680</b>	<b>4,612</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
9/13/12	<b>190</b>	<b>1,288</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc	
VP-10	4/9/10	<b>1,980</b>	<b>13,421</b>	<b>47</b>	<b>252.4</b>	<b>50</b>	<b>198.1</b>	nd	nd	nd	nc
	9/8/10	<b>132</b>	<b>894.7</b>	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	<b>43</b>	<b>291.5</b>	nd	nd	nd	nd	nd	nd	<b>183</b>	nc
	5/11/11	<b>132</b>	<b>894.7</b>	nd	nd	nd	nd	nd	nd	nd	nc
	9/29/11	<b>114</b>	<b>772.7</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	12/9/11	<b>9.34</b>	<b>63.31</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	3/29/12	nd<1.0	nd<6.78	<b>3.57</b>	<b>19.20</b>	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
	6/8/12	<b>416</b>	<b>2,821</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc
9/13/12	<b>290</b>	<b>1,966</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd<1.0	nc	

Notes:

For Other VOCs and Individual concentrations - See Table 4B

cis-1,2-DCE = cis-1,2-Dichloroethene

nc = Not calculated, as detection limit is based on atomic weight of a compound

nd = Not detected at or above detection limit for each respective compound

nd< = Not detected at or above the practical quantitation limit (PQL), which is indicated by value

PCE = Tetrachloroethene (a.k.a. perchloroethene)

ppbV = parts per million by volume

TCE = Trichloroethene

Tracer Gas = Freon 11

ug/m<sup>3</sup> = micrograms per cubic meter



**TABLE 4B**  
**SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA - OTHER VOCs**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample ID	Sample Date	Vinyl Acetate		Vinyl Chloride		n-Hexane		Isopropyl Alcohol		1,1-DCE		1,1,1-TCA		Toluene		Ethylbenzene		Total Xylenes		4-Ethyltoluene		1,3,5-TMB		1,2,4-TMB	
		(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )
VP-7	4/9/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	12/16/10	nd	nd	nd	nd	nd	nd	<b>247</b>	nc	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nc	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91	
VP-8	4/9/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	12/16/10	nd	nd	nd	nd	nd	nd	nd	nc	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nc	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	3/29/12	<b>3.33</b>	<b>11.7</b>	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91	
VP-9	4/9/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	12/16/10	nd	nd	nd	nd	nd	nd	<b>111</b>	<b>272.8</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nc	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.55	<b>15</b>	<b>52.8</b>	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91	
VP-10	4/9/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	12/16/10	nd	nd	nd	nd	nd	nd	<b>183</b>	<b>449.8</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nc	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91
8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.55	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	nd<1.0	nd<4.92	nd<1.0	nd<4.91	nd<1.0	nd<4.91	

Notes: 1,1-DCE = 1,1-Dichloroethene  
 1,1,1-TCA = 1,1,1-Trichloroethane  
 nc = Not calculated  
 nd = Not detected at or above detection limit for each respective compound  
 nd< = Not detected at or above the practical quantitation limit (PQL), which is indicated by value  
 PCE = Tetrachloroethene (a.k.a. perchloroethene)  
 ppbV = parts per million by volume  
 TCE = Trichloroethene  
 Tracer Gas = Freon 11  
 ug/m<sup>3</sup> = micrograms per cubic meter

Notes: 6/8/12- Ethyl Acetate= 2.63 ppbV; 1,1-dichloroethane= 3.12 ppbV (VP-8)

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**TABLE 5**  
**SUMMARY OF WELL CONSTRUCTION DETAILS**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

<b>WELL ID</b>	<b>Completion Date</b>	<b>Well Type</b>	<b>Well Depth (feet bgs)</b>	<b>Well Casing Material</b>	<b>TOC Elevation (feet rel)</b>	<b>Top of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>
AS-1	11/3/09	Air Sparge	25.0	2" PVC	--	23.5	1.5
AS-2	11/5/09	Air Sparge	25.0	2" PVC	--	23.5	1.5
AS-3	11/6/09	Air Sparge	28.0	2" PVC	--	26.5	1.5
AS-4	11/5/09	Air Sparge	26.0	2" PVC	--	24.5	1.5
AS-5	11/5/09	Air Sparge	26.0	2" PVC	--	24.5	1.5
AS-6	11/5/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-7	11/7/09	Air Sparge	28.5	2" PVC	--	27.0	1.5
AS-8	11/7/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-9	11/9/09	Air Sparge	28.5	2" PVC	--	27.0	1.5
AS-10	11/4/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-11	11/4/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-12	11/8/09	Air Sparge	27.5	2" PVC	--	26.0	1.5
AS-13	11/8/09	Air Sparge	29.0	2" PVC	--	27.5	1.5
AS-14	11/8/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-15	11/9/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-16	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-17	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-18	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-19	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-20	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-21	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-22	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-23	11/6/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-24	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-25	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-26	11/4/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-27	11/9/09	Air Sparge	26.0	2" PVC	--	24.5	1.5

**TABLE 5**  
**SUMMARY OF WELL CONSTRUCTION DETAILS**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

<b>WELL ID</b>	<b>Completion Date</b>	<b>Well Type</b>	<b>Well Depth (feet bgs)</b>	<b>Well Casing Material</b>	<b>TOC Elevation (feet rel)</b>	<b>Top of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>
LW-MW-1S	7/16/08	Monitoring	23.91	2" PVC	6,191.41	8.9	15
LW-MW-2S	7/23/08	Monitoring	34.82	2" PVC	6,192.41	19.8	15
LW-MW-5S	7/24/08	Monitoring	29.70	2" PVC	6,149.87	14.7	15
LW-MW-9S	11/10/09	Monitoring	24.40	2" PVC	6,192.98	9.4	15
LW-MW-10S	11/12/09	Monitoring	24.76	2" PVC	6,192.15	9.8	15
LW-MW-11S	11/12/09	Monitoring	24.30	2" PVC	6,191.67	9.3	15
LW-MW-12S	11/10/09	Monitoring	24.20	2" PVC	6,190.71	9.2	15
LW-MW-13S	11/10/09	Monitoring	24.95	2" PVC	6,190.82	10.0	15
OS-1	3/19/10	Monitoring	25.00	2" PVC	6,176.95	10.0	15
VED-1	11/5/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2
VED-2	11/4/09	Deep Vapor Extraction	14.0	2" PVC	--	12.0	2
VED-3	11/7/09	Deep Vapor Extraction	14.0	2" PVC	--	12.0	2
VED-4	11/8/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2
VED-5	11/9/09	Deep Vapor Extraction	13.4	2" PVC	--	11.4	2
VED-6	11/10/09	Deep Vapor Extraction	12.5	2" PVC	--	10.5	2
VED-7	11/12/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-8	11/13/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-9	11/11/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-10	11/10/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-11	11/8/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-12	11/7/09	Deep Vapor Extraction	11.5	2" PVC	--	9.5	2
VED-13	11/7/09	Deep Vapor Extraction	13.5	2" PVC	--	11.5	2
VED-14	11/10/09	Deep Vapor Extraction	12.5	2" PVC	--	10.5	2
VED-15	11/6/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-16	11/12/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-17	11/4/09	Deep Vapor Extraction	15.0	2" PVC	--	13.0	2
VED-18	11/4/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2

**TABLE 5**  
**SUMMARY OF WELL CONSTRUCTION DETAILS**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

<b>WELL ID</b>	<b>Completion Date</b>	<b>Well Type</b>	<b>Well Depth (feet bgs)</b>	<b>Well Casing Material</b>	<b>TOC Elevation (feet rel)</b>	<b>Top of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>
VED-19	11/3/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-20	11/3/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VES-1	11/5/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-2	11/4/09	Shallow Vapor Extraction	10.0	2" PVC	--	5.0	5
VES-3	11/7/09	Shallow Vapor Extraction	10.0	2" PVC	--	5.0	5
VES-4	11/8/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-5	11/9/09	Shallow Vapor Extraction	9.4	2" PVC	--	4.4	5
VES-6	11/10/09	Shallow Vapor Extraction	8.5	2" PVC	--	3.5	5
VES-7	11/12/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-8	11/13/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-9	11/11/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-10	11/11/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-11	11/8/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-12	11/7/09	Shallow Vapor Extraction	7.5	2" PVC	--	3.5	4
VES-13	11/7/09	Shallow Vapor Extraction	9.5	2" PVC	--	4.5	5
VES-14	11/10/09	Shallow Vapor Extraction	8.5	2" PVC	--	3.5	5
VES-15	11/6/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5



**TABLE 5**  
**SUMMARY OF WELL CONSTRUCTION DETAILS**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

<b>WELL ID</b>	<b>Completion Date</b>	<b>Well Type</b>	<b>Well Depth (feet bgs)</b>	<b>Well Casing Material</b>	<b>TOC Elevation (feet rel)</b>	<b>Top of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>
VES-16	11/12/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-17	11/4/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-18	11/4/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-19	11/3/09	Shallow Vapor Extraction	7.0	2" PVC	--	2.0	5
VES-20	11/3/09	Shallow Vapor Extraction	7.0	2" PVC	--	2.0	5
VP-1	11/5/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-2	11/5/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-3	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-4	11/7/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-5	11/3/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-6	11/3/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-7	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-8	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-9	11/8/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-10	11/8/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125

**Notes**

All wells are of Schedule 40 PVC construction

PVC = Poly vinyl chloride

feet bgs = feet below ground surface

TOC Elevation = Top of casing elevation based on feet above MSL relative at MW-1 taken from Topographic Map

**TABLE 6  
SUMMARY OF SVE/GASS REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs (ppmV)		Lab Vapor Influent (ppmV)				VOCs Extracted (lbs/hr)				Cumulative VOCs Extracted (lbs)
									Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total	
4/8/10	off	0	202.0	0	500	3.75	2.75	20.6	140	0	0.681	0.031	0.041	ND	0.009	0.0003	0.0003142	0.010	0.000
4/9/10	off	1	205.0	3.0	500	4.15	2.75	20.6	130	0	1.950	0.045	0.048	ND	0.026	0.0005	0.0003679	0.026	0.054
4/16/10	off	8	369.4	167.4	500	3.50	3.50	20.2	110	0									3.419
4/29/10	off	21	678.9	476.9	500	3.70	3.70	20.1	80	0									7.917
5/6/10	on	28	841.0	639.0	500	4.50	4.50	20.9	25	0									10.27
5/12/10	on	34	978.7	776.7	500	3.50	3.50	20.9	90	0									12.27
6/1/10	off	54	1,462	1,260	500	3.70	3.70	20.9	90	0									19.30
6/15/10	on	68	1,834	1,632	500	3.30	3.30	20.8	65	0									24.71
6/24/10	on	77	2,006	1,804	500	3.45	3.45	20.9	45	0	0.204	ND	ND	ND	0.003	0.000	0.0000000	0.003	26.19
7/2/10	on	85	2,199	1,997	500	3.30	3.30	20.8	170	0									30.90
7/15/10	off	98	2514.0	2,312	500	2.50	2.50	20.8	130	0	6.61	0.281	ND	ND	0.087	0.003	0.0000000	0.000	38.16
7/22/10	off	105	2680.0	2,478	500	3.00	3.00	20.7	120	0									43.00
7/28/10	off	111	2681.0	2,479	500	3.26	3.26	20.7	160	0									43.06
8/5/10	on	119	2850.0	2,648	500	3.15	3.15	nm	120	0									52.91
8/5/10	on	119	2853.0	2,651	500	3.14	3.14	nm	210	0									53.09
8/11/10	on	125	3020.0	2,818	500	3.15	3.15	20.9	170	0	2.04	0.031	ND	ND	0.027	0.00032	0.0000000	0.027	60.2
8/18/10	on	132	3187.0	2,985	500	3.46	3.46	20.9	170	0	9.14	0.096	0.047	ND	0.120	0.00100	0.0003602	0.121	72.6
8/25/10	on	139	3355.0	3,153	500	2.46	2.46	nm	180	0	11.4	1.83	4.32	ND	0.149	0.01901	0.0331086	0.202	99.7
9/3/10	on	148	3568.3	3,366	500	2.80	2.80	20.7	195	10									143.5
9/8/10	on	153	3694.4	3,492	500	2.80	2.80	20.7	85	0									169.9
9/15/10	on	160	3863.0	3,661	500	5.16	5.16	20.1	60	0									205.2
9/15/10	on	160	3866.0	3,664	500	5.16	5.16	20.1	120	0	16.4	0.154	0.046	0.266	0.215	0.00160	0.0003525	0.217	205.8
9/23/10	off	168	4051.5	3,850	500	4.15	4.15	20.9	190	0									246.0
9/28/10	on	173	4169.9	3,968	500	3.99	4.00	20.1	130	0									271.7
10/6/10	off	181	4362.4	4,160	500	4.98	4.98	20.1	75	0	11.8	0.104	0.033	0.112	0.155	0.00108	0.0002529	0.156	307.5
10/13/10	on	188	4532.7	4,331	500	5.71	5.71	20.8	135	0									329.0
10/22/10	on	197	4746.8	4,545	500	5.00	5.00	20.9	190	0									349.5
10/28/10	off	203	4889.2	4,687	500	4.95	4.95	20.1	180	0									363.1
11/4/10	on	210	5056.4	4,854	500	4.83	4.83	nm	110	0									379.1
11/11/10	on	217	5255.8	5,054	500	5.22	5.22	20.1	230	0	2.7	ND	ND	ND	0.035	0.00000	0.0000000	0.035	392.2
11/23/10	off	229	5684.7	5,483	0	nm	nm	nm	0	0									399.8
12/1/10	off	237	5684.7	5,483	500	2.60	2.60	nm	200	0									399.8
12/7/10	on	243	5826.3	5,624	500	3.24	3.24	20.1	190	0									404.3
12/16/10	on	252	6043.2	5,841	500	nm	nm	nm	180	0	2.18	0.39	ND	ND	0.029	0.00405	0.0000000	0.033	411.3
1/4/11	off	271	6463.5	6,262	500	2.89	nm	20.1	80	0									436.7
1/14/11	off	281	6707.8	6,506	500	2.00	nm	20.9	55	0									447.5
1/21/11	on	288	6873.9	6,672	500	2.00	2.00	20.8	60	0	11.30	0.228	0.028	0.241	0.148	0.00237	0.0002146	0.151	460.0
1/27/11	on	294	7018.5	6,817	500	2.50	nm	20.9	45	0									476.7
2/2/11	on	300	7158.7	6,957	500	3.03	3.03	20.9	45	0									488.0
2/11/11	on	309	7375.1	7,173	500	2.80	2.80	20.9	25	0									505.4
2/21/11	off	319	7616.5	7,415	500	2.80	2.80	20.4	30	0									524.8
3/4/11	off	330	7879.0	7,677	500	3.00	3.00	20.8	75	0									546.0
3/11/11	on	337	8048.6	7,847	500	4.45	4.45	20.9	220	0									559.6
3/26/11	off	352	8456.8	8,255	500	5.00	5.00	19.8	200	0									592.5
4/6/11	off	363	8674.5	8,473	500	5.90	nm	nm	0	0									610.0
4/12/11	off	369	8675.5	8,474	500	1.95	1.95	20.8	60	0									610.0
5/11/11	off	398	9322.6	9,121	500	nm	nm	nm	nm	nm									662.1

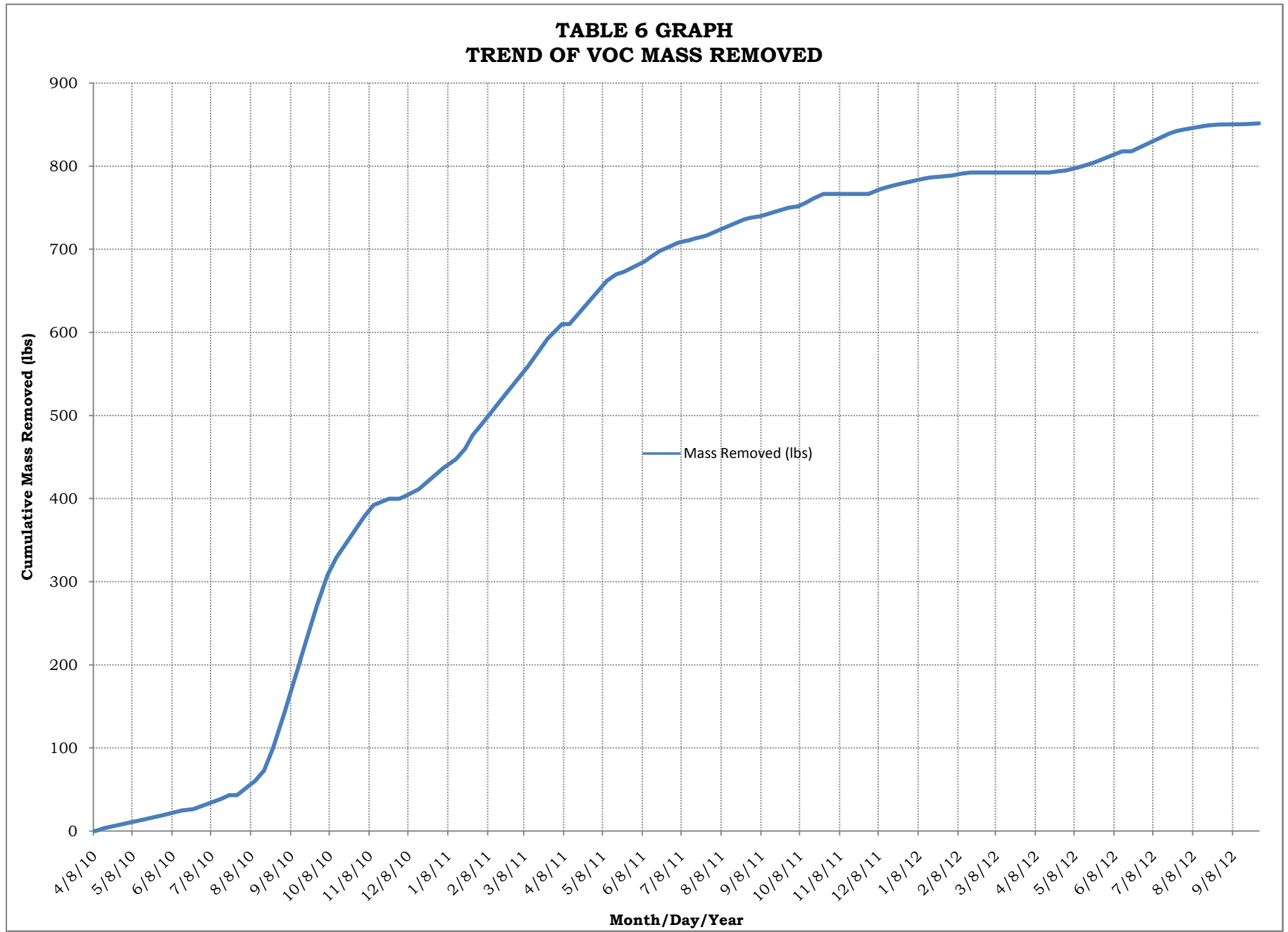
**TABLE 6  
SUMMARY OF SVE/GASS REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs (ppmV)		PCE	Lab Vapor Influent (ppmV)				VOCs Extracted (lbs/hr)				Cumulative VOCs Extracted (lbs)
						Wellfield			Influent	Effluent		TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
5/18/11	on	405	9488.9	9,287	500	1.75	1.75	20.8	60	0	0.795	ND	ND	0.049	0.010	0.00	0.0000000	0.010	669.7	
5/24/11	on	411	9632.8	9,431	500	4.10	4.10	nm	20	0									672.8	
6/1/11	on	419	9823.0	9,621	500	3.50	3.50	20.8	10	0									679.1	
6/9/11	on	427	10012.3	9,810	500	4.00	4.00	20.8	20	0									685.3	
6/14/11	on	432	10134.7	9,933	500	5.30	5.30	nm	5	0	4.23	ND	ND	1.181	0.055	0.00	0.0000000	0.055	690.7	
6/21/11	on	439	10303.2	10,101	500	5.50	5.50	nm	2.8	0									697.9	
6/27/11	on	445	10446.1	10,244	500	4.80	4.80	nm	0	0									702.2	
7/5/11	no	453	10637.1	10,435	500	5.50	5.50	nm	5.0	0									707.9	
7/12/11	no	460	10803.4	10,601	0	0.00	0.00		0	0									710.4	
7/13/11	no	461	10803.9	10,602	500	3.00	3.00	20.1	260	10									710.4	
7/18/11	no	466	10949.5	10,748	500	3.00	3.00	20.8	160	10	0.332	ND	ND	0.419	0.0044	0.00	0.0000000	0.004	712.9	
7/27/11	yes	475	11164.6	10,963	500	3.00	3.00	20.9	205	5									716.3	
8/11/11	yes	490	11526.4	11,324	500	4.75	4.75	20.6	120	0									726.4	
8/18/11	no	497	11692.8	11,491	500	4.60	4.60	nm	3										731.1	
8/26/11	yes	505	11883.2	11,681	500	2.30	2.30	20.6	103	0									736.4	
8/31/11	no	510	12005.0	11,803	500	3.80	3.80	nm	11	4	0.028	ND	ND	0.013	0.00037	0.00	0.0000000	0.0004	738.1	
9/7/11	no	517	12170.7	11,969	500	3.75	3.75	nm	5	1									739.7	
9/15/11	no	525	12362.0	12,160	500	3.70	3.70	nm	4	0.5									743.5	
9/22/11	yes	532	12531.8	12,330	500	4.50	4.50	nm	3	6									746.8	
9/29/11	yes	539	12703.5	12,502	500	4.60	4.60	nm	285	0									750.1	
10/5/11	no	545	12838.8	12,637	0	0.00	0.00	0.0	67	0									751.5	
10/6/11	no	546	12839.3	12,637	500	nm	nm	nm	160	0									751.5	
10/13/11	yes	553	13010.1	12,808	500	3.00	3.00	nm	18.6	0	2.95	0.19	ND	0.0197	0.039	0.00194	0.0000000	0.041	756.6	
10/18/11	yes	558	13130.1	12,928	500	5.00	5.00	20.9	45	0									760.8	
10/26/11	yes	566	13324.3	13,122	500	3.00	3.00	20.6	60	0									766.6	
11/30/11	no	601	13324.3	13,122	500	4.00	4.00	20.3	50	0									766.6	
12/9/11	no	610	13535.1	13,333	500	3.50	3.50	20.8	140	0	1.61	0.024	ND	29.60	0.021	0.000249	0.0000000	0.021	772.3	
12/15/11	yes	616	13681.1	13,479	500	3.50	3.50	20.8	160	0									775.2	
12/21/11	yes	622	13825.5	13,624	500	3.00	3.00	20.8	85	0									777.6	
1/4/12	yes	636	14165.5	13,964	500	2.15	nm	20.9	75	5.5	0.997	ND	ND	ND	0.013	0.0000000	0.0000000	0.013	782.5	
1/12/12	yes	644	14353.0	14,151	500	3.15	3.15	20.9	60	0									785.1	
1/17/12	no	649	14471.7	14,270	500	3.60	3.60	20.8	85	0									786.4	
1/25/12	no	657	14667.2	14,465	500	4.10	4.10	20.9	90	0									787.5	
2/3/12	no	666	14881.7	14,680	500	4.23	4.23	20.8	70	0									788.9	
2/9/12	no	672	15024.4	14,822	500	4.00	4.00	nm	50	0	1.24	0.012	ND	ND	0.016	0.0000000	0.0000000	0.016	790.8	
2/17/12	no	680	15215.9	15,014	0	0.00	0.00	0.0	0	0									792.4	
3/8/12	no	700	15215.9	15,014	0	0.00	0.00	0.0	0	0									792.4	
3/29/12	no	721	15215.9	15,014	500	0.00	0.00	0.0	0	0									792.4	
4/18/12	no	741	15216.0	15,014	500	3.50	3.50	nm	4	0									792.4	
4/26/12	no	749	15407.3	15,205	0	0.00	0.00	0.0	0	0									793.9	
5/1/12	yes	754	15525.6	15,324	500	3.50	2.50	nm	10	0									794.9	
5/8/12	yes	761	15693.3	15,491	500	3.50	2.50	nm	10	0									797.6	
5/14/12	yes	767	15839.8	15,638	500	3.45	2.50	nm	18	0	1.24	ND	ND	0.056	0.016	0.0000000	0.0000000	0.016	800.0	
5/23/12	yes	776	16053.1	15,851	500	3.95	3.00	nm	20-23	0									804.4	



**TABLE 6  
SUMMARY OF SVE/GASS REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System		Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted (lbs)	
						Wellfield	(in-Hg)		Influent (ppmV)	Effluent (ppmV)	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
8/31/11	- System off on arrival due to power outage																			
9/7/11	- System off on arrival due to power outage																			
9/15/11	- System off on arrival due to power outage																			
10/5/11	- System off on arrival due to full water tank																			
10/6/11	- Water tank emptied and system restarted																			
10/26/11	- System shut off due to carbon back pressure																			
11/30/11	- Carbon changeout, restart system																			
12/9/11	- System off on arrival due to power outage																			
1/17/12	- System off on arrival due to power outage																			
1/25/12	- System off on arrival due to power outage																			
2/3/12	- System off on arrival due to power outage																			
2/9/12	- System off on arrival due to power outage																			
2/17/12	- System off on arrival due to high water																			
3/5/12	- Snow conditions finally were conducive to remove water; also, attempted to fix an oil leak, which was a broken seal; seal was back-ordered																			
3/8/12	- Attempted to repair seal; however, wrong parts were delivered																			
3/29/12	- Attempted to replace the broken seal; however, the part failed; had to order a new one (back-ordered)																			
4/18/12	- Fix seal on compressor; change compressor and blower oil																			
4/26/12	- High water upon arrival (system off); system off on departure; tech to empty water and restart system																			
5/1/12	- Added air sparge to water and opened dilution air to drop VAC and collect vapors																			
5/8/12	- Changed AS manifold and closed off wells at east end of field near compound																			
5/14/12	- Shut off AS-14,15,16 to focus near MW-1S																			
5/23/12	- Reduced dilution air; raised VAC from 2.35 to 3 in-Hg																			
6/8/12	- System off on arrival due to high water																			
6/14/12	- turned system off..all PVC going to carbon and inbetween carbons melted from high temp.																			
6/21/12	- replaced plumbing for carbon; added pressure switch between blower and carbon; added vent and therm.																			
6/27/12	- installed fan over compressor exhaust																			
7/20/12	- System off on arrival due to power outage																			
7/26/12	- System off on arrival due to power outage; installed fan and additional vents to reduce heat inside building																			
8/16/12	- System off on arrival due to power outage																			
9/7/12	- System off on arrival due to high water																			
9/10/12	- Water removed for recycling																			
9/13/12	- System restarted																			









<b>TABLE 8</b> <b>SUMMARY OF HISTORICAL INTERIM REMEDIAL SYSTEM VAPOR LABORATORY ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Sample Point	Sample Date	PCE	TCE	cis-1,2-DCE ppmV	Trans-1,2-DCE	Other VOCs
Influent	4/8/10	<b>0.680</b>	<b>0.031</b>	<b>0.041</b>	nd<0.01	nd<0.01
	4/9/10 - Test	<b>0.268</b>	<b>0.02</b>	<b>0.027</b>	nd<0.01	nd<0.01
	4/9/10	<b>1.950</b>	<b>0.045</b>	<b>0.048</b>	nd<0.01	nd<0.01
	6/24/10	<b>0.204</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	<b>6.61</b>	<b>0.281</b>	nd<2.00	nd<2.00	nd<2.00
	8/11/10	<b>2.04</b>	<b>0.031</b>	nd<0.025	nd<0.025	nd<0.025
	8/18/10	<b>9.14</b>	<b>0.096</b>	<b>0.047</b>	nd<0.041	nd<0.041
	8/25/10	<b>11.4</b>	<b>1.83</b>	<b>4.32</b>	nd<0.041	nd<0.041
	9/15/10	<b>16.4</b>	<b>0.154</b>	<b>0.046</b>	nd<0.041	<b>0.266</b>
	10/6/10	<b>11.8</b>	<b>0.104</b>	<b>0.033</b>	nd<0.041	<b>0.112</b>
	11/11/10	<b>2.7</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/16/10	<b>2.18</b>	<b>0.39</b>	nd<0.01	nd<0.01	nd<0.01
	1/21/11	<b>11.30</b>	<b>0.228</b>	<b>0.028</b>	nd<0.025	<b>0.241</b>
	5/18/11	<b>0.795</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.049</b>
	6/14/11	<b>4.23</b>	nd<0.027	nd<0.027	nd<0.027	<b>1.181</b>
	7/18/11	<b>0.332</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.419</b>
	8/31/11	<b>0.028</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.015</b>
	10/13/11	<b>2.95</b>	<b>0.187</b>	nd<0.01	nd<0.01	<b>0.0197</b>
	12/9/11	<b>1.61</b>	<b>0.024</b>	nd<0.01	nd<0.01	<b>29.6</b>
	1/4/12	<b>0.997</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	2/9/12	<b>1.24</b>	<b>0.0124</b>	nd<0.01	nd<0.01	nd<0.01
	5/14/12	<b>1.24</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.056</b>
	6/27/12	<b>2.66</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.03</b>
7/26/12	<b>1.31</b>	<b>0.013</b>	nd<0.01	nd<0.01	nd<0.01	
8/21/12	<b>0.441</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01	
9/13/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01	
Operational Average		<b>3.780</b>	<b>0.230</b>	<b>0.574</b>	<b>0.000</b>	<b>2.908</b>

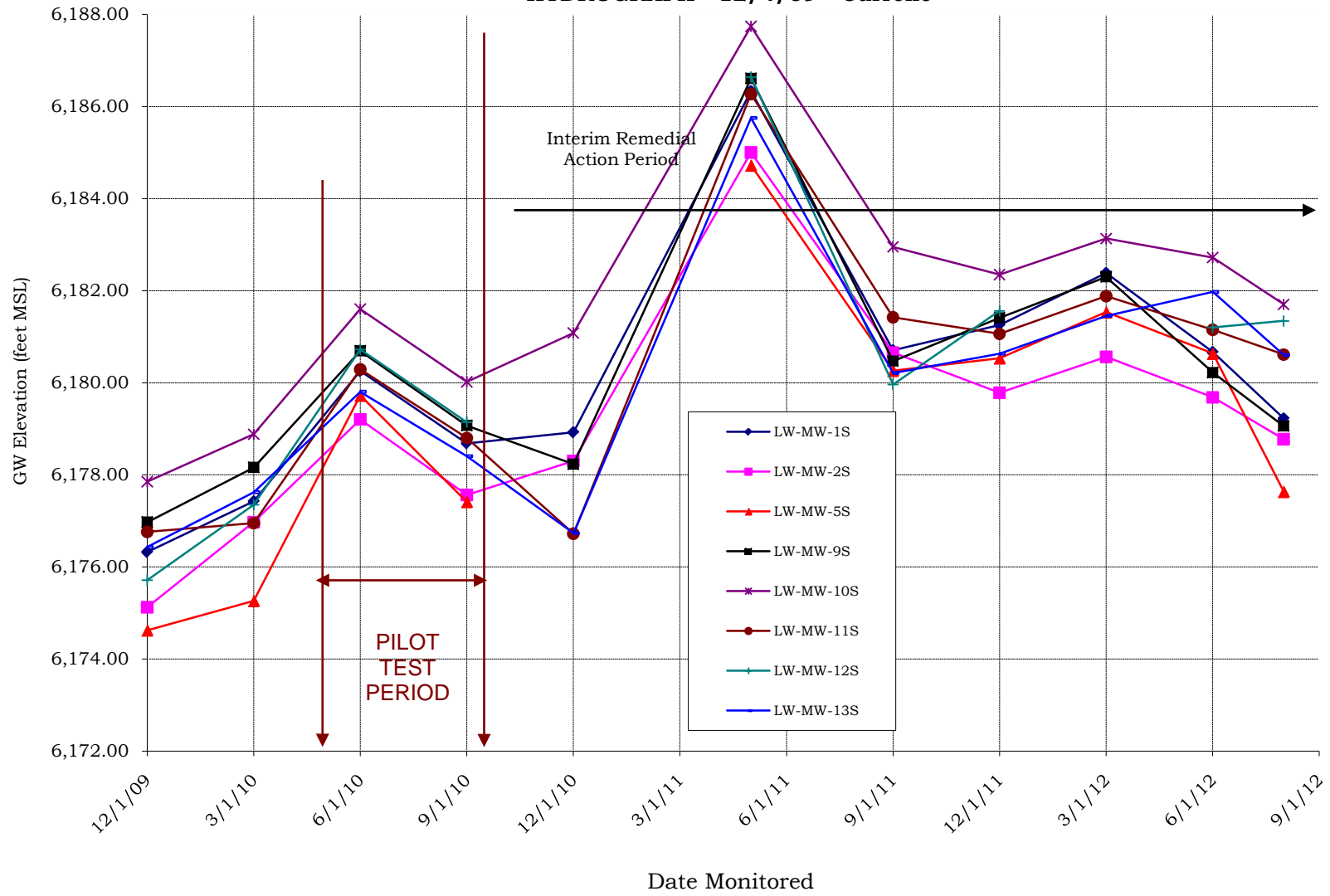
<b>TABLE 8</b> <b>SUMMARY OF HISTORICAL INTERIM REMEDIAL SYSTEM VAPOR LABORATORY ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Sample Point	Sample Date	PCE	TCE	cis-1,2-DCE ppmV	Trans-1,2-DCE	Other VOCs
Mid-Fluent	4/9/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/24/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	nd<2.00	nd<2.00	nd<2.00	nd<2.00	nd<2.00
	8/18/10	<b>2.23</b>	<b>0.027</b>	<b>0.19</b>	nd<0.02	<b>0.29</b>
	8/25/10	<b>3.98</b>	<b>0.272</b>	<b>0.161</b>	nd<0.02	<b>0.276</b>
	9/15/10	<b>3.29</b>	<b>0.133</b>	<b>0.097</b>	nd<0.02	<b>0.139</b>
	10/6/10	<b>1.5</b>	<b>0.034</b>	nd<2.00	nd<2.00	<b>0.032</b>
	11/11/10	<b>2.52</b>	nd<2.00	nd<2.00	nd<2.00	<b>0.024</b>
	1/21/11	<b>1.35</b>	nd<0.025	nd<0.025	nd<0.025	nd<0.025
	5/18/11	<b>1.00</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.026</b>
	6/14/11	<b>2.00</b>	<b>0.109</b>	<b>0.128</b>	nd<0.029	<b>0.626</b>
	7/18/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	<b>0.195</b>
	8/31/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/13/11	<b>0.142</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/9/11	<b>1.61</b>	<b>0.024</b>	nd<0.01	nd<0.01	nd<0.01
	1/4/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
8/21/12	<b>0.297</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01	
Operational Average		<b>1.811</b>	<b>0.100</b>	<b>0.144</b>	<b>0.000</b>	<b>1.825</b>

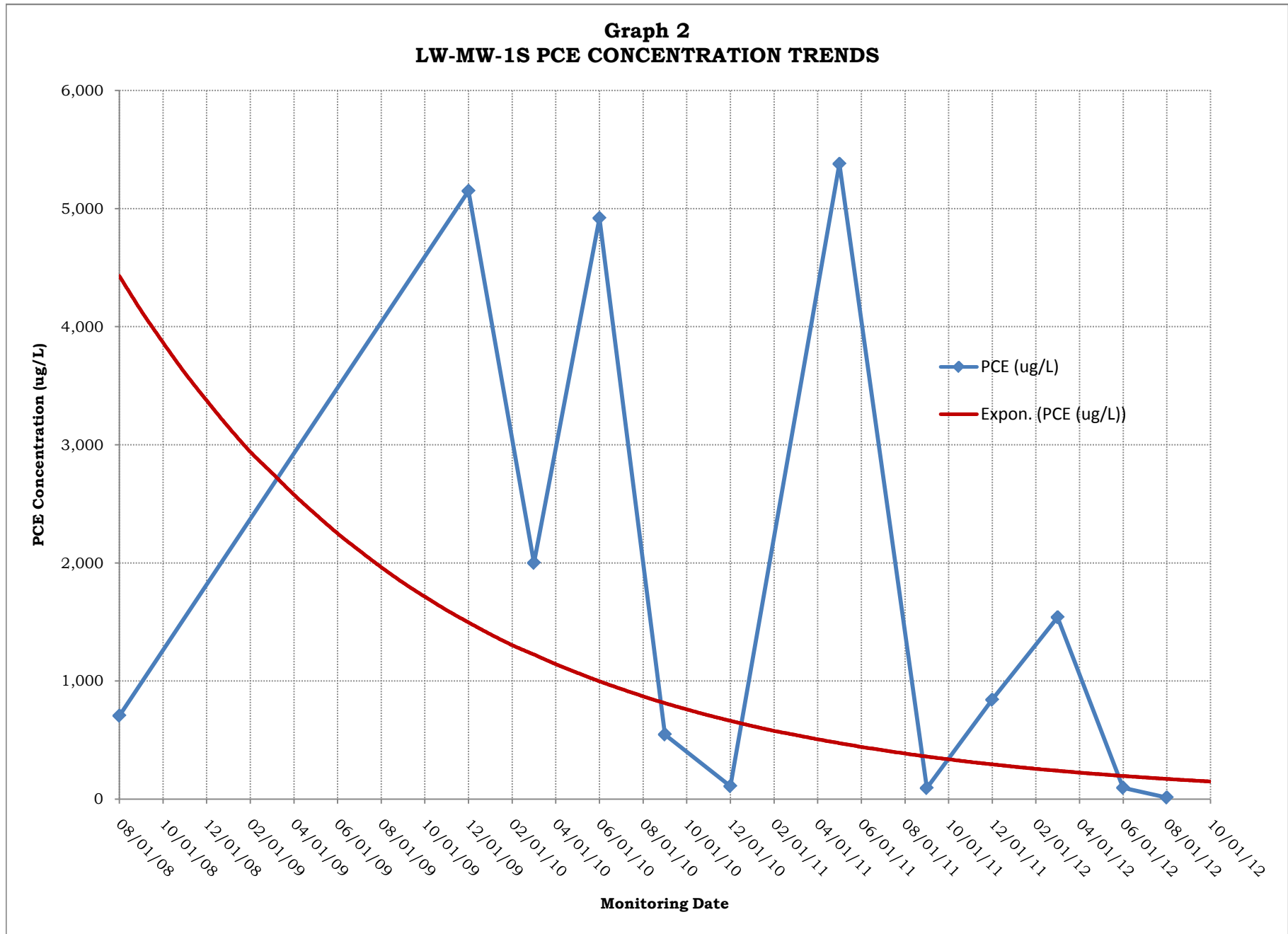
<b>TABLE 8</b> <b>SUMMARY OF HISTORICAL INTERIM REMEDIAL SYSTEM VAPOR LABORATORY ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Sample Point	Sample Date	PCE	TCE	cis-1,2-DCE ppmV	Trans-1,2-DCE	Other VOCs
Effluent	4/9/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/24/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	nd<2.00	nd<2.00	nd<2.00	nd<2.00	nd<2.00
	8/11/10	nd<0.023	nd<0.023	nd<0.023	nd<0.023	nd<0.023
	8/18/10	nd<0.01	nd<0.01	<b>0.192</b>	nd<0.01	nd<0.01
	8/25/10	nd<0.01	nd<0.01	<b>0.175</b>	nd<0.01	nd<0.01
	9/15/10	nd<0.01	nd<0.01	<b>0.221</b>	nd<0.01	nd<0.01
	10/6/10	<b>0.206</b>	nd<0.01	<b>0.024</b>	nd<0.01	nd<0.01
	11/11/10	<b>2.93</b>	<b>0.263</b>	nd<2.00	nd<0.01	<b>0.286</b>
	12/16/10	<b>0.948</b>	<b>0.067</b>	nd<2.00	nd<0.01	nd<0.01
	1/21/11	<b>3.68</b>	<b>0.233</b>	<b>0.081</b>	nd<0.027	<b>0.249</b>
	5/18/11	<b>0.106</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.152</b>
	6/14/11	nd<0.029	nd<0.029	nd<0.029	nd<0.029	nd<0.029
	7/18/11	<b>0.187</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.176</b>
	8/31/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/13/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/9/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	1/4/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	2/9/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	5/14/12	<b>0.633</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/27/12	<b>0.04</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/26/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	8/21/12	<b>0.287</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
9/13/12	<b>0.346</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01	
Operational Average		<b>1.343</b>	<b>0.188</b>	<b>0.139</b>	<b>0.00</b>	<b>0.216</b>
Notes:						
cis-1,2-DCE = cis-1,2-Dichloroethene						
na = Not applicable						
nd< = Not detected at or above the detection limit, which is indicated by value						
PCE = Tetrachloroethene (a.k.a. perchloroethene)						
ppmV = parts per million by volume						
TCE = Trichloroethene						
Trans-1,2-DCE = Trans-1,2-dichloroethene						
1/27/11 - Vapor samples collected; however, during lab analyses instrument malfunctioned; no results						
2/21/11 - Vapor samples collected; however, during lab analyses instrument malfunctioned; no results						
10/26/11-11/30/11 - carbon changeout						

## GRAPHS

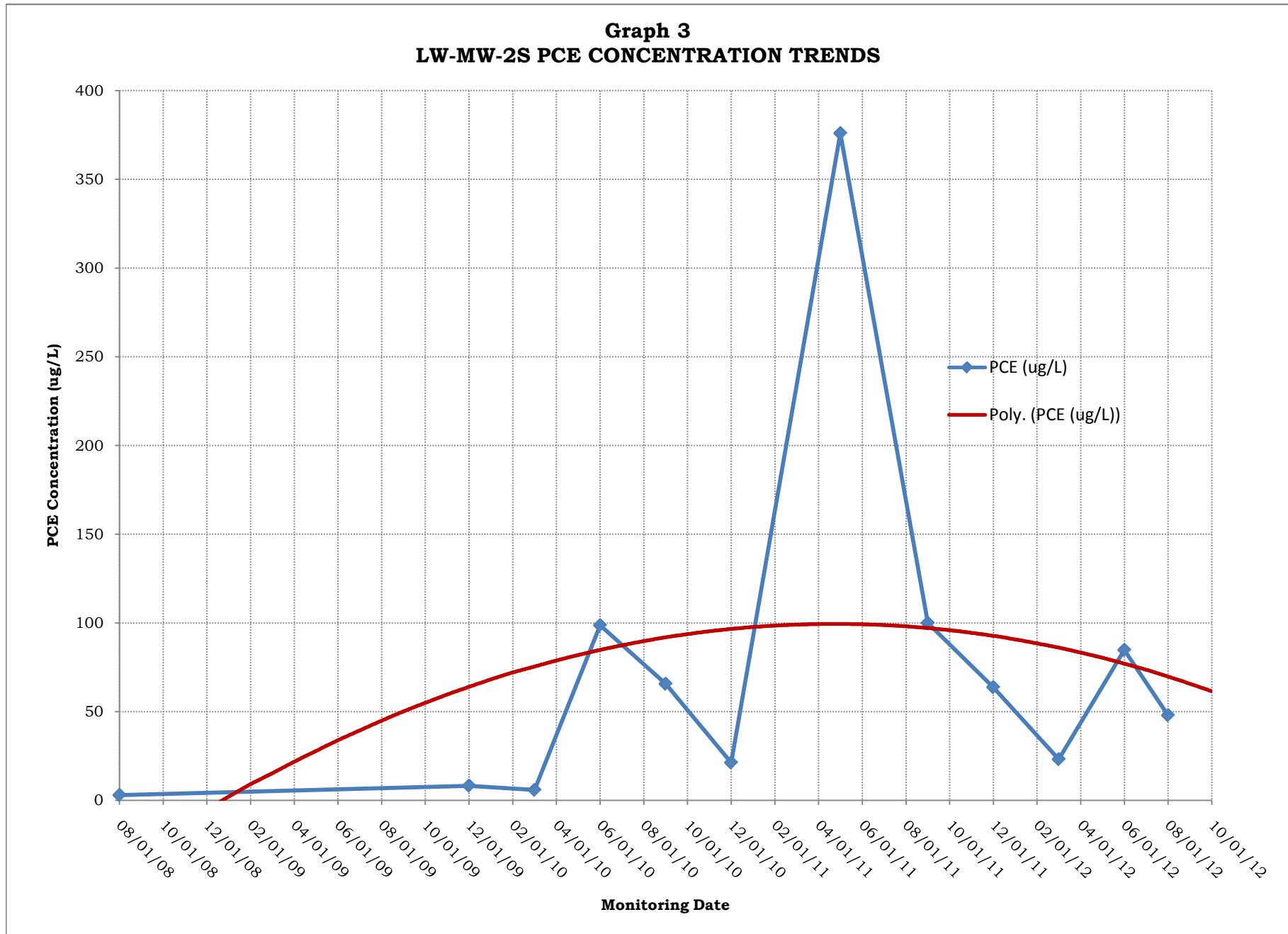
Graph 1	Hydrograph		
Graph 2	LW-MW-1S PCE Concentration Trends		
Graph 3	LW-MW-2S PCE Concentration Trends		
Graph 4	LW-MW-5S PCE Concentration Trends		
Graph 5	LW-MW-9S PCE Concentration Trends		
Graph 6	LW-MW-10S PCE Concentration Trends		
Graph 7	LW-MW-11S PCE Concentration Trends		
Graph 8	LW-MW-12S PCE Concentration Trends		
Graph 9	LW-MW-13S PCE Concentration Trends		
Graph 10	OS-1 PCE Concentration Trends		
Graph 11	LW-MW-1S PCE/TCE/cis-1,2-DCE Trends	Concentration	
Graph 12	LW-MW-2S PCE/TCE/cis-1,2-DCE Trends	Concentration	

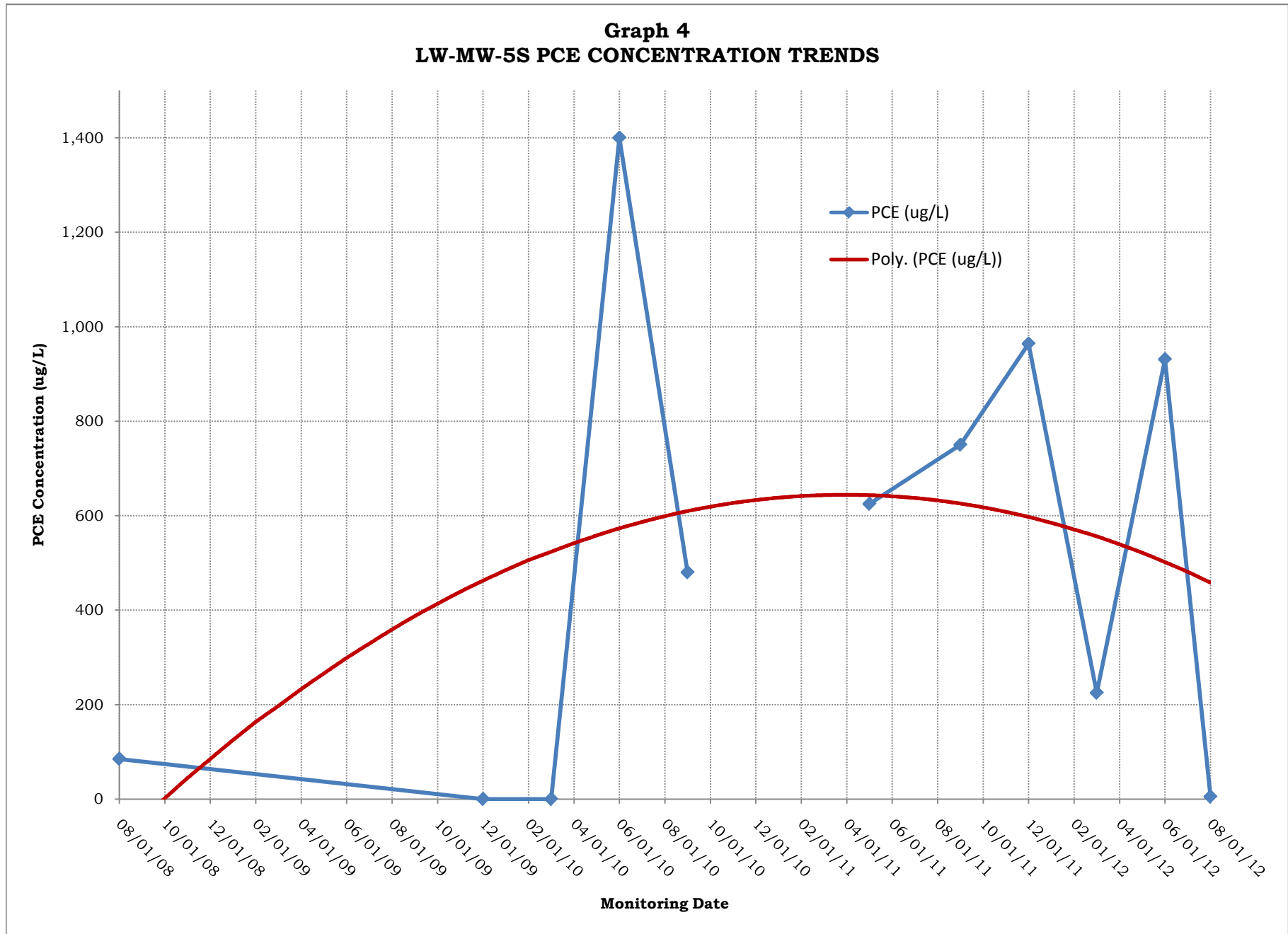
**GRAPH 1**  
**LAKE TAHOE LAUNDRY WORKS**  
**HYDROGRAPH - 12/4/09 - Current**





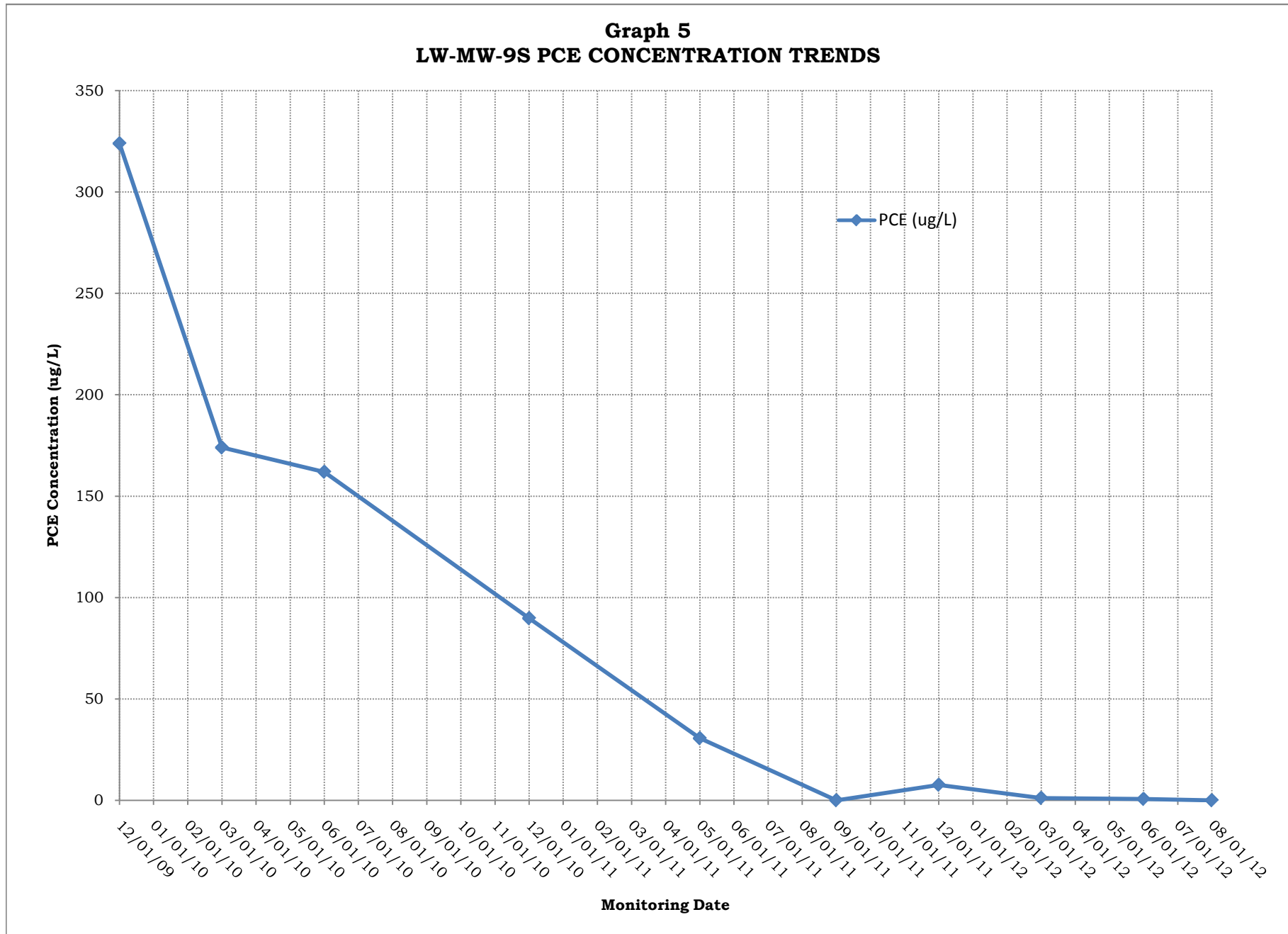
**Graph 3**  
**LW-MW-2S PCE CONCENTRATION TRENDS**

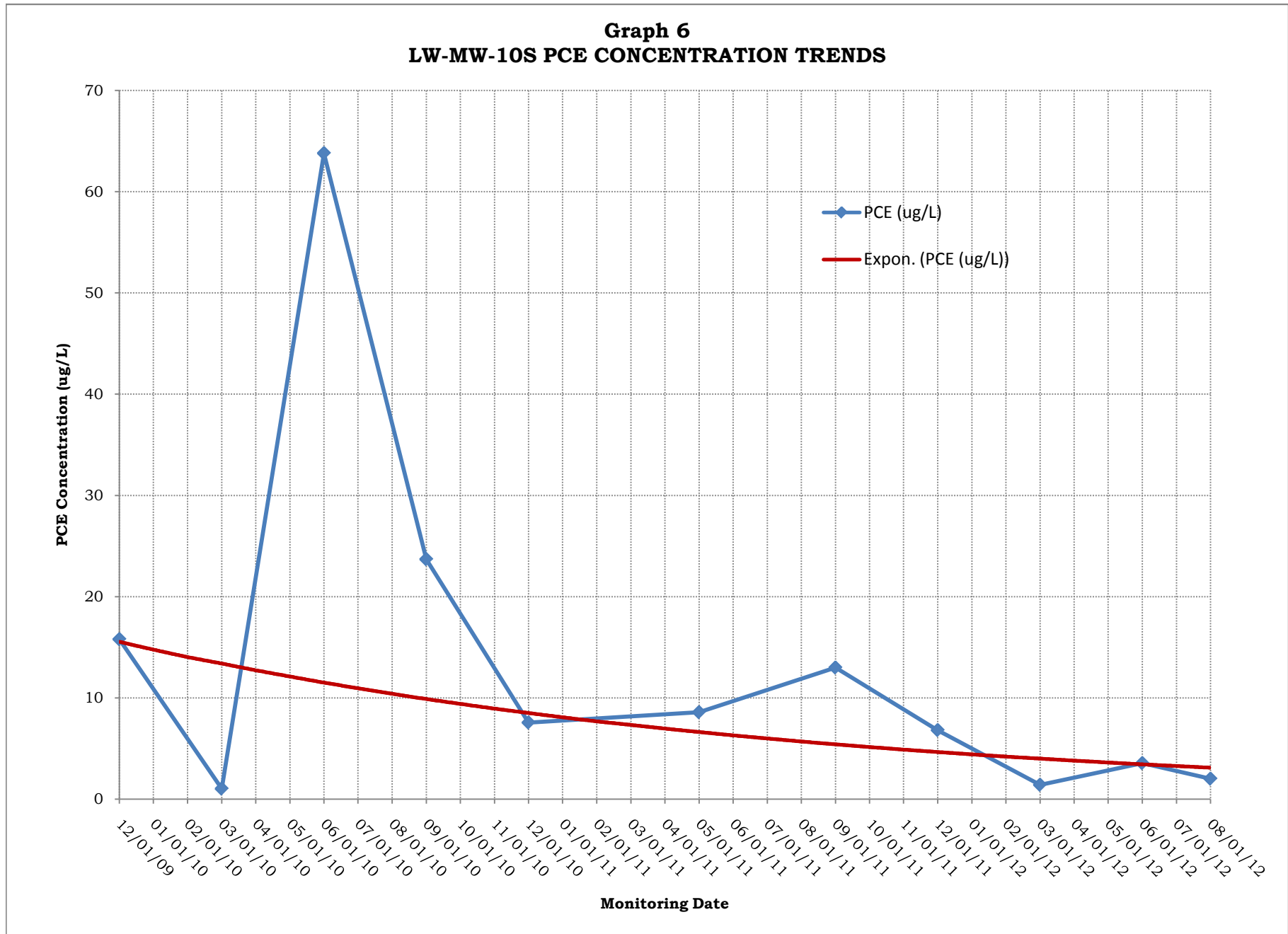




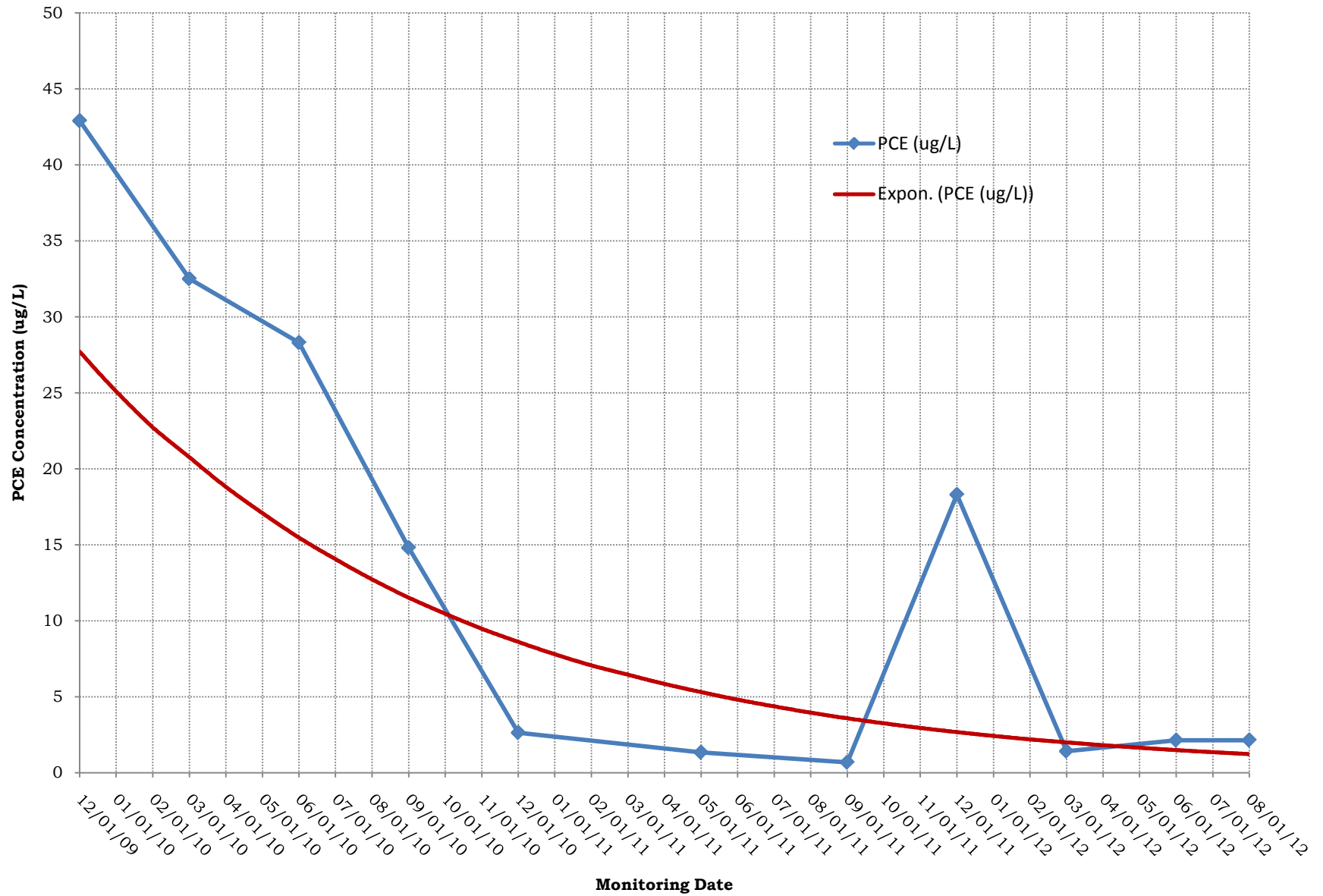


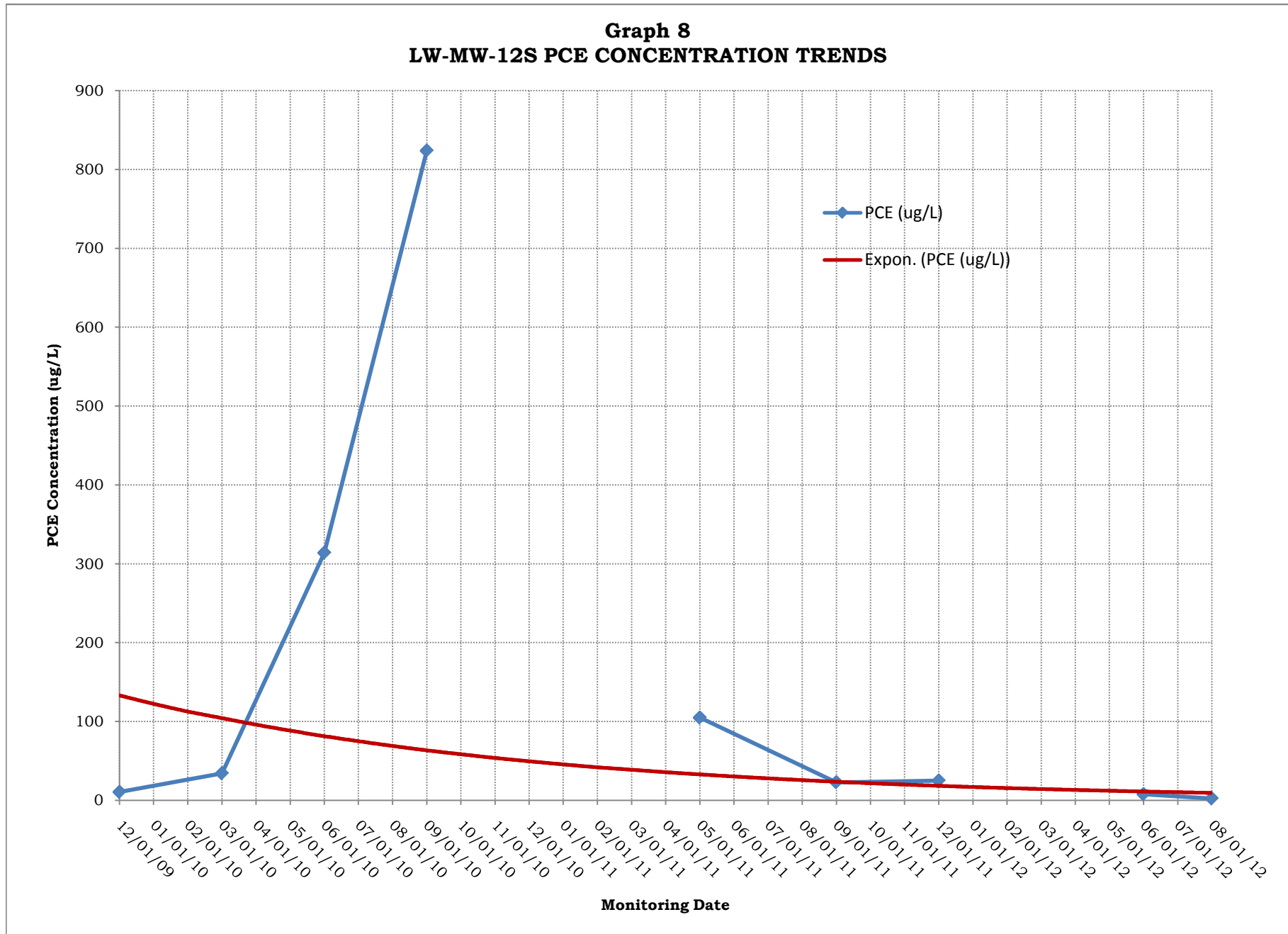
**Graph 5**  
**LW-MW-9S PCE CONCENTRATION TRENDS**

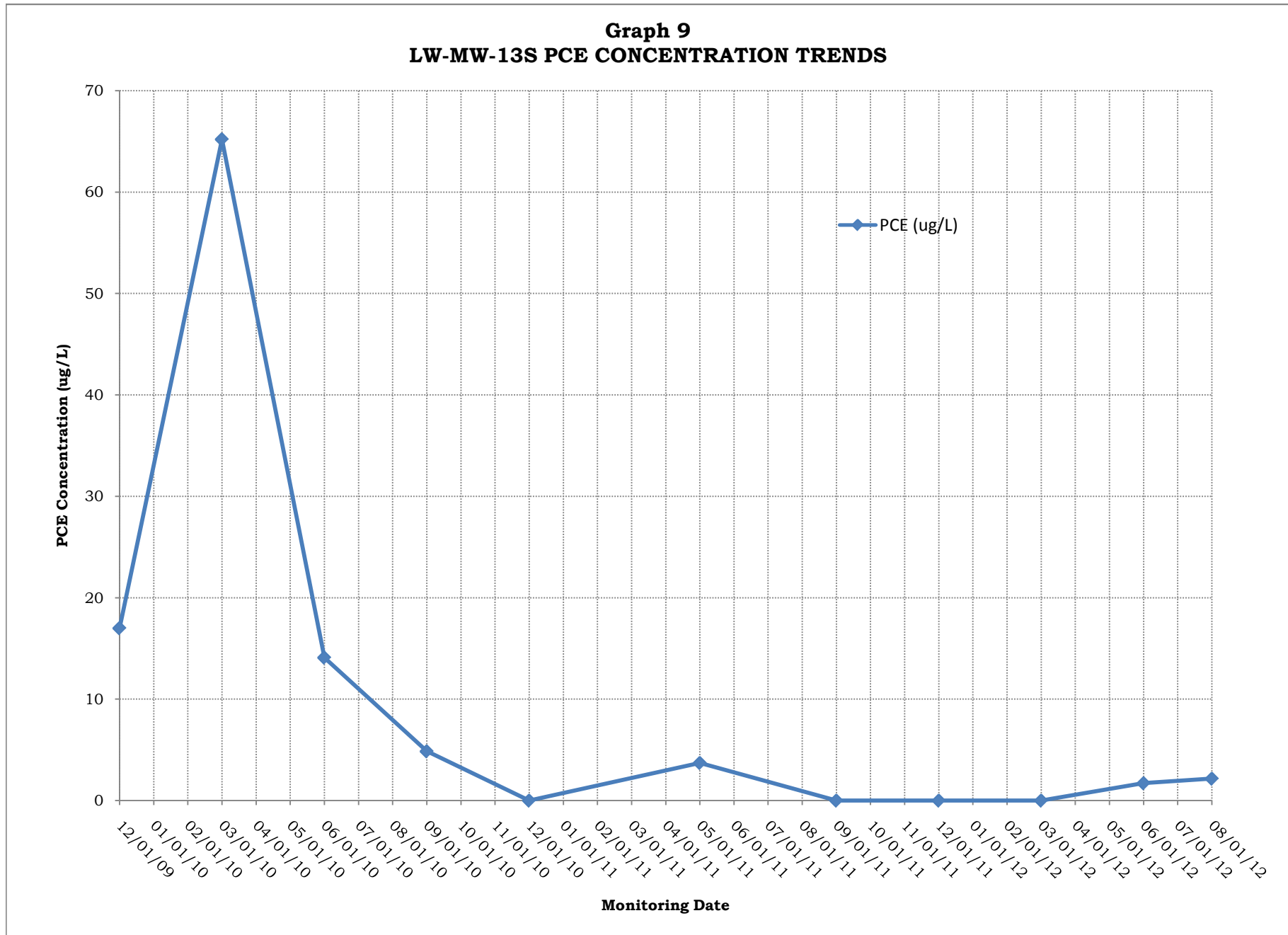




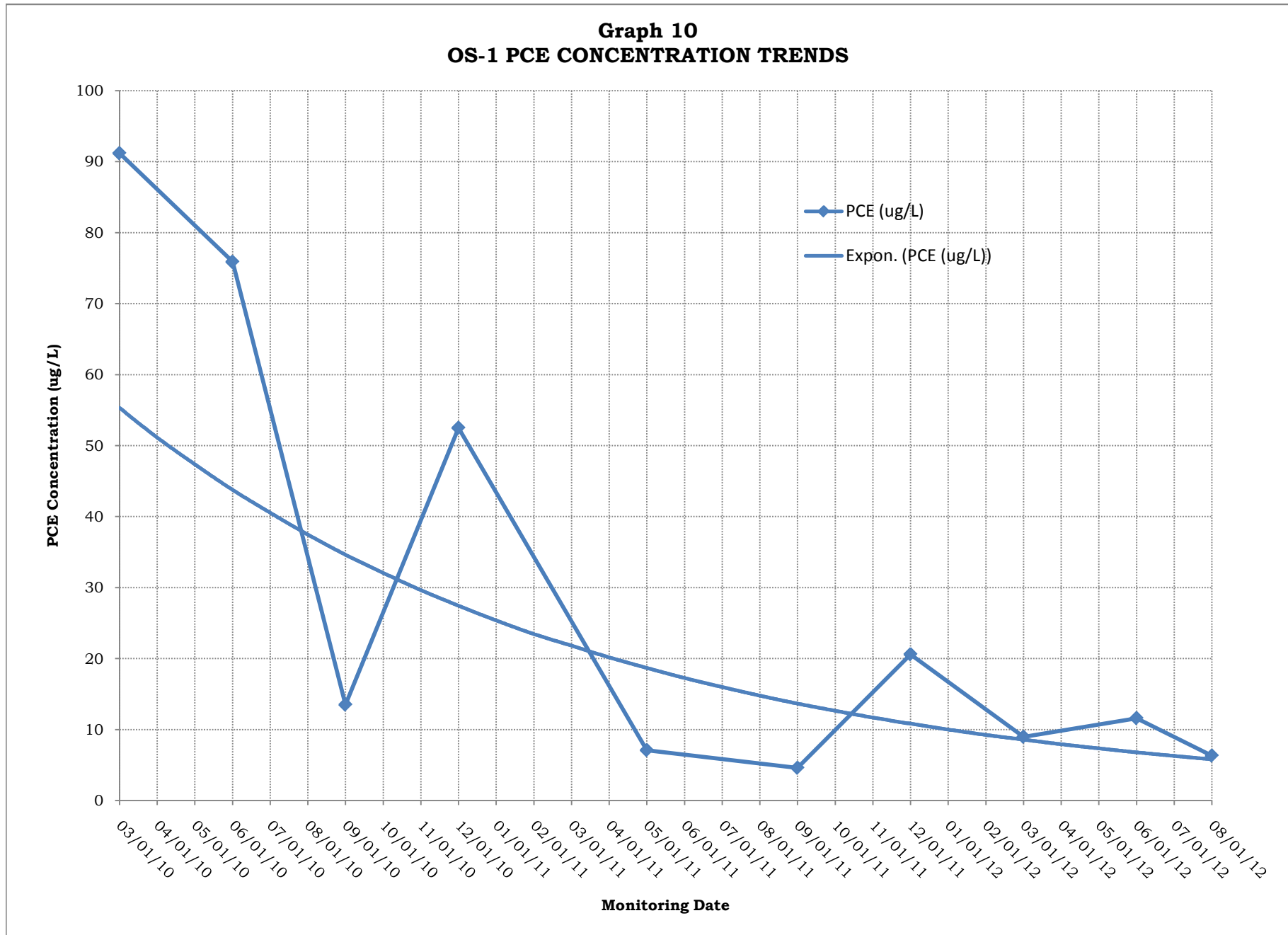
**Graph 7**  
**LW-MW-11S PCE CONCENTRATION TRENDS**

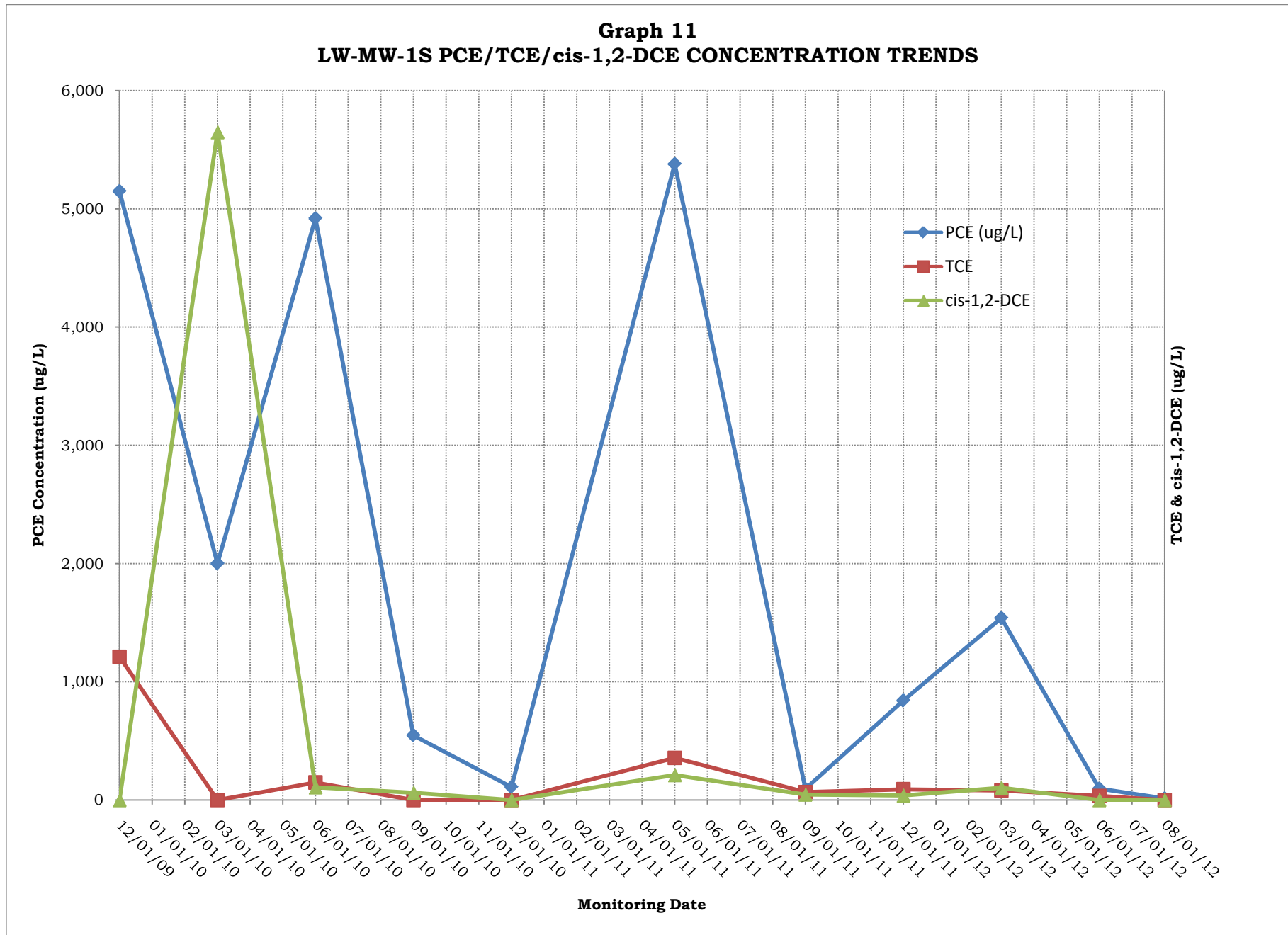




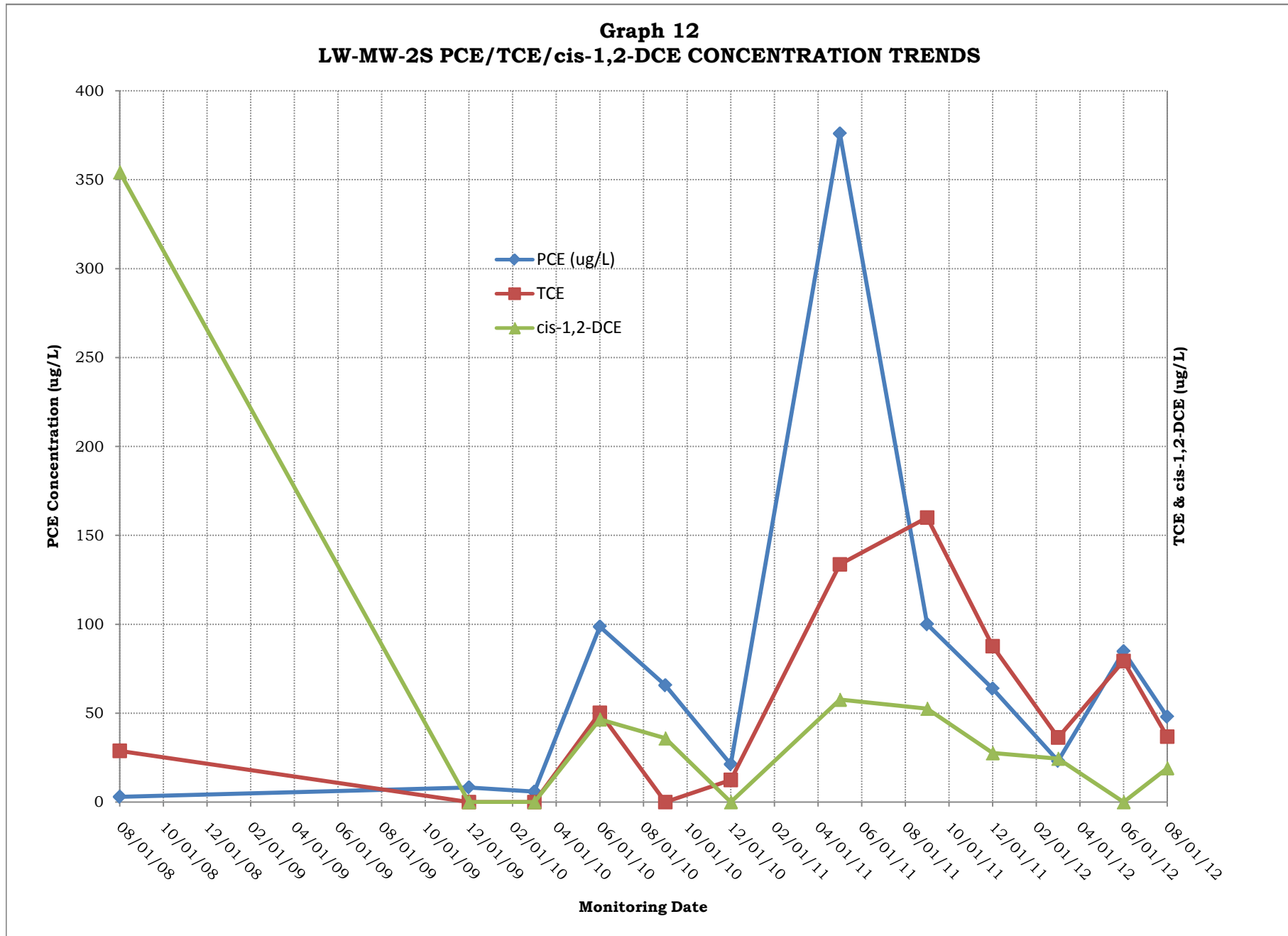


**Graph 10**  
**OS-1 PCE CONCENTRATION TRENDS**





**Graph 12**  
**LW-MW-2S PCE/TCE/cis-1,2-DCE CONCENTRATION TRENDS**





## **APPENDICES**

- Appendix A Groundwater Purge Data Sheets
- Appendix B Groundwater Analytical Laboratory Report
- Appendix C Shallow Soil-Vapor Sampling Field Data Sheets
- Appendix D Shallow Soil-Vapor Analytical Laboratory Report
- Appendix E Soil-Gas Monitoring Procedures (From IRAWP)
- Appendix F Interim Remediation System Vapor Laboratory Reports
- Appendix G GeoTracker Upload Confirmation Reports

# **APPENDIX A**

## Groundwater Purge Data Sheets

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-15  
 E<sub>2</sub>C REM. PROJECT #: 1950-RV-15  
 PROJECT NAME: LAKE TAHOE LAUNDRY WORKS  
 DATE SAMPLED: 8/21/12  
 SAMPLED BY: NICK JENSEN

DEPTH TO WATER: 12.19  
 TOTAL DEPTH OF WELL: 23.90  
 WELL DIAMETER: 2"  
 CASING VOLUME: \_\_\_\_\_  
 PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
12:57		250 mL/min			71.1	8.90	.44		MILKY, NO ODOR
12:59		}			67.5	9.07	.45		MILKY, NO ODOR
1:01					67.2	9.46	.45		MILKY, NO ODOR
1:08	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 25

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105, Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-2s  
 E<sub>2</sub>C REM. PROJECT #: 1950-RV-15  
 PROJECT NAME: LAKE TAHOE LAUNDRY WORKS  
 DATE SAMPLED: 8/21/12  
 SAMPLED BY: NICK JENSEN

DEPTH TO WATER: 13.64  
 TOTAL DEPTH OF WELL: 34.85  
 WELL DIAMETER: 2"  
 CASING VOLUME: \_\_\_\_\_  
 PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
12:36		250 mL / min			66.5	8.75	.48		CLEAR, NO ODOR
12:38		}			65.2	8.69	.49		CLEAR, NO ODOR
12:41					64.8	8.58	.48		CLEAR, NO ODOR
12:45	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 31

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade      ORP measured after sample collected

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-55

DEPTH TO WATER: 11.81

E<sub>2</sub>C REM. PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 29.73

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 8/21/12

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
1:21		250 mL/min			65.6	9.04	.28		CLOUDY, NO ODOR
1:23		}			63.5	9.13	.28		CLOUDY, NO ODOR
1:25					63.0	9.28	.28		CLOUDY, NO ODOR
1:31	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = -109

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-95

DEPTH TO WATER: 13.92

E<sub>2</sub>C REM. PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 24.25

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 8/21/12

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
9:29		250 mL/min			55.4	8.29	.25		CLOUDY, NO ODOOR
9:30		}			54.1	8.26	.27		CLOUDY, NO ODOOR
9:31					53.6	8.19	.29		CLOUDY, NO ODOOR
9:40	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 41

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-10 s

DEPTH TO WATER: 10.45

E<sub>2</sub>C REM. PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 24.60

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 8/21/12

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
10:02		250 ml/m			60.5	7.52	.46		CLEAR, NO ODOOR
10:04		}			58.9	7.59	.45		CLEAR, NO ODOOR
10:06					57.6	7.64	.43		CLEAR, NO ODOOR
10:12	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 6

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-11s

DEPTH TO WATER: 11.06

E<sub>2</sub>C REM. PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 24.02

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: \_\_\_\_\_

DATE SAMPLED: 8/21/12

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
9:47		250 ml/min			60.6	7.69	2.00		CLEAR, NO OOR
9:49		}			59.2	7.75	1.96		CLOUDY, NO OOR
9:51					57.8	7.84	1.89		CLOUDY, NO OOR
9:58	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 13

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected



# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-12s  
 E<sub>2</sub>C REM. PROJECT #: 1950-RV-15  
 PROJECT NAME: LAKE TAHOE LAUNDRY WORKS  
 DATE SAMPLED: 8/21/12  
 SAMPLED BY: NICK JENSEN

DEPTH TO WATER: 9.37  
 TOTAL DEPTH OF WELL: 23.80  
 WELL DIAMETER: 2"  
 CASING VOLUME: \_\_\_\_\_  
 PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
10:19		250 mL/M			62.5	8.50	.36		DIRTY BROWN, NO ODOOR
10:21		}			61.0	8.47	.35		DIRTY BROWN, NO ODOOR
10:23					59.8	8.53	.31		DIRTY BROWN, NO ODOOR
10:30	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = -134

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

WELL LID & CAP DAMAGED FROM CAR DIRT WAS GETTING INTO WELL, PUT NEW WELL PLUG IN & FIXED BEST I COULD FOR TODAY.

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: MW-135

DEPTH TO WATER: 10.22

E<sub>2</sub>C REM. PROJECT #: 1950-RV-15

TOTAL DEPTH OF WELL: 24.78

PROJECT NAME: LAKE TAHOE LAUNDRY WORKS

WELL DIAMETER: 2"

DATE SAMPLED: 8/21/12

CASING VOLUME: \_\_\_\_\_

SAMPLED BY: NICK JENSEN

PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
9:15		250 ml/min			60.3	8.19	.67		CLEAR, NO ODOR
9:16		}			58.7	8.15	.69		CLEAR, NO ODOR
9:17					57.0	8.11	.69		CLEAR, NO ODOR
9:23	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 29

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade      ORP measured after sample collected

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 5300 Woodmere Drive, Suite 105; Bakersfield, California 93313  
 Telephone: (661) 831-6906 / Facsimile: (661) 831-6234

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: 05-1  
 E<sub>2</sub>C REM. PROJECT #: 1950-RV-15  
 PROJECT NAME: LAKE TAHOE LAUNDRY WORKS  
 DATE SAMPLED: 8/21/12  
 SAMPLED BY: NICK JENSEN

DEPTH TO WATER: 11.06  
 TOTAL DEPTH OF WELL: 24.00  
 WELL DIAMETER: 2"  
 CASING VOLUME: \_\_\_\_\_  
 PURGE METHOD: LOW FLOW

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
10:36		250 mL/min			60.6	7.61	1.32		CLEAR, NO ODOR
10:38		}			59.0	7.69	1.30		CLOUDY, NO ODOR
10:40					57.8	7.77	1.27		CLOUDY, NO ODOR
10:47	SAMPLES								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 19

SAMPLED AT: \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade      ORP measured after sample collected

## **APPENDIX B**

### Groundwater Analytical Laboratory Report

# PROVERA ANALYTICAL LABORATORIES

# Chain of Custody Form

P11779

Client Name: E <sub>2</sub> C REMEDIATION		Analysis Requested										Sample Matrix
Project Name: LAKE TAHOE LAUNDRY WORKS		TPH Gasoline (8015M)	TPH Diesel (8015M)	Volatiles (EPA 8260b)	5 Oxygenates (EPA 8260b)	7 Oxygenates (EPA 8260b)	MTBE (EPA 8260b)	Lead scavengers (8260b)	BTEX (8260b)	Sample Matrix		
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA		MTBE (EPA 8021b)	TPH Gasoline (8015M)	Volatiles (EPA 8260b)	5 Oxygenates (EPA 8260b)	7 Oxygenates (EPA 8260b)	MTBE (EPA 8260b)	Lead scavengers (8260b)	BTEX (8260b)	<input checked="" type="checkbox"/> Aqueous	<input type="checkbox"/> Soil	<input type="checkbox"/> Acidified
Project Manager: AIL GALLWIN		Comments										
Sampler Name: NICK JENSEN		1282702-01										
Sample Date	Sample Time	Sample Description and Container Type										
8/21/12	5:40 AM	TRIP BLANK 1 VOA										
	9:23 AM	MW-13.5 3 VOAs										
	9:40 AM	MW-9.5										
	9:58 AM	MW-11.5										
	10:12 AM	MW-10.5										
	10:30 AM	MW-12.5										
	10:47 AM	OS-1										
	12:45 PM	MW-2.5										
	1:08 PM	MW-1.5										
	1:31 PM	MW-5.5										
		-02										
		-03										
		-04										
		-05										
		-06										
		-07										
		-08										
		-09										
		-10										

Sampling Event: 3RD QTR GWM EDF Type: GW Monitoring Other 3C

Turnaround Time Requested: 24 Hour 48 Hour 5-Day X Standard

Relinquished By: [Signature] Date: 8/21/12 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_

Received By: [Signature] Date: 8-27-12 Received By: \_\_\_\_\_ Date: \_\_\_\_\_



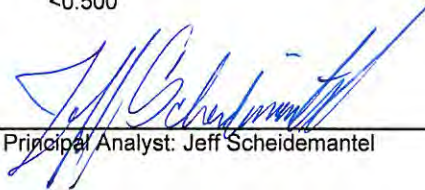
**ProVera**  
Analytical Laboratories, Inc.

**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	TRAVEL BLANK	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTW
Date Analyzed:	08/30/12	Lab ID:	11779-001
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	52.9	105.8%	70.0%	130%
1,2-Dichloroethane-d4	53.1	106.2%	70.0%	130%
Toluene-d8	49.5	99.0%	70.0%	130%
4-Bromofluorobenzene	48.8	97.6%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500



Principal Analyst: Jeff Scheidemantel



**ProVera**  
*Analytical Laboratories, Inc.*

Client Sample ID: TRAVEL BLANK  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-001  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	<0.500
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,1,2,3,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500



**ProVera**  
Analytical Laboratories, Inc.

Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID:	MW-13S	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTLW
Date Analyzed:	08/30/12	Lab ID:	11779-002
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	53.4	106.8%	70.0%	130%
1,2-Dichloroethane-d4	52.6	105.2%	70.0%	130%
Toluene-d8	48.5	97.0%	70.0%	130%
4-Bromofluorobenzene	49.0	98.0%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500





# ProVera

Analytical Laboratories, Inc.

Client Sample ID: MW-13S  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-002  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	2.16
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500



**ProVera**  
Analytical Laboratories, Inc.

**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	MW-9S	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTLW
Date Analyzed:	08/30/12	Lab ID:	11779-003
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	53.7	107.4%	70.0%	130%
1,2-Dichloroethane-d4	52.9	105.8%	70.0%	130%
Toluene-d8	48.1	96.2%	70.0%	130%
4-Bromofluorobenzene	49.3	98.6%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

# ProVera

Analytical Laboratories, Inc.



Client Sample ID: MW-9S  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-003  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	<0.500
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500



**ProVera**  
Analytical Laboratories, Inc.

**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	MW-11S	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTLW
Date Analyzed:	08/30/12	Lab ID:	11779-004
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	52.1	104.2%	70.0%	130%
1,2-Dichloroethane-d4	52.3	104.6%	70.0%	130%
Toluene-d8	48.4	96.8%	70.0%	130%
4-Bromofluorobenzene	48.6	97.2%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	3.97
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500

# ProVera

Analytical Laboratories, Inc.



Client Sample ID: MW-11S  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-004  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	2.14
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500



**ProVera**  
Analytical Laboratories, Inc.

**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	MW-10S	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTLW
Date Analyzed:	08/30/12	Lab ID:	11779-005
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	51.5	103.0%	70.0%	130%
1,2-Dichloroethane-d4	51.2	102.4%	70.0%	130%
Toluene-d8	49.7	99.4%	70.0%	130%
4-Bromofluorobenzene	48.1	96.2%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	4.45
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500



**ProVera**  
*Analytical Laboratories, Inc.*

Client Sample ID: MW-10S  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-005  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	2.02
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500



**ProVera**  
Analytical Laboratories, Inc.

Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID:	MW-12S	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTW
Date Analyzed:	08/30/12	Lab ID:	11779-006
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	50.3	100.6%	70.0%	130%
1,2-Dichloroethane-d4	49.3	98.6%	70.0%	130%
Toluene-d8	48.5	97.0%	70.0%	130%
4-Bromofluorobenzene	47.6	95.2%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500





**ProVera**  
*Analytical Laboratories, Inc.*

Client Sample ID: MW-12S  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-006  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	2.45
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopropyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500



**ProVer**  
Analytical Laboratories, Inc.

**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	OS-1	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTW
Date Analyzed:	08/30/12	Lab ID:	11779-007
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	52.4	104.8%	70.0%	130%
1,2-Dichloroethane-d4	53.4	106.8%	70.0%	130%
Toluene-d8	49.6	99.2%	70.0%	130%
4-Bromofluorobenzene	48.3	96.6%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500



# ProVera

Analytical Laboratories, Inc.

Client Sample ID: OS-1  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-007  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	6.32
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopopyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500



**ProVer**  
Analytical Laboratories, Inc.

Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID:	MW-2S	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTLW
Date Analyzed:	08/30/12	Lab ID:	11779-008
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	51.0	102.0%	70.0%	130%
1,2-Dichloroethane-d4	51.4	102.8%	70.0%	130%
Toluene-d8	49.3	98.6%	70.0%	130%
4-Bromofluorobenzene	48.8	97.6%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	3.22
1,2-Dichloropropane	<0.500



**ProVera**  
*Analytical Laboratories, Inc.*

Client Sample ID: MW-2S  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-008  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	44.1
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopopyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	1.67



**ProVera**  
Analytical Laboratories, Inc.

Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID:	MW-1S	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTLW
Date Analyzed:	08/30/12	Lab ID:	11779-009
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	51.5	103.0%	70.0%	130%
1,2-Dichloroethane-d4	52.2	104.4%	70.0%	130%
Toluene-d8	50.3	100.6%	70.0%	130%
4-Bromofluorobenzene	49.1	98.2%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500



**ProVera**  
*Analytical Laboratories, Inc.*

Client Sample ID: MW-1S  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-009  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	13.2
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopopyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500

# ProVera

Analytical Laboratories, Inc.



## Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID:	MW-5S	Client:	E2C Remediation
Date Received:	08/27/12	Project:	LTLW
Date Analyzed:	08/30/12	Lab ID:	11779-010
Matrix:	Water	Instrument:	GCMS1
Units:	ug/L (ppb)	Operator:	Jeff Scheidemantel

Surrogates:	Result	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	51.7	103.4%	70.0%	130%
1,2-Dichloroethane-d4	52.4	104.8%	70.0%	130%
Toluene-d8	50.9	101.8%	70.0%	130%
4-Bromofluorobenzene	49.6	99.2%	70.0%	130%

Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<0.500
Chloromethane	<0.500
Vinyl Chloride	<0.500
Bromomethane	<0.500
Chloroethane	<0.500
Trichlorofluoromethane	<0.500
Trans-1,2-Dichloroethene	<0.500
1,1-Dichloroethene	<0.500
Methyl Tert-Butyl Ether (MTBE)	<0.500
Methylene Chloride	<0.500
Diisopropyl Ether (DIPE)	<0.500
1,1-Dichloroethane	<0.500
Ethyl Tert-Butyl Ether (ETBE)	<0.500
Tert-Butyl Alcohol (TBA)	<2.50
1,1,1-Trichloroethane	<0.500
1,3-Dichloropropene	<0.500
1,1-Dichloropropene	<0.500
Carbon Tetrachloride	<0.500
Tert-Amyl Methyl Ether (TAME)	<0.500
Chloroform	<0.500
Benzene	<0.500
Bromochloromethane	<0.500
1,2-Dichloroethane	<0.500
Trichloroethene	<0.500
1,2-Dichloropropane	<0.500





# ProVera

Analytical Laboratories, Inc.

Client Sample ID: MW-5S  
Date Received: 08/27/12  
Date Analyzed: 08/30/12  
Matrix: Water  
Units: ug/L (ppb)

Client: E2C Remediation  
Project: LTLW  
Lab ID: 11779-010  
Instrument: GCMS1  
Operator: Jeff Scheidemantel

Compounds:	Concentration ug/L (ppb)
Dibromomethane	<0.500
Bromodichloromethane	<0.500
Toluene	<0.500
Trans-1,3-Dichloropropene	<0.500
Tetrachloroethene	5.06
1,3-Dichloropropane	<0.500
1,1,2-Trichloroethane	<0.500
Ethylbenzene	<0.500
1,2-Dibromoethane	<0.500
Total Xylenes	<0.500
Dibromochloromethane	<0.500
Chlorobenzene	<0.500
1,1,1,2-Tetrachloroethane	<0.500
Styrene	<0.500
Isopropylbenzene	<0.500
Propylbenzene	<0.500
1,3,5-Trimethylbenzene	<0.500
2-Chlorotoluene	<0.500
Bromobenzene	<0.500
Bromoform	<0.500
4-Chlorotoluene	<0.500
Tert-Butylbenzene	<0.500
1,2,4-Trimethylbenzene	<0.500
1,2,3-Trichloropropane	<0.500
Sec-Butylbenzene	<0.500
1,1,2,2-Tetrachloroethane	<0.500
4-Isopopyltoluene	<0.500
1,3-Dichlorobenzene	<0.500
Butylbenzene	<0.500
1,4-Dichlorobenzene	<0.500
1,2-Dichlorobenzene	<0.500
1,2-dibromo-3-chloropropane	<0.500
1,1,2,3,4,4-hexachloro-1,3-butadiene	<0.500
1,2,4-Trichlorobenzene	<0.500
Napthalene	<0.500
1,2,3-Trichlorobenzene	<0.500
Cis-1,2-Dichloroethene	<0.500



**ProVera**  
Analytical Laboratories, Inc.

EPA 8260B QA-QC Report  
EPA 8015M QA-QC Report  
Certification # 2606

**CLIENT:** E2C Remediation  
5300 Woodmere Drive, Suite 105  
Bakersfield, CA 93313

Projects Covered by this QA-QC: LTLW  
Analysis Date: 8/30/2012  
Matrix: AQ

**BFB:**

Internal Standards	Results	% Recovery
Benzene, fluoro	50.0	100%
Benzene-d5, chloro-	50.0	100%
1,4-Dichlorobenzene-d4	50.0	100%

**Surrogate Standards**

Methane, dibromofluoro-	51.1	102%
1,2-Dichloroethane-d4	52.6	105%
Toluene-d8	53.9	108%
p-Bromofluorobenzene (BFB)	50.4	101%

**IB:**

Internal Standards	Results	% Recovery
Benzene, fluoro	50.0	100%
Benzene-d5, chloro-	50.0	100%
1,4-Dichlorobenzene-d4	50.0	100%

**Surrogate Standards**

Methane, dibromofluoro-	50.7	101%
1,2-Dichloroethane-d4	52.5	105%
Toluene-d8	49.6	99%
p-Bromofluorobenzene (BFB)	49.4	99%

**MS: (&)**

	Results	% Recovery
1,1-Dichloroethene	26.1	104%
Trichloroethene	25.4	102%
Chlorobenzene	24.8	99%
Toluene	23.9	96%
Benzene	24.1	96%
p-Bromofluorobenzene (BFB)	50.3	101%

**MSD: (&)**

	Results	% Recovery
1,1-Dichloroethene	25.4	102%
Trichloroethene	24.3	97%
Chlorobenzene	23.6	94%
Toluene	22.7	91%
Benzene	24.9	100%
p-Bromofluorobenzene (BFB)	49.3	99%

# CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

August 28, 2012

**CLS Work Order #: CVH0941**

**COC #: 132982**

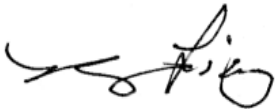
Phil Goalwin  
E2C Remediation (Bakersfield Office)  
5300 Woodmere Drive, Suite 105  
Bakersfield, CA 93313

**Project Name: Lake Tahoe Laundry Works**

Enclosed are the results of analyses for samples received by the laboratory on 08/22/12 15:45. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

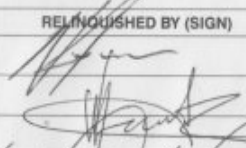




James Liang, Ph.D.  
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

# CALIFORNIA LABORATORY SERVICES

E2C Remediation (Bakersfield Office) 5300 Woodmere Drive, Suite 105 Bakersfield, CA 93313	Project: Lake Tahoe Laundry Works Project Number: 1950-RV Project Manager: Phil Goalwin	CLS Work Order #: CVH0941 COC #: 132982
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CLS - Labs		CHAIN OF CUSTODY				ANALYSIS REQUESTED				GEOTRACKER:																																																	
<b>REPORT TO:</b> NAME AND ADDRESS: E2C REMEDIATION 1020 WINDING CREEK RD, #110 ROSEVILLE CA 95678 PROJECT MANAGER: PHIL GOALWIN PHONE: 916-782-8700 PROJECT NAME: LAKE TAHOE LAUNDRY WORKS SAMPLED BY: NICK JENSEN JOB DESCRIPTION: H2O SAMPLING SITE LOCATION: 1024 LAKE TAHOE BLDG. SLT CA		<b>CLIENT JOB NUMBER:</b> 1950-RV  <b>DESTINATION LABORATORY:</b> <input checked="" type="checkbox"/> CLS (916) 638-7301 3249 FITZGERALD RD. RANCHO CORDOVA, CA 95742  <input type="checkbox"/> OTHER		PRESERVATIVES FULL VOC (EPA TO-15)				<b>CLS ID No.:</b> CVH0941 <b>LOG NO.:</b> 132982		<b>EDF REPORT</b> <input type="checkbox"/> YES <input type="checkbox"/> NO <b>GLOBAL ID:</b> _____  <b>COMPOSITE:</b>  <b>FIELD CONDITIONS:</b> SUNNY 80° F																																																	
<table border="1"> <thead> <tr> <th>DATE</th> <th>TIME</th> <th>SAMPLE IDENTIFICATION</th> <th>MATRIX</th> <th>CONTAINER NO.</th> <th>TYPE</th> <th>1 DAY</th> <th>2 DAY</th> <th>5 DAY</th> <th>10 DAY</th> </tr> </thead> <tbody> <tr> <td>8/21/12</td> <td>12:45 pm</td> <td>MW-2s</td> <td>H2O</td> <td>3</td> <td>VOA</td> <td>NO</td> <td></td> <td></td> <td></td> </tr> <tr> <td>8/21/12</td> <td>1:08 pm</td> <td>MW-1s</td> <td>H2O</td> <td>3</td> <td>VOA</td> <td>NO</td> <td></td> <td></td> <td></td> </tr> <tr> <td>8/21/12</td> <td>1:31 pm</td> <td>MW-5s</td> <td>H2O</td> <td>3</td> <td>VOA</td> <td>NO</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		DATE	TIME					SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	TYPE	1 DAY	2 DAY	5 DAY	10 DAY	8/21/12	12:45 pm	MW-2s	H2O	3	VOA	NO				8/21/12	1:08 pm	MW-1s	H2O	3	VOA	NO				8/21/12	1:31 pm	MW-5s	H2O	3	VOA	NO				<table border="1"> <thead> <tr> <th colspan="2">TURN AROUND TIME</th> <th colspan="2">SPECIAL INSTRUCTIONS</th> </tr> <tr> <th>1 DAY</th> <th>2 DAY</th> <th colspan="2">OR</th> </tr> <tr> <th>5 DAY</th> <th>10 DAY</th> <th>ALT.</th> <th>ID:</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		TURN AROUND TIME		SPECIAL INSTRUCTIONS		1 DAY	2 DAY	OR		5 DAY	10 DAY	ALT.	ID:
DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	TYPE	1 DAY	2 DAY	5 DAY	10 DAY																																																		
8/21/12	12:45 pm	MW-2s	H2O	3	VOA	NO																																																					
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1 DAY	2 DAY	OR																																																									
5 DAY	10 DAY	ALT.	ID:																																																								
<b>SUSPECTED CONSTITUENTS:</b>		<b>PRESERVATIVES:</b> (1) HCL (2) HNO3 (3) COLD (4) NaOH (5) H2SO4 (6) Na2S2O3 (7) =		<b>INVOICE TO:</b>		<b>PO #</b>		<b>QUOTE #</b>																																																			
<b>RELINQUISHED BY (SIGN)</b> 		<b>PRINT NAME / COMPANY</b> NICK JENSEN / E2C		<b>DATE / TIME</b> 8/21/12 @ 4:30p 8/22/12 08:14 8/22/12 15:45		<b>RECEIVED BY (SIGN)</b> 		<b>PRINT NAME / COMPANY</b> CLS / CLS																																																			
<b>RECD AT LAB BY:</b> 		<b>DATE / TIME:</b> 8/22/12 15:45		<b>CONDITIONS / COMMENTS:</b> CLS		<b>SHIPPED BY:</b> <input type="checkbox"/> FED X <input type="checkbox"/> UPS <input checked="" type="checkbox"/> OTHER		<b>AIR BILL #</b>																																																			

# CALIFORNIA LABORATORY SERVICES

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E2C Remediation (Bakersfield Office) 5300 Woodmere Drive, Suite 105 Bakersfield, CA 93313	Project: Lake Tahoe Laundry Works Project Number: 1950-RV Project Manager: Phil Goalwin	CLS Work Order #: CVH0941 COC #: 132982
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## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2s (CVH0941-01) Water Sampled: 08/21/12 12:45 Received: 08/22/12 15:45</b>									
Acetone	ND	10	µg/L	1	CV05820	08/23/12	08/24/12	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
2-Butanone	ND	10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.50	"	"	"	"	"	"	
Chloroform	ND	0.50	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
p-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.50	"	"	"	"	"	"	
<b>cis-1,2-Dichloroethene</b>	<b>1.2</b>	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	

CA DOHS ELAP Accreditation/Registration Number 1233

# CALIFORNIA LABORATORY SERVICES

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E2C Remediation (Bakersfield Office)  
5300 Woodmere Drive, Suite 105  
Bakersfield, CA 93313

Project: Lake Tahoe Laundry Works  
Project Number: 1950-RV  
Project Manager: Phil Goalwin

CLS Work Order #: CVH0941

COC #: 132982

## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2s (CVH0941-01) Water Sampled: 08/21/12 12:45 Received: 08/22/12 15:45</b>									
1,2-Dichloropropane	ND	0.50	µg/L	1	CV05820	"	08/24/12	EPA 8260B	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	
2-Hexanone	ND	10	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	10	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Naphthalene	ND	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
<b>Tetrachloroethene</b>	<b>48</b>	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
<b>Trichloroethene</b>	<b>2.7</b>	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	

CA DOHS ELAP Accreditation/Registration Number 1233

# CALIFORNIA LABORATORY SERVICES

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E2C Remediation (Bakersfield Office) 5300 Woodmere Drive, Suite 105 Bakersfield, CA 93313	Project: Lake Tahoe Laundry Works Project Number: 1950-RV Project Manager: Phil Goalwin	CLS Work Order #: CVH0941 COC #: 132982
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## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2s (CVH0941-01) Water    Sampled: 08/21/12 12:45    Received: 08/22/12 15:45</b>									
1,3,5-Trimethylbenzene	ND	0.50	µg/L	1	CV05820	"	08/24/12	EPA 8260B	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	112 %	66-135	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	100 %	72-125	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	98 %	73-125	"	"	"	"	"	"	

### MW-1s (CVH0941-02) Water    Sampled: 08/21/12 13:08    Received: 08/22/12 15:45

Acetone	ND	10	µg/L	1	CV05820	08/23/12	08/24/12	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
2-Butanone	ND	10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.50	"	"	"	"	"	"	
Chloroform	ND	0.50	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
p-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	

# CALIFORNIA LABORATORY SERVICES

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E2C Remediation (Bakersfield Office)  
5300 Woodmere Drive, Suite 105  
Bakersfield, CA 93313

Project: Lake Tahoe Laundry Works  
Project Number: 1950-RV  
Project Manager: Phil Goalwin

CLS Work Order #: CVH0941

COC #: 132982

## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1s (CVH0941-02) Water Sampled: 08/21/12 13:08 Received: 08/22/12 15:45</b>									
1,2-Dichlorobenzene	ND	0.50	µg/L	1	CV05820	"	08/24/12	EPA 8260B	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	
2-Hexanone	ND	10	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	10	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Naphthalene	ND	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
<b>Tetrachloroethene</b>	<b>11</b>	0.50	"	"	"	"	"	"	



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E2C Remediation (Bakersfield Office)  
5300 Woodmere Drive, Suite 105  
Bakersfield, CA 93313

Project: Lake Tahoe Laundry Works  
Project Number: 1950-RV  
Project Manager: Phil Goalwin

CLS Work Order #: CVH0941  
COC #: 132982

## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1s (CVH0941-02) Water Sampled: 08/21/12 13:08 Received: 08/22/12 15:45</b>									
Toluene	ND	0.50	µg/L	1	CV05820	"	08/24/12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	122 %	66-135	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	102 %	72-125	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	100 %	73-125	"	"	"	"	"	"

### MW-5s (CVH0941-03) Water Sampled: 08/21/12 13:31 Received: 08/22/12 15:45

Acetone	ND	10	µg/L	1	CV05820	08/23/12	08/24/12	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
2-Butanone	ND	10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	

# CALIFORNIA LABORATORY SERVICES

E2C Remediation (Bakersfield Office) 5300 Woodmere Drive, Suite 105 Bakersfield, CA 93313	Project: Lake Tahoe Laundry Works Project Number: 1950-RV Project Manager: Phil Goalwin	CLS Work Order #: CVH0941 COC #: 132982
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## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-5s (CVH0941-03) Water    Sampled: 08/21/12 13:31    Received: 08/22/12 15:45</b>									
Chloroethane	ND	0.50	µg/L	1	CV05820	"	08/24/12	EPA 8260B	
Chloroform	ND	0.50	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
p-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	
2-Hexanone	ND	10	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	

# CALIFORNIA LABORATORY SERVICES

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E2C Remediation (Bakersfield Office) 5300 Woodmere Drive, Suite 105 Bakersfield, CA 93313	Project: Lake Tahoe Laundry Works Project Number: 1950-RV Project Manager: Phil Goalwin	CLS Work Order #: CVH0941 COC #: 132982
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## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-5s (CVH0941-03) Water Sampled: 08/21/12 13:31 Received: 08/22/12 15:45</b>									
Methylene chloride	ND	0.50	µg/L	1	CV05820	"	08/24/12	EPA 8260B	
4-Methyl-2-pentanone	ND	10	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Naphthalene	ND	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
<b>Tetrachloroethene</b>	<b>6.2</b>	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	123 %	66-135	"	"	"	"	"
Surrogate: Toluene-d8	100 %	72-125	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	73-125	"	"	"	"	"

# CALIFORNIA LABORATORY SERVICES

E2C Remediation (Bakersfield Office) 5300 Woodmere Drive, Suite 105 Bakersfield, CA 93313	Project: Lake Tahoe Laundry Works Project Number: 1950-RV Project Manager: Phil Goalwin	CLS Work Order #: CVH0941 COC #: 132982
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## Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch CV05820 - EPA 5030 Water MS

#### Blank (CV05820-BLK1)

Prepared & Analyzed: 08/23/12

Acetone	ND	10	µg/L							
Benzene	ND	0.50	"							
Bromobenzene	ND	0.50	"							
Bromochloromethane	ND	0.50	"							
Bromodichloromethane	ND	0.50	"							
Bromoform	ND	0.50	"							
Bromomethane	ND	1.0	"							
2-Butanone	ND	10	"							
n-Butylbenzene	ND	0.50	"							
sec-Butylbenzene	ND	0.50	"							
tert-Butylbenzene	ND	0.50	"							
Carbon tetrachloride	ND	0.50	"							
Chlorobenzene	ND	0.50	"							
Chloroethane	ND	0.50	"							
Chloroform	ND	0.50	"							
Chloromethane	ND	1.0	"							
o-Chlorotoluene	ND	0.50	"							
p-Chlorotoluene	ND	0.50	"							
Dibromochloromethane	ND	0.50	"							
1,2-Dibromo-3-chloropropane	ND	1.0	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Dibromomethane	ND	0.50	"							
1,2-Dichlorobenzene	ND	0.50	"							
1,3-Dichlorobenzene	ND	0.50	"							
1,4-Dichlorobenzene	ND	0.50	"							
Dichlorodifluoromethane (Freon 12)	ND	1.0	"							
1,1-Dichloroethane	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,1-Dichloroethene	ND	0.50	"							
cis-1,2-Dichloroethene	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.50	"							

# CALIFORNIA LABORATORY SERVICES

E2C Remediation (Bakersfield Office) 5300 Woodmere Drive, Suite 105 Bakersfield, CA 93313	Project: Lake Tahoe Laundry Works Project Number: 1950-RV Project Manager: Phil Goalwin	CLS Work Order #: CVH0941 COC #: 132982
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## Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch CV05820 - EPA 5030 Water MS

Blank (CV05820-BLK1)

Prepared & Analyzed: 08/23/12

1,2-Dichloropropane	ND	0.50	µg/L							
1,3-Dichloropropane	ND	0.50	"							
2,2-Dichloropropane	ND	0.50	"							
1,1-Dichloropropene	ND	0.50	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	"							
Hexachlorobutadiene	ND	0.50	"							
2-Hexanone	ND	10	"							
Isopropylbenzene	ND	0.50	"							
p-Isopropyltoluene	ND	0.50	"							
Methylene chloride	ND	0.50	"							
4-Methyl-2-pentanone	ND	10	"							
Methyl tert-butyl ether	ND	0.50	"							
Naphthalene	ND	0.50	"							
n-Propylbenzene	ND	0.50	"							
Styrene	ND	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.50	"							
Tetrachloroethene	ND	0.50	"							
Toluene	ND	0.50	"							
1,2,3-Trichlorobenzene	ND	0.50	"							
1,2,4-Trichlorobenzene	ND	0.50	"							
1,1,1-Trichloroethane	ND	0.50	"							
1,1,2-Trichloroethane	ND	0.50	"							
Trichloroethene	ND	0.50	"							
Trichlorofluoromethane	ND	0.50	"							
1,2,3-Trichloropropane	ND	0.50	"							
1,2,4-Trimethylbenzene	ND	0.50	"							

# CALIFORNIA LABORATORY SERVICES

E2C Remediation (Bakersfield Office) 5300 Woodmere Drive, Suite 105 Bakersfield, CA 93313	Project: Lake Tahoe Laundry Works Project Number: 1950-RV Project Manager: Phil Goalwin	CLS Work Order #: CVH0941 COC #: 132982
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## Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch CV05820 - EPA 5030 Water MS

#### Blank (CV05820-BLK1)

Prepared & Analyzed: 08/23/12

1,3,5-Trimethylbenzene	ND	0.50	µg/L							
Vinyl chloride	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>10.8</i>		<i>"</i>	<i>10.0</i>		<i>108</i>	<i>66-135</i>			
<i>Surrogate: Toluene-d8</i>	<i>9.23</i>		<i>"</i>	<i>10.0</i>		<i>92</i>	<i>72-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>10.3</i>		<i>"</i>	<i>10.0</i>		<i>103</i>	<i>73-125</i>			

#### LCS (CV05820-BS1)

Prepared & Analyzed: 08/23/12

Benzene	20.2	0.50	µg/L	20.0		101	60-135			
Chlorobenzene	20.0	0.50	"	20.0		100	60-133			
1,1-Dichloroethene	20.7	0.50	"	20.0		104	42-150			
Toluene	20.4	0.50	"	20.0		102	60-137			
Trichloroethene	19.8	0.50	"	20.0		99	62-140			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>9.14</i>		<i>"</i>	<i>10.0</i>		<i>91</i>	<i>66-135</i>			
<i>Surrogate: Toluene-d8</i>	<i>10.2</i>		<i>"</i>	<i>10.0</i>		<i>102</i>	<i>72-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>9.89</i>		<i>"</i>	<i>10.0</i>		<i>99</i>	<i>73-125</i>			

#### LCS Dup (CV05820-BSD1)

Prepared & Analyzed: 08/23/12

Benzene	20.5	0.50	µg/L	20.0		103	60-135	2	25	
Chlorobenzene	20.6	0.50	"	20.0		103	60-133	3	25	
1,1-Dichloroethene	20.3	0.50	"	20.0		102	42-150	2	25	
Toluene	20.7	0.50	"	20.0		104	60-137	2	25	
Trichloroethene	20.3	0.50	"	20.0		101	62-140	2	25	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>9.01</i>		<i>"</i>	<i>10.0</i>		<i>90</i>	<i>66-135</i>			
<i>Surrogate: Toluene-d8</i>	<i>10.0</i>		<i>"</i>	<i>10.0</i>		<i>100</i>	<i>72-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>10.1</i>		<i>"</i>	<i>10.0</i>		<i>101</i>	<i>73-125</i>			

# CALIFORNIA LABORATORY SERVICES

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E2C Remediation (Bakersfield Office)  
5300 Woodmere Drive, Suite 105  
Bakersfield, CA 93313

Project: Lake Tahoe Laundry Works  
Project Number: 1950-RV  
Project Manager: Phil Goalwin

**CLS Work Order #: CVH0941**  
COC #: 132982

## Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

## **APPENDIX C**

### Shallow Soil-Vapor Sampling Field Data Sheets



# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE:

LTLW

ADDRESS:

1024 S. LAKE TAHOE BLVD.

DATE:

9-13-12

SAMPLE ID:

UP-1 @ 1:35pm

FIELD CREW:

C. BENDIN

### PURGE DATA

Purge Method

Syringe

Purge Duration

3 min

Purge Volume

600 ml

### SAMPLING

Summa Canister Serial #

83792

Initial Vacuum in Canister

22" Hg

Leak Check Constituent

tetrafluoroethane

Was sampling tented

Yes

No

Sampling Duration

5 min

Final Vacuum in Canister

1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TAHOE BLVD.  
DATE: 9-13-12  
SAMPLE ID: UP-2 @ 1:51  
FIELD CREW: C. BRANDIN

### PURGE DATA

Purge Method: SYRINGE  
Purge Duration: 3 min  
Purge Volume: 600 ml

### SAMPLING

Summa Canister Serial #: 83795  
Initial Vacuum in Canister: 22.5" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE:

LTLW

ADDRESS:

1024 S. LAKE TAHOE BLVD.

DATE:

9-13-12

SAMPLE ID:

VP-3 @ 2:15

FIELD CREW:

C. BRANDIN

### PURGE DATA

Purge Method

Syringe

Purge Duration

3 min

Purge Volume

600 ml

### SAMPLING

Summa Canister Serial #

83621

Initial Vacuum in Canister

23" Hg

Leak Check Constituent

tetrafluoroethane

Was sampling tented

Yes  No

Sampling Duration

5 min

Final Vacuum in Canister

1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE:

LTLW

ADDRESS:

1024 S. LAKE TAHOE BLVD.

DATE:

9-13-12

SAMPLE ID:

VP-4 @ 2:40

FIELD CREW:

C. BENDIN

### PURGE DATA

Purge Method

Syringe

Purge Duration

3 min

Purge Volume

600 mL

### SAMPLING

Summa Canister Serial #

#3

Initial Vacuum in Canister

22.5" Hg

Leak Check Constituent

tetrafluoroethane

Was sampling tented

Yes

No

Sampling Duration

5 min

Final Vacuum in Canister

1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TAHOE BLVD.  
DATE: 9-13-12  
SAMPLE ID: VP-5 @ 3:05  
FIELD CREW: C. BRANDIN

### PURGE DATA

Purge Method: Syringe  
Purge Duration: 3 min  
Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 83756  
Initial Vacuum in Canister: 22.5" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TAHOE BLVD.  
DATE: 9-13-12  
SAMPLE ID: UP-6 @ 3:30  
FIELD CREW: C. BRANDIN

### PURGE DATA

Purge Method Syringe  
Purge Duration 3 min  
Purge Volume 600 ml

### SAMPLING

Summa Canister Serial # 837354  
Initial Vacuum in Canister 23" Hg  
Leak Check Constituent tetrafluoroethane  
Was sampling tented  Yes  No  
Sampling Duration 5 min  
Final Vacuum in Canister 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TAHOE BLVD.  
DATE: 9-13-12  
SAMPLE ID: UP-7 @ 3:56  
FIELD CREW: C. BRANDIN

### PURGE DATA

Purge Method: Syringe  
Purge Duration: 3 min  
Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: #251  
Initial Vacuum in Canister: 21" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 S. LAKE TAHOE BLVD.  
DATE: 9-13-12  
SAMPLE ID: UP-8 @ 4:20  
FIELD CREW: C. BRANDIN

### PURGE DATA

Purge Method: Syringe  
Purge Duration: 3 min  
Purge Volume: 600 ml

### SAMPLING

Summa Canister Serial #: 83796  
Initial Vacuum in Canister: 22.5" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 1" Hg



# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE:

LTLW

ADDRESS:

1024 S. LAKE TAHOE BLVD.

DATE:

9-13-12

SAMPLE ID:

VP-9 @ 4:38

FIELD CREW:

C. BRANDIN

### PURGE DATA

Purge Method

Syringe

Purge Duration

3 min

Purge Volume

600 mL

### SAMPLING

Summa Canister Serial #

83263

Initial Vacuum in Canister

22.5" Hg

Leak Check Constituent

tetrafluoroethane

Was sampling tented

Yes  No

Sampling Duration

5 min

Final Vacuum in Canister

1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE:

LTLW

ADDRESS:

1024 S. LAKE TAHOE BLVD.

DATE:

9-13-12

SAMPLE ID:

UP-10 @ 5:05

FIELD CREW:

C. BENDIN

### PURGE DATA

Purge Method

SYRINGE

Purge Duration

3 min

Purge Volume

600 ML

### SAMPLING

Summa Canister Serial #

86144

Initial Vacuum in Canister

22" Hg

Leak Check Constituent

tetrafluoroethane

Was sampling tented

Yes

No

Sampling Duration

5 min

Final Vacuum in Canister

1" Hg

## **APPENDIX D**

### Shallow Soil-Vapor Analytical Laboratory Report

PROVERA ANALYTICAL LABORATORIES

Chain of Custody Form  
P11822

Client Name: E2C Remediation

Project Name: 1024 S. LAKE TAHOE BLD.

Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA

Project Manager: Pitu Gorman

Sampler Name: C. P. [Signature]

Sample Date	Sample Time	Sample Description and Container Type
9-13-12	1:35	VP-1 1-ltr. Sample
	1:51	VP-2
	2:15	VP-3
	2:40	VP-4
	3:05	VP-5
	3:30	VP-6
	3:56	VP-7
	4:20	VP-8
	4:38	VP-9
	5:05	VP-10 1-ltr. Sample

Analysis Requested	Sample Matrix	Comments																			
			8010 Volatile list	TPH Gasoline (EPA TO-3)	METHANE (EPA TO-3)	FULL VOC (EPA TO-15)	EDB	Naphthalene	Tetrafluoroethane												
	<input checked="" type="checkbox"/> Air																				
	<input type="checkbox"/>																				
	<input type="checkbox"/>																				
		12-09-24-121																			
		Social #																			
		83792																			
		83795																			
		83624																			
		#3																			
		83756																			
		837354																			
		#251																			
		83796																			
		83263																			
		86144																			

Sampling Event: 3rd Site VP Water Sample EDF Type: GW Monitoring Other

Turnaround Time Requested: 24 Hour 48 Hour 5-Day Standard

Relinquished By: [Signature] Date: 9-13-12 Relinquished By: [Signature] Date: [Blank]

Received By: [Signature] Date: 9-24-12 Received By: [Signature] Date: [Blank]



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-001** VP-1

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	

  
Principal Analyst: Jeff Scheidemantel



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-001** VP-1

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	0.04	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,1,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	



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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-002 VP-2**

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	

# ProVera

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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-002** VP-2

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	0.02	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	7.15	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	0.03	0.01	ppmV	9/19/2012	
o-Xylene	0.02	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	0.05	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	





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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-003** VP-3

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-003** VP-3

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	ND	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	



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Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-004** VP-4

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



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	Project Mgr.	PHIL GOALWIN	Analysis Type:	EPA Method TO-15

Sample ID: **11822-004** VP-4

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	ND	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	



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Sample ID: **11822-005** VP-5

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dichloro-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	0.42	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	0.04	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



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Sample ID: **11822-005** VP-5

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	0.04	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	0.39	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	



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Sample ID: **11822-006** VP-6

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



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Sample ID: **11822-006** VP-6

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	0.05	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	





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Sample ID: **11822-007 VP-7**

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



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Sample ID: **11822-007** VP-7

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	0.06	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	



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Sample ID: **11822-008** VP-8

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



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Sample ID: **11822-008** VP-8

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	0.03	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	



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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	LTLW PHIL GOALWIN	Report Date: Analysis Type:	9/24/2012 EPA Method TO-15
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Sample ID: **11822-009** VP-9

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Diclouroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Triclouroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-009** VP-9

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	0.19	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	



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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-010** VP-10

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Diclouroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Triclouroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11822-010** VP-10

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	0.29	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	





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E2C Remediation	Project:	LTLW	Report Date:	9/24/2012
5300 Woodmere Dr. Suite 105			Analysis	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Type:	EPA Method TO-3

**LABORATORY CONTROL STANDARD**

Analyte	Result	Units	Reporting Limit	Method	Analysis Date	Percent Recovery
1,1 Dichloroethane	8.1	ppbV	10.0	TO-15	9/19/2012	81%
Benzene	7.4	ppbV	10.0	TO-15	9/19/2012	74%
Trichloroethylene	7.9	ppbV	10.0	TO-15	9/19/2012	79%
Toluene	8.8	ppbV	10.0	TO-15	9/19/2012	88%
Chlorobenzene	9.6	ppbV	10.0	TO-15	9/19/2012	96%
<b>BFB</b>						
4-Bromofluorobenzene	9.5	ppbV	10.0	TO-15	9/19/2012	95%

## **APPENDIX E**

### Soil-Gas Monitoring Procedures (From IRAWP)

## APPENDIX E

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## **E. SOIL GAS MONITORING PROCEDURES**

The following sections detail the methods and procedures that will be followed to monitor soil gas during the site remediation period.

### **E.1 Field Activities**

Prior to installation of soil-gas probe points, all necessary permits and utility clearance(s) will be obtained. All work will be performed or supervised by a California Professional Geologist, in accordance with the Business and Professions Code, Chapters 7 and 12.5, and the California Code of Regulations, Title 16, Chapters 5 and 29. E<sub>2</sub>C will make raw data available to California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) staff, as requested. E<sub>2</sub>C will accommodate adjustments, or modifications to the sampling program, mandated by evaluation of the data set or unforeseen site conditions, if required by the Regional Water Quality Control Board (CRWQCB) staff. Investigative-derived wastes (IDWs) will be handled and disposed in accordance with federal, state and local requirements.

To expedite the completion of field activities and to avoid potential project delays, contingencies have been proposed in the Interim Remedial Action Workplan (IRAWP) (e.g., soil matrix samples will also be collected if clayey soils [as defined in the Unified Soil Classification System (USCS)] are encountered during the proposed soil-gas investigation). The CRWQCB field staff will be informed of any problems, unforeseen site conditions, or deviations from the approved IRAWP. When it becomes necessary to implement modifications to the approved IRAWP, the CRWQCB will be notified and a verbal approval will be obtained before implementing changes.

### **E.2 Soil-Gas Investigation Reports**

Soil-gas monitoring data, including a discussion of field operations, deviations from the approved Workplan, data inconsistencies, and other significant operational details will be documented in the status reports. Each status report will contain soil-gas isoconcentration plots for constituents of concern (COCs) at a scale of 1 inch = 30 feet and summary tables for analytical data [in micrograms per liter ( $\mu\text{g/L}$ )], in accordance with the Active Soil Gas Investigation (ASGI) guidance (LARWQCB, 1997). E<sub>2</sub>C will also provide legible copies of field and laboratory notes or logs, all analytical results and Quality Assurance/Quality Control (QA/QC) information, including tables and explanations of procedures, results, corrective actions and effect on the data.

### **E.3 Soil-Gas Vapor Monitoring Well Installation**

#### **E.3.a Additional Soil and Lithologic Investigations**

Site soil and lithologic information will be obtained by collecting undisturbed soil samples from soil-gas sampling point VP-5. The soil samples will be collected with a slide-hammer in two (2) inch diameter brass liners from depths of two (2) and four (4) feet bgs. The samples will be submitted for physical parameter testing, which includes gradation, effective permeability, porosity, soil moisture, total organic carbon, and soil density. The results of the parameter testing will provide accurate soil input parameters to be used in an indoor air intrusion risk model. The results of the indoor air intrusion risk modeling will be presented in status reports under soil gas sections.

Low-flow or no-flow conditions (e.g., fine-grained soil, clay, soil with vacuum readings that exceed approximately ten (10) inches of mercury or 136 inches of water) are not expected to be encountered; however, if low-flow or no-flow conditions are encountered, soil matrix sampling using EPA Method 5035A will be conducted in those specific areas.

### **E.3.b Soil-Gas Vapor Monitoring Well Spacing**

Refer to Figure 5 for a scaled site plan depicting proposed VP well locations. VP well spacing has been selected to provide soil vapor monitoring biased to optimize detecting and delineating volatile organic compounds (VOCs) in areas of occupied by humans (e.g., buildings) and monitor and assess the effectiveness of the soil vapor extraction (SVE) system on VOC-affected vadose zone soils. Based on these criteria E<sub>2</sub>C will install five (5) VP wells (VP-1 through VP-5).

### **E.3.c VP Well Depth**

All VP wells will be installed to a depth of approximately five (5) feet below ground surface (bgs).

### **E.3.d VP Well Installation Procedure**

E<sub>2</sub>C personnel will use a Bobcat with a four (4) inch diameter auger attachment to advance a boring to the design depth of approximately 5.0 feet below ground surface (bgs). If an asphalt or concrete surface is present, E<sub>2</sub>C will utilize a coring machine to penetrate the surface material.

At the bottom of the boring, E<sub>2</sub>C will emplace a one and one-half (1.5) inch vapor sampling screen in the center of a one-foot sand pack (#3 Lonestar sand or equivalent). 1/8 inch inside diameter Teflon® tubing will extend from the sampling screen to the surface. One (1) foot of dry granular bentonite will be emplaced on top of the sand pack to preclude the infiltration of hydrated bentonite grout. The borehole will then be grouted to approximately six (6) inches below the surface with hydrated bentonite. The surface completion will consist of a five (5) inch diameter, traffic-rated monitoring well box, set in concrete (See Figure 15).

E<sub>2</sub>C field personnel will prepare detailed VP well installation boring logs, which will document the date and time of the installation activity, the depth of each VP well, the screen type and interval; material utilized, and surface completion details. VP well logs will be included in the subsequent status report.

## **E.4 Soil-Gas Monitoring Parameters**

### **E.4.a Equilibration Time**

Following the installation of the VP well, subsurface conditions will be disturbed. As delineated in the DTSC document, *Advisory – Active Soil Gas Investigations*, to allow subsurface conditions to equilibrate, the purge volume test, leak test, and soil-gas sampling will not be conducted for at least 48 hours following installation.

### **E.4.b Purge Volume**

To ensure that stagnant or ambient air is removed from the sampling system and to assure samples collected are representative of subsurface conditions, E<sub>2</sub>C will purge three (3) casing volumes from each VP well. Based on a well diameter of four (4) inches, a filter pack twelve (12) inches in height, and a porosity of 30%, E<sub>2</sub>C estimates

that one (1) casing volume will be approximately 200 milliliters. Therefore, three (3) casing volumes would equate to approximately 600 milliliters. At a purge rate of 200 ml/min, purging will be accomplished in approximately three (3) minutes. E<sub>2</sub>C will use a purge pump, calibrated to pump 200 milliliters per minute. The purge pump will not be used for sampling purposes.

### **E.5 Leak Test**

Leakage during soil gas sampling may dilute samples with ambient air and may produce results that underestimate actual site concentrations or contaminate the sample with external contaminants. Leak tests will be conducted to determine whether leakage is present (e.g., the leak check compound is detected and confirmed in the test sample after its application).

#### **E.5.a Leak Test Frequency**

Leak tests will be conducted at every SGA well location.

#### **E.5.b Leak Check Compounds**

The tracer compound tetrafluoroethane will be used as leak check compounds, if a detection limit (DL) of 10 µg/L or less can be achieved.

#### **E.5.c Leak Test Protocol**

The leak check compound (tetrafluoroethane) will be enclosed within a tent-type structure at each potential leak point to keep the potential leak areas at saturated concentrations throughout the test.

#### **E.5.d Leak Test Analytical**

The chemical analysis of the soil-gas sample will include an analysis for the leak check compound. If a leak check compound is detected in the sample, the cause of the leak will be evaluated, determined and corrected through confirmation sampling. If the leak check compound is suspected or detected as a site-specific contaminant, a new leak check compound will be used.

### **E.6 Purge/Sample Flow Rate**

The sampling and purging flow rate of 100 ml/min to 200 ml/min was selected to minimize compound partitioning during soil-gas sampling. Samples will not be collected if field conditions, such as rainfall, irrigation, fine grained sediments, or drilling conditions affect the ability to collect soil-gas samples. If no-flow or low-flow conditions are caused by wet soils, the soil gas sampling will cease. In addition, the soil-gas sampling will not be conducted during or immediately after a significant rain event (e.g., 1/2 inch or greater), or onsite watering.

If low flow conditions are determined to be from a specific lithology, a new SGA well will be installed at a new lateral location selected after evaluation of the site lithologic logs and/or in consultation with the CRWQCB. If moisture or unknown material is observed, installation of the VP well will cease until the cause of the problem is identified and corrected. If refusal occurs during drilling, an alternate, nearby VP well location will be selected.

#### **E.6.a No-Flow/Low-Flow Rates**

The purging or sampling flow rate of 100 ml/min to 200 ml/min is expected to be

attainable in the lithology adjacent to the VP well. To evaluate lithologic conditions adjacent to the VP well where no-flow or low-flow conditions are encountered, a vacuum gauge or similar device will be used between the soil-gas sample tubing and the soil-gas extraction devices. A gas tight syringe may also be used to qualitatively determine if a high vacuum soil condition exists, which is based on whether suction is felt while the plunger is being withdrawn.

#### **E.6.b Purging/Sampling Rates**

E<sub>2</sub>C will conduct purging/sampling at rates between 100 to 200 ml/min to limit stripping, prevent ambient air from diluting the soil-gas samples, and to reduce the variability of purging rates. The low flow purge rate increases the likelihood that representative samples may be collected. The purge/sample rate may be modified based on conditions encountered in individual VP wells. Modified rates will be documented in the report of findings.

#### **E.7 Soil Gas Sampling Protocol**

After the VP well is adequately purged, a soil-gas sample will be collected. A Summa canister equipped with a flow restrictor will be used at each location. A flow regulator will be placed between the probe and the Summa canister to ensure the canister is filled at the proper flow rate. Summa canisters will be stored in such a way as to avoid exposure to sunlight, and the samples will be analyzed within the prescribed hold time.

##### **E.7.a Sample Container Cleanliness and Decontamination**

Prior to its use at a site, each sample container will be assured clean by the analytical laboratory. New containers will be determined to be free of contaminants (e.g., lubricants) by either the supplier or the analytical laboratory; and the effectiveness of decontamination (and to detect any possible interference from ambient air) of reused/recycled containers will be verified with method blanks. After each use, reusable sample containers will be properly decontaminated. Glass syringes or bulbs will be disassembled and baked at 240° C for a minimum of 15 minutes or at 120° C for a minimum of 30 minutes, or be decontaminated by an equivalent method. Plastic syringes, if used, will be used only once and then properly discarded.

E<sub>2</sub>C personnel will connect new Teflon® tubing to the top of the existing VP well tubing, and will utilize a 60 cubic centimeter (cc) syringe and a 3-way valve to purge the previously determined purge volume. The purge volume will be calculated based on one (1) cc/ft for 1/8" outside diameter (OD) tubing and five (5) cc/ft for 1/4" OD tubing.

The leak compound will be placed in tent-type structures at the connections on the sampling train, using a paper towel moistened with the leak compound wrapped with plastic sheeting taped tightly at each end to seal the structure. The sampling procedure will then commence as detailed above.

##### **E.7.b Documentation of VP Well Sampling Protocol**

E<sub>2</sub>C personnel will document the VP well sampling, and will include the sample identification, the probe location, date and time of sample collection, sampling depth, identity of on-Site personnel, weather conditions, sampling methods and devices, soil-gas purge volumes, volume of soil gas extracted, vacuum of canisters before and after samples are collected, chain of custody protocols.

**E.7.c Chain of Custody Records**

A chain of custody form will be completed to maintain the custodial integrity of samples. Probe installation times and sample collection times will be included on the chain of custody form, and in the report of findings.

**E.8 Analysis of Soil-Gas Samples****E.8.a Quality Assurance/Quality Control (QA/QC)**

The soil-gas analytical laboratory will comply with the project Quality Assurance Project Plan (QAPP) and will follow the QA/QC requirements of the most current ASGI and the employed EPA Method. If there is any inconsistency between the ASGI and the EPA Method, the most restrictive and specific requirements will prevail. The analytical data will be consistent with the Data Quality Objectives (DQOs) established for the project. Field QC samples will be collected, stored, transported and analyzed in a manner consistent with site samples.

QA/QC samples will be collected to support the sampling activity. Method blanks will be used to verify the effectiveness of decontamination procedures, as specified above, and to detect any possible interference from ambient air. For off-site shipments, a minimum of one (1) trip blank per day will be collected and analyzed for the target compounds. Trip blanks will contain laboratory grade ultra pure air. The trip blanks will be prepared to evaluate if the shipping and handling procedures are introducing contaminants into the samples, and to determine if cross contamination in the form of VOC migration has occurred between the collected VOC samples. Trip blank containers and media will be the same as site samples. At least one (1) duplicate sample per laboratory per day will be collected. Duplicate samples will be collected from areas of concern in separate sample containers, at the same location and depth. Duplicate samples will be collected immediately after the original sample. Laboratory control samples (LCS) and dilution procedure duplicates (DPD) will be handled and analyzed in accordance with the most recent ASGI. E<sub>2</sub>C will be prepared to collect split samples (for analysis by another laboratory) with the CRWQCB, if requested.

**E.8.b Laboratory Certification and Analysis**

E<sub>2</sub>C will have the samples analyzed by EPA Method 8260b at a certified analytical laboratory.



**E.8.c Detection Limits for Target Compounds**

Analytical equipment calibration will be in accordance with the most current ASGI. Detection limits will be such that the Environmental Screening Levels (Soil Gas Screening Levels) (CCRWQCB, 2008) for evaluation of potential vapor intrusion into indoor air allow will be met, as follows:

CHEMICAL	Vapor Screening ESL's		
	Micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )	Parts per billion – volume (ppbV)	Micrograms per liter ( $\mu\text{g}/\text{L}$ )
PCE	1.4E+03	206.54	1.400
TCE	4.1E+03	0.74481	0.0040
Cis-1,2-DCE	1.2E+05	3.0285+04	120.00
VC	1.0E+02	39.144	0.1000

The DL for leak check compounds will be 10  $\mu\text{g}/\text{L}$  or less. For results with a high DL reported (e.g., due to matrix interference or dilution), the laboratory will provide a written explanation. Re-sampling and analyses will be conducted at the appropriate DL for a specific compound if requested by CRWQCB staff.

**E.8.d Sample Handling**

Exposure to light and changes in temperature and pressure will accelerate sample degradation. To protect sample integrity soil-gas samples will not be chilled, will not be subjected to changes in ambient pressure, and shipping of sample containers by air will be avoided, if possible. If condensation is observed in the sample container, the sample will be discarded and a new sample will be collected.

**E.8.e Holding Time**

All soil gas samples will be collected in Summa canisters and will be analyzed at ProVera Analytical Laboratories, Inc. (State Certification #2606) in Bakersfield, California within 48 hours after collection.

**E.8.f Analytical Methods**

All VOC samples will be analyzed using only a Gas Chromatograph/Mass Spectrometer (GC/MS) by EPA Method 8260b, or equivalent.

**E.8.g Target Compounds**

The ASGI (dated February 25, 1997) includes twenty-three (23) primary and four (4) other target VOCs. All quantifiable results will be reported. The estimated results of all Tentatively Identified Compounds (TICs), or non-ASGI-targeted compounds detected, will be included in the status reports. If TICs, or non-ASGI targeted compounds are identified, E<sub>2</sub>C will consult with the CRWQCB to determine whether additional action is required (e.g., running additional standards to quantify TICs, or non-ASGI compounds) and whether the use of these estimated data for risk evaluation is appropriate. All quantifiable results of Leak Check Compounds will be reported as specified in above.

## **APPENDIX F**

### Interim Remediation System Vapor Laboratory Reports

Client Name: E2C Remediation		Analysis Requested										Sample Matrix
Project Name: LTLW		BTEX (EPA TO-15)										<input checked="" type="checkbox"/> Air
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA		METHANE (EPA TO-3)										<input type="checkbox"/>
Project Manager: PHIL GOOLWIN		FULL VOC (EPA TO-15)										<input type="checkbox"/>
Sampler Name: CO. BRANDIN / N. JOHNSON		8010 Volatile list (EPA TO-15)										<input type="checkbox"/>
Sample Date	Sample Time	Sample Description and Container Type	EDB								Comments	
7-26-12	4:25	EFFLUENT 1-SUMM	Naphthalene								12000101 Source # 251 Final Vc = 1" Hg -01	
	4:45	INFILTRANT 1-SUMM	Tetrafluoroethane								83755 Final Vc = 1" Hg -02	

Sampling Event: Monthly O&M EDF Type: GW Monitoring Other

Turnaround Time Requested: 24 Hour 48 Hour 5-Day Standard

Relinquished By: [Signature] Date: 7-26-12 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_

Received By: [Signature] Date: 8-1-12 Received By: \_\_\_\_\_ Date: \_\_\_\_\_

# ProVera

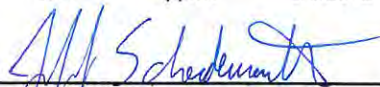
Analytical Laboratories, Inc.



E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	8/7/2012  EPA Method TO-15
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Sample ID: **12080101-01**      EFFLUENT

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	8/3/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	8/3/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	8/3/2012	
Chloromethane	ND	0.01	ppmV	8/3/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	8/3/2012	
1,3 Butadiene	ND	0.01	ppmV	8/3/2012	
Methane, bromo-	ND	0.01	ppmV	8/3/2012	
Chloroethane	ND	0.01	ppmV	8/3/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	8/3/2012	
Isopropyl alcohol	ND	0.01	ppmV	8/3/2012	
Freon 113	ND	0.01	ppmV	8/3/2012	
1,1 Dichloroethene	ND	0.01	ppmV	8/3/2012	
Acetone	ND	0.01	ppmV	8/3/2012	
Carbon Disulfide	ND	0.01	ppmV	8/3/2012	
Methylene Chloride	ND	0.01	ppmV	8/3/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	8/3/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	8/3/2012	
n-Hexane	ND	0.01	ppmV	8/3/2012	
Vinyl acetate	ND	0.01	ppmV	8/3/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	8/3/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	8/3/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	8/3/2012	
Tetrahydrofuran	ND	0.01	ppmV	8/3/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	8/3/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	8/3/2012	
Cyclohexane	ND	0.01	ppmV	8/3/2012	
Carbon Tetrachloride	ND	0.01	ppmV	8/3/2012	
Ethyl Acetate	ND	0.01	ppmV	8/3/2012	
Benzene	ND	0.01	ppmV	8/3/2012	
1,2 Dichloroethane	ND	0.01	ppmV	8/3/2012	

  
Principal Analyst: Jeff Scheidemantel



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Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	LTLW PHIL GOALWIN	Report Date: Analysis Type:	8/7/2012 EPA Method TO-15
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Sample ID: **12080101-01**      EFFLUENT

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	8/3/2012	
Trichloroethylene	ND	0.01	ppmV	8/3/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	8/3/2012	
1,4 Dioxane	ND	0.01	ppmV	8/3/2012	
Methane, bromodichloro-	ND	0.01	ppmV	8/3/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	8/3/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	8/3/2012	
Toluene	ND	0.01	ppmV	8/3/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	8/3/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	8/3/2012	
MBK	ND	0.01	ppmV	8/3/2012	
Tetrachloroethylene	ND	0.01	ppmV	8/3/2012	
Methane, dibromochloro-	ND	0.01	ppmV	8/3/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	8/3/2012	
Benzene, chloro-	ND	0.01	ppmV	8/3/2012	
Ethylbenzene	ND	0.01	ppmV	8/3/2012	
m+p-Xylene	ND	0.01	ppmV	8/3/2012	
o-Xylene	ND	0.01	ppmV	8/3/2012	
Styrene	ND	0.01	ppmV	8/3/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	8/3/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	8/3/2012	
4-Ethyltoluene	ND	0.01	ppmV	8/3/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	8/3/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	8/3/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	8/3/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	8/3/2012	
Benzyl chloride	ND	0.01	ppmV	8/3/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	8/3/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	8/3/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	8/3/2012	
Naphthalene	ND	0.01	ppmV	8/3/2012	



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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	8/7/2012  EPA Method TO-15
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Sample ID: **12080101-02**      INFLUENT

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	8/3/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	8/3/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	8/3/2012	
Chloromethane	ND	0.01	ppmV	8/3/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	8/3/2012	
1,3 Butadiene	ND	0.01	ppmV	8/3/2012	
Methane, bromo-	ND	0.01	ppmV	8/3/2012	
Chloroethane	ND	0.01	ppmV	8/3/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	8/3/2012	
Isopropyl alcohol	ND	0.01	ppmV	8/3/2012	
Freon 113	ND	0.01	ppmV	8/3/2012	
1,1 Dichloroethene	ND	0.01	ppmV	8/3/2012	
Acetone	ND	0.01	ppmV	8/3/2012	
Carbon Disulfide	ND	0.01	ppmV	8/3/2012	
Methylene Chloride	ND	0.01	ppmV	8/3/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	8/3/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	8/3/2012	
n-Hexane	ND	0.01	ppmV	8/3/2012	
Vinyl acetate	ND	0.01	ppmV	8/3/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	8/3/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	8/3/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	8/3/2012	
Tetrahydrofuran	ND	0.01	ppmV	8/3/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	8/3/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	8/3/2012	
Cyclohexane	ND	0.01	ppmV	8/3/2012	
Carbon Tetrachloride	ND	0.01	ppmV	8/3/2012	
Ethyl Acetate	ND	0.01	ppmV	8/3/2012	
Benzene	ND	0.01	ppmV	8/3/2012	
1,2 Dichloroethane	ND	0.01	ppmV	8/3/2012	



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	8/7/2012  EPA Method TO-15
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Sample ID: **12080101-02**      INFLUENT

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	8/3/2012	
Trichloroethylene	0.013	0.01	ppmV	8/3/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	8/3/2012	
1,4 Dioxane	ND	0.01	ppmV	8/3/2012	
Methane, bromodichloro-	ND	0.01	ppmV	8/3/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	8/3/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	8/3/2012	
Toluene	ND	0.01	ppmV	8/3/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	8/3/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	8/3/2012	
MBK	ND	0.01	ppmV	8/3/2012	
Tetrachloroethylene	1.31	0.01	ppmV	8/3/2012	
Methane, dibromochloro-	ND	0.01	ppmV	8/3/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	8/3/2012	
Benzene, chloro-	ND	0.01	ppmV	8/3/2012	
Ethylbenzene	ND	0.01	ppmV	8/3/2012	
m+p-Xylene	ND	0.01	ppmV	8/3/2012	
o-Xylene	ND	0.01	ppmV	8/3/2012	
Styrene	ND	0.01	ppmV	8/3/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	8/3/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	8/3/2012	
4-Ethyltoluene	ND	0.01	ppmV	8/3/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	8/3/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	8/3/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	8/3/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	8/3/2012	
Benzyl chloride	ND	0.01	ppmV	8/3/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	8/3/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	8/3/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	8/3/2012	
Naphthalene	ND	0.01	ppmV	8/3/2012	

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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	8/7/2012  EPA Method TO-15 EPA Method TO-3
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**LABORATORY CONTROL STANDARD**

Analyte	Result	Units	Reporting Limit	Method	Analysis Date	Percent Recovery
1,1 Dichloroethane	7.6	ppbV	10.0	TO-15	8/3/2012	76%
Benzene	9.6	ppbV	10.0	TO-15	8/3/2012	96%
Trichloroethylene	8.9	ppbV	10.0	TO-15	8/3/2012	89%
Toluene	11.7	ppbV	10.0	TO-15	8/3/2012	117%
Chlorobenzene	8.3	ppbV	10.0	TO-15	8/3/2012	83%
<b>BFB</b>						
4-Bromofluorobenzene	10.7	ppbV	10.0	TO-15	8/3/2012	107%



PROVERA ANALYTICAL LABORATORIES

Chain of Custody Form

11781

Client Name: E2C Remediation		Analysis Requested										Sample Matrix												
Project Name: LAKE TAHOE LAUNDRY WORKS		8010 Volatile list										<input checked="" type="checkbox"/> Air												
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA		FULL VOC (EPA TO-15)										<input type="checkbox"/>												
Project Manager: PHIL BOALWIN		METHANE (EPA TO-3)										<input type="checkbox"/>												
Sampler Name: NICK JENSEN		TPH Gasoline (EPA TO-3)										<input type="checkbox"/>												
Sample Date	Sample Time	Sample Description and Container Type		BTEX (EPA TO-15)			MTBE (EPA TO-15)			EDB			Naphthalene			Tetrafluoroethane			12082704			Comments		
8/21/12	2:20 p.m.	SYSTEM EFFLUENT 1 SIMA																	STARTING VAC. = FINAL = -3 Hg					
8/21/12	2:25 p.m.	SYSTEM MID 1 SIMA																	STARTING VAC. = FINAL = -3 Hg					
8/21/12	2:30 p.m.	SYSTEM INFLUENT 1 SIMA																	STARTING VAC. = FINAL = -3 Hg					

Sampling Event: MONTHLY SYSTEM SAMPLES EDF Type: GW Monitoring Other

Turnaround Time Requested: 24 Hour 48 Hour 5-Day Standard X

Relinquished By: [Signature] Date: 8/21/12  
 Received By: [Signature] Date: 8-27-12

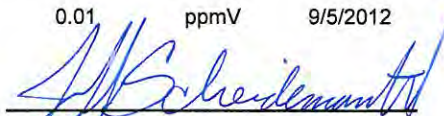


**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11781-001** EFFLUENT

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/5/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/5/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/5/2012	
Chloromethane	ND	0.01	ppmV	9/5/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/5/2012	
1,3 Butadiene	ND	0.01	ppmV	9/5/2012	
Methane, bromo-	ND	0.01	ppmV	9/5/2012	
Chloroethane	ND	0.01	ppmV	9/5/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/5/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/5/2012	
Freon 113	ND	0.01	ppmV	9/5/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/5/2012	
Acetone	ND	0.01	ppmV	9/5/2012	
Carbon Disulfide	ND	0.01	ppmV	9/5/2012	
Methylene Chloride	ND	0.01	ppmV	9/5/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/5/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/5/2012	
n-Hexane	ND	0.01	ppmV	9/5/2012	
Vinyl acetate	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/5/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/5/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/5/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/5/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/5/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/5/2012	
Cyclohexane	ND	0.01	ppmV	9/5/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/5/2012	
Ethyl Acetate	ND	0.01	ppmV	9/5/2012	
Benzene	ND	0.01	ppmV	9/5/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/5/2012	

  
Principal Analyst: Jeff Scheidemantel



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11781-001** EFFLUENT

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/5/2012	
Trichloroethylene	ND	0.01	ppmV	9/5/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/5/2012	
1,4 Dioxane	ND	0.01	ppmV	9/5/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/5/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/5/2012	
Toluene	ND	0.01	ppmV	9/5/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/5/2012	
MBK	ND	0.01	ppmV	9/5/2012	
Tetrachloroethylene	0.287	0.01	ppmV	9/5/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/5/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/5/2012	
Benzene, chloro-	ND	0.01	ppmV	9/5/2012	
Ethylbenzene	ND	0.01	ppmV	9/5/2012	
m+p-Xylene	ND	0.01	ppmV	9/5/2012	
o-Xylene	ND	0.01	ppmV	9/5/2012	
Styrene	ND	0.01	ppmV	9/5/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/5/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/5/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzyl chloride	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/5/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/5/2012	
Naphthalene	ND	0.01	ppmV	9/5/2012	



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	9/24/2012
5300 Woodmere Dr. Suite 105			Analysis Type:	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

Sample ID: **11781-002** MID

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/5/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/5/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/5/2012	
Chloromethane	ND	0.01	ppmV	9/5/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/5/2012	
1,3 Butadiene	ND	0.01	ppmV	9/5/2012	
Methane, bromo-	ND	0.01	ppmV	9/5/2012	
Chloroethane	ND	0.01	ppmV	9/5/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/5/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/5/2012	
Freon 113	ND	0.01	ppmV	9/5/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/5/2012	
Acetone	ND	0.01	ppmV	9/5/2012	
Carbon Disulfide	ND	0.01	ppmV	9/5/2012	
Methylene Chloride	ND	0.01	ppmV	9/5/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/5/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/5/2012	
n-Hexane	ND	0.01	ppmV	9/5/2012	
Vinyl acetate	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/5/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/5/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/5/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/5/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/5/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/5/2012	
Cyclohexane	ND	0.01	ppmV	9/5/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/5/2012	
Ethyl Acetate	ND	0.01	ppmV	9/5/2012	
Benzene	ND	0.01	ppmV	9/5/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/5/2012	



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LT LW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11781-002 MID**

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/5/2012	
Trichloroethylene	ND	0.01	ppmV	9/5/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/5/2012	
1,4 Dioxane	ND	0.01	ppmV	9/5/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/5/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/5/2012	
Toluene	ND	0.01	ppmV	9/5/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/5/2012	
MBK	ND	0.01	ppmV	9/5/2012	
Tetrachloroethylene	0.297	0.01	ppmV	9/5/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/5/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/5/2012	
Benzene, chloro-	ND	0.01	ppmV	9/5/2012	
Ethylbenzene	ND	0.01	ppmV	9/5/2012	
m+p-Xylene	ND	0.01	ppmV	9/5/2012	
o-Xylene	ND	0.01	ppmV	9/5/2012	
Styrene	ND	0.01	ppmV	9/5/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/5/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/5/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzyl chloride	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/5/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/5/2012	
Naphthalene	ND	0.01	ppmV	9/5/2012	



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11781-003 INFLUENT**

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/5/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/5/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/5/2012	
Chloromethane	ND	0.01	ppmV	9/5/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/5/2012	
1,3 Butadiene	ND	0.01	ppmV	9/5/2012	
Methane, bromo-	ND	0.01	ppmV	9/5/2012	
Chloroethane	ND	0.01	ppmV	9/5/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/5/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/5/2012	
Freon 113	ND	0.01	ppmV	9/5/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/5/2012	
Acetone	ND	0.01	ppmV	9/5/2012	
Carbon Disulfide	ND	0.01	ppmV	9/5/2012	
Methylene Chloride	ND	0.01	ppmV	9/5/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/5/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/5/2012	
n-Hexane	ND	0.01	ppmV	9/5/2012	
Vinyl acetate	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/5/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/5/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/5/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/5/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/5/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/5/2012	
Cyclohexane	ND	0.01	ppmV	9/5/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/5/2012	
Ethyl Acetate	ND	0.01	ppmV	9/5/2012	
Benzene	ND	0.01	ppmV	9/5/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/5/2012	



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11781-003 INFLUENT**

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/5/2012	
Trichloroethylene	ND	0.01	ppmV	9/5/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/5/2012	
1,4 Dioxane	ND	0.01	ppmV	9/5/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/5/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/5/2012	
Toluene	ND	0.01	ppmV	9/5/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/5/2012	
MBK	ND	0.01	ppmV	9/5/2012	
Tetrachloroethylene	0.441	0.01	ppmV	9/5/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/5/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/5/2012	
Benzene, chloro-	ND	0.01	ppmV	9/5/2012	
Ethylbenzene	ND	0.01	ppmV	9/5/2012	
m+p-Xylene	ND	0.01	ppmV	9/5/2012	
o-Xylene	ND	0.01	ppmV	9/5/2012	
Styrene	ND	0.01	ppmV	9/5/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/5/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/5/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/5/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzyl chloride	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/5/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/5/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/5/2012	
Naphthalene	ND	0.01	ppmV	9/5/2012	

E2C Remediation	Project:	LTLW	Report Date:	9/24/2012
5300 Woodmere Dr. Suite 105			Analysis Type:	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		EPA Method TO-3

**LABORATORY CONTROL STANDARD**

Analyte	Result	Units	Reporting Limit	Method	Analysis Date	Percent Recovery
1,1 Dichloroethane	12.4	ppbV	10.0	TO-15	9/5/2012	124%
Benzene	11.9	ppbV	10.0	TO-15	9/5/2012	119%
Trichloroethylene	11.3	ppbV	10.0	TO-15	9/5/2012	113%
Toluene	10.5	ppbV	10.0	TO-15	9/5/2012	105%
Chlorobenzene	11.4	ppbV	10.0	TO-15	9/5/2012	114%
<b>BFB</b>						
4-Bromofluorobenzene	8.8	ppbV	10.0	TO-15	9/5/2012	88%
<b>TPHg</b>						
TPHg Standard	105	ppbV	100	TO-3	9/5/2012	105%



# PROVERA ANALYTICAL LABORATORIES

# Chain of Custody Form

P11820

Client Name: E2C Remediation		Analysis Requested										Sample Matrix			
Project Name: 1024 S. LAKE TARRISE BLVD.		Sample Date		Sample Description and Container Type		BTEX (EPA TO-15)	MTBE (EPA TO-15)	TPH Gasoline (EPA TO-3)	METHANE (EPA TO-3)	FULL VOC (EPA TO-15)	8010 Volatile list (EPA TO-15)	EDB	Naphthalene	Tetrafluoroethane	<input checked="" type="checkbox"/> Air
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA		9-13-12	5:20	EFFLUENT	(-SUMMA)					X					12-01-24-19
Project Manager: Patu Commin															Sample #
Sampler Name: G. BRANDIN															#69
															83624
															Final Vial = 1" Al -01
															Final Vial = 1" Al -02

Sampling Event: Monthly O&M EDF Type: GW Monitoring Other

Turnaround Time Requested: 24 Hour 48 Hour 5-Day Standard

Relinquished By: [Signature] Date: 9-13-12 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_

Received By: [Signature] Date: 9-24-12 Received By: \_\_\_\_\_ Date: \_\_\_\_\_

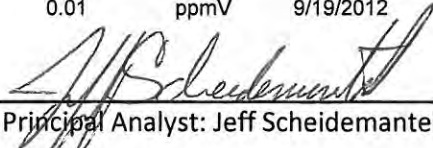


**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11820-001** EFF

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Diclroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	

  
Principal Analyst: Jeff Scheidemantel



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11820-001** EFF

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	0.346	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	



# ProVer

Analytical Laboratories, Inc.

E2C Remediation	Project:	LTLW	Report Date:	9/24/2012
5300 Woodmere Dr. Suite 105			Analysis Type:	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

Sample ID: **11820-002 INF**

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.01	ppmV	9/19/2012	
Dichlorodifluoromethane (Freon 12)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-diCl-1,1,2,2-tetraF (F-114)	ND	0.01	ppmV	9/19/2012	
Chloromethane	ND	0.01	ppmV	9/19/2012	
Ethene, chloro-(Vinyl Chloride)	ND	0.01	ppmV	9/19/2012	
1,3 Butadiene	ND	0.01	ppmV	9/19/2012	
Methane, bromo-	ND	0.01	ppmV	9/19/2012	
Chloroethane	ND	0.01	ppmV	9/19/2012	
Trichloromonofluoromethane (Freon 11)	ND	0.01	ppmV	9/19/2012	
Isopropyl alcohol	ND	0.01	ppmV	9/19/2012	
Freon 113	ND	0.01	ppmV	9/19/2012	
1,1 Dichloroethene	ND	0.01	ppmV	9/19/2012	
Acetone	ND	0.01	ppmV	9/19/2012	
Carbon Disulfide	ND	0.01	ppmV	9/19/2012	
Methylene Chloride	ND	0.01	ppmV	9/19/2012	
MTBE (Propane, 2-methoxy-2-methyl-)	ND	0.01	ppmV	9/19/2012	
trans 1,2 Dichloroethene	ND	0.01	ppmV	9/19/2012	
n-Hexane	ND	0.01	ppmV	9/19/2012	
Vinyl acetate	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1-dichloro-	ND	0.01	ppmV	9/19/2012	
Methyl Ethyl Ketone	ND	0.01	ppmV	9/19/2012	
cis 1,2 dichloroethene	ND	0.01	ppmV	9/19/2012	
Tetrahydrofuran	ND	0.01	ppmV	9/19/2012	
Chloroform (Trichloromethane)	ND	0.01	ppmV	9/19/2012	
1,1,1 Trichloroethane	ND	0.01	ppmV	9/19/2012	
Cyclohexane	ND	0.01	ppmV	9/19/2012	
Carbon Tetrachloride	ND	0.01	ppmV	9/19/2012	
Ethyl Acetate	ND	0.01	ppmV	9/19/2012	
Benzene	ND	0.01	ppmV	9/19/2012	
1,2 Dichloroethane	ND	0.01	ppmV	9/19/2012	



**ProVera**  
Analytical Laboratories, Inc.

E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project:  Project Mgr.	LTLW  PHIL GOALWIN	Report Date:  Analysis Type:	9/24/2012  EPA Method TO-15
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Sample ID: **11820-002 INF**

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.01	ppmV	9/19/2012	
Trichloroethylene	ND	0.01	ppmV	9/19/2012	
Propane, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
1,4 Dioxane	ND	0.01	ppmV	9/19/2012	
Methane, bromodichloro-	ND	0.01	ppmV	9/19/2012	
cis-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
MIBK (2,4-Pentanedione3-(1-methylethyl)-	ND	0.01	ppmV	9/19/2012	
Toluene	ND	0.01	ppmV	9/19/2012	
trans-1-Propene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2-trichloro-	ND	0.01	ppmV	9/19/2012	
MBK	ND	0.01	ppmV	9/19/2012	
Tetrachloroethylene	ND	0.01	ppmV	9/19/2012	
Methane, dibromochloro-	ND	0.01	ppmV	9/19/2012	
Ethane, 1,2-dibromo-	ND	0.01	ppmV	9/19/2012	
Benzene, chloro-	ND	0.01	ppmV	9/19/2012	
Ethylbenzene	ND	0.01	ppmV	9/19/2012	
m+p-Xylene	ND	0.01	ppmV	9/19/2012	
o-Xylene	ND	0.01	ppmV	9/19/2012	
Styrene	ND	0.01	ppmV	9/19/2012	
Bromoform (Methane, tribromo-)	ND	0.01	ppmV	9/19/2012	
Ethane, 1,1,2,2-tetrachloro-	ND	0.01	ppmV	9/19/2012	
4-Ethyltoluene	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3,5-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trimethyl-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,3-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,4-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzyl chloride	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2-dichloro-	ND	0.01	ppmV	9/19/2012	
Benzene, 1,2,4-trichloro-	ND	0.01	ppmV	9/19/2012	
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	ND	0.01	ppmV	9/19/2012	
Naphthalene	ND	0.01	ppmV	9/19/2012	

E2C Remediation	Project:	LTLW	Report Date:	9/24/2012
5300 Woodmere Dr. Suite 105			Analysis Type:	EPA Method TO-15
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		EPA Method TO-3

**LABORATORY CONTROL STANDARD**

Analyte	Result	Units	Reporting Limit	Method	Analysis Date	Percent Recovery
1,1 Dichloroethane	8.1	ppbV	10.0	TO-15	9/19/2012	81%
Benzene	7.4	ppbV	10.0	TO-15	9/19/2012	74%
Trichloroethylene	7.9	ppbV	10.0	TO-15	9/19/2012	79%
Toluene	8.8	ppbV	10.0	TO-15	9/19/2012	88%
Chlorobenzene	9.6	ppbV	10.0	TO-15	9/19/2012	96%
<b>BFB</b>						
4-Bromofluorobenzene	9.5	ppbV	10.0	TO-15	9/19/2012	95%

## **APPENDIX G**

### GeoTracker Upload Confirmation Reports

## UPLOADING A EDF FILE

## SUCCESS

Processing is complete. No errors were found!  
Your file has been successfully submitted!

<u>Submittal Type:</u>	EDF
<u>Report Title:</u>	Lake Tahoe Laundry Works 2Q12 GWM (6-8-12)
<u>Report Type:</u>	Monitoring Report - Quarterly
<u>Facility Global ID:</u>	SL0601754315
<u>Facility Name:</u>	LAKE TAHOE LAUNDRY WORKS
<u>File Name:</u>	EDFCL.zip
<u>Organization Name:</u>	E2C Remediation, LLC
<u>Username:</u>	E2C REMEDIATION, LLC
<u>IP Address:</u>	71.6.70.228
<u>Submittal Date/Time:</u>	8/17/2012 11:04:28 AM
<u>Confirmation Number:</u>	6178924500

[VIEW QC REPORT](#)

[VIEW DETECTIONS REPORT](#)



## UPLOADING A GEO\_REPORT FILE

## SUCCESS

Your GEO\_REPORT file has been successfully submitted!

<u>Submittal Type:</u>	GEO_REPORT
<u>Report Title:</u>	2Q 2012 Groundwater Monitoring Report and Interim Remediation Status Report
<u>Report Type:</u>	Monitoring Report - Quarterly
<u>Report Date:</u>	8/13/2012
<u>Facility Global ID:</u>	SL0601754315
<u>Facility Name:</u>	LAKE TAHOE LAUNDRY WORKS
<u>File Name:</u>	LTLW 2nd.12 QMR_IRSR 08.13.12.pdf
<u>Organization Name:</u>	E2C Remediation, LLC
<u>Username:</u>	E2C REMEDIATION, LLC
<u>IP Address:</u>	71.6.70.228
<u>Submittal Date/Time:</u>	8/16/2012 4:43:30 PM
<u>Confirmation Number:</u>	4132541716

## UPLOADING A GEO\_REPORT FILE

## SUCCESS

Your GEO\_REPORT file has been successfully submitted!

<u>Submittal Type:</u>	GEO_REPORT
<u>Report Title:</u>	Notice of Modification of Soil Remediation System
<u>Report Type:</u>	Notice of Intent
<u>Report Date:</u>	8/15/2012
<u>Facility Global ID:</u>	T0601900713
<u>Facility Name:</u>	SHAVER LAKE FOOD MART
<u>File Name:</u>	SLFM APCD Notice to Catalytic 08.15.12.pdf
<u>Organization Name:</u>	E2C Remediation, LLC
<u>Username:</u>	E2C REMEDIATION, LLC
<u>IP Address:</u>	71.6.70.232
<u>Submittal Date/Time:</u>	8/16/2012 4:35:49 PM
<u>Confirmation Number:</u>	2799771904

UPLOADING A GEO\_WELL FILE

## SUCCESS

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<u>Submittal Type:</u>	GEO_WELL
<u>Report Title:</u>	GEO_WELL (6-8-12)
<u>Facility Global ID:</u>	SL0601754315
<u>Facility Name:</u>	LAKE TAHOE LAUNDRY WORKS
<u>File Name:</u>	GEO_WELL.zip
<u>Organization Name:</u>	E2C Remediation, LLC
<u>Username:</u>	E2C REMEDIATION, LLC
<u>IP Address:</u>	71.6.70.232
<u>Submittal Date/Time:</u>	8/17/2012 11:12:55 AM
<u>Confirmation Number:</u>	5428048670

# **EXHIBIT MM**



Environmental  
Engineering,  
Consulting &  
Remediation, Inc.

October 16, 2014

Mr. Scott Reisch, Partner  
Hogan Lovells US LLP  
One Tabor Center, Suite 1500  
1200 Seventeenth Street  
Denver, CO 80202

Mr. William F. Tarantino, Partner  
Morrison & Foerster LLP  
425 Market Street  
San Francisco, CA 94105

**SUBJECT: Second Quarter 2014 Groundwater Monitoring Report and Current Site Remediation Status Report**

**Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Dear Mssrs. Reisch and Tarantino:

Pursuant to your request, please find attached the above-captioned Groundwater Monitoring Report (QMR) and Remediation Status Report (RSR). The document was prepared to comply with the Final Remedial Action Plan, which was approved by the State of California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) letter dated August 2, 2013.

If you have any questions, or comments, please call the undersigned, or Phil Goalwin, at 916-782-8700.

Sincerely,  
E2C Remediation

A circular professional geologist seal for William A. Lawson, State of California, No. 7171, with an expiration date of 8/31/16. The seal is stamped in blue ink. To the left of the seal is a handwritten signature in blue ink that reads 'William A. Lawson'.

William A. Lawson, P.G. #7171  
Senior Geologist

cc: Ms. Lisa Dernbach, C.H.G.  
Senior Engineering Geologist  
CRWQCB – Lahontan Region, South Lake Tahoe Office  
2501 Lake Tahoe Boulevard  
South Lake Tahoe, CA 96150

Mr. Levi Ford  
CEDAQMD  
330 Fair Lane  
Placerville, CA 95667



Environmental  
Engineering,  
Consulting &  
Remediation, Inc.

**SECOND QUARTER 2014 GROUNDWATER MONITORING REPORT  
AND  
CURRENT SITE REMEDIATION STATUS REPORT**

**Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

**October 16, 2014  
Project Number: 1950BK26**

**Prepared For:**

**Fox Capital Management Corporation  
4582 S. Ulster Street Parkway, Suite 1100  
Denver, CO 80237**

**Seven Springs Limited Partnership  
c/o Christopher Blair  
Vice President  
The Commerce Trust Company  
118 West 47th Street  
Kansas City, MO 64112**

**Prepared By:**

**E2C Remediation  
Environmental/Engineering Consultants  
1020 Winding Creek Road, Suite 110  
Roseville, California 95678**

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## **EXECUTIVE SUMMARY**

This report documents groundwater and shallow soil vapor monitoring activities conducted at the Lake Tahoe Laundry Works (LTLW) facility located at 1024 Lake Tahoe Boulevard in South Lake Tahoe, California (Site) for the Second Quarter 2014, and provides a discussion of remedial actions conducted from February through August 2014.

### **Groundwater Elevation Monitoring**

Based on the June 26, 2014 groundwater elevation data, groundwater beneath the Site increased in average elevation by approximately 1.33 foot from the First Quarter 2014 to the Second Quarter 2014. The direction of groundwater flow generally ranged from north-northwesterly to northerly, which was consistent with previous monitoring results.

### **Groundwater Chemical Conditions Monitoring**

PCE concentrations in groundwater (dissolved-phase) generally decreased, or remained similar to the previous quarter, at each site well in the Second Quarter 2014, except for well LW-MW-1S, which showed an increase of more than an order of magnitude from the previous quarter.

### **Shallow Soil Vapor Monitoring**

In the Second Quarter 2014, Volatile Organic Compound (VOC) concentrations in soil vapor generally increased across the Site.

### **Residual PCE Mass in Soil-Vapor**

An estimate of residual PCE mass in vapor in the vadose zone, at the time of the June 2014 monitoring event, is 0.025 pound (lb), which represents an increase from the estimate made for March 2014 (0.002 lb) and an increase from the first residual estimate made for September 2012 (0.020 lb). These data indicate that the residual PCE soil-vapor mass cannot be used to evaluate residual PCE mass in soils; however, the data can be used for assessment of the effectiveness of the remediation system. Since operation of the remediation system cannot increase residual mass in soils (mass is actually removed), the soil-vapor is an indicator of groundwater air sparging effectiveness. As VOCs are stripped from the dissolved-phase, they rise, thus increasing vadose zone vapor mass, until they are captured by the SVE portion of the extraction system.

### **Residual PCE Mass in Groundwater**

Using the most recent June 2014 data, the estimated PCE mass in groundwater is 0.02 lb. This estimate is slightly higher than that of the First Quarter 2014; however, the overall size of the residual 5 µg/L plume has reduced significantly in size to only approximately 2,750 square feet in area.

### **Discussion of Remediation Data**

With the exception of downtime for maintenance and repairs, and several power outages at the Site which caused the system to remain off until re-start during the next weekly O&M visit, the SVE/GASS operated continuously from November 5, 2013 through April

10, 2014. For the period after April 10, 2014, the system continued to experience shut-down problems after numerous restarts and repairs to the piping system. Finally, it was determined that extreme back-pressure from the carbon units back to the extraction unit was causing overheating of the piping, resulting in pipe melt-down, thus resulting in automatic shut-down of the system to prevent damage to the unit. This back-pressure was the result of fines build-up in the carbon due to break-down of the carbon granules. These fines caused flow through the carbon vessels to be restricted. These restrictions caused pressure to build and heat to be generated. Based on this, E<sub>2</sub>C commenced an evaluation to assess corrective measures, including replacement of equipment, carbon and/or piping. The evaluation found that influent concentrations to the carbon were too low for effective carbon use. Additionally, the evaluation determined that the influent had never exceeded concentrations that would cause exception to the EDCAQMD PTO Item 14 condition of not exceeding "9.9 lb/day" of VOC emissions to the atmosphere. Additionally, data indicated that influent concentrations since June 14, 2011 would have yielded less than 1 lb/day of total VOC emissions into the atmosphere had the carbon units been taken out of line. As such, the EDCAQMD was contacted and a Request for Permitting Exemption, dated July 24, 2014, was prepared to bypass the carbon units and emit directly to atmosphere. On July 30, 2014, the EDCAQMD approved the Request.

As the PCE concentration at LW-MW-1S increased more than an order of magnitude from the First to Second Quarters 2014, E<sub>2</sub>C personnel were scheduled and visited the site to re-start the remedial system for full-time operation in accordance with the system cycling approval letter from the CRWQCB. On August 4, 2014, the carbon units were taken out of service and the system was restarted with emission of extracted vapors directly to atmosphere. The vapor sample collected for laboratory analysis indicated that maximum discharge to atmosphere was approximately 0.722 lbs/day PCE = 3.5 ppmV, TCE = 0.095 ppmV, cis-1,2--DCE = 0.028 ppmV and other VOCs = 0.017 ppmV (the field measurement was zero). This result is well below the 2.0 lb/day limit requiring a Permit to Operate. Note the carbon vessels remain at the Site. Should emissions exceed 2.0 lb/day the EDCAQMD will be contacted, the system will be shut down and a new PTO will be issued for operations through carbon. .

### **Conclusions**

Based on the monitoring data collected to date, the following conclusions can be made:

- Although, operation of the SVE/GASS was effectively reducing residual VOC mass in the subsurface, low influent concentrations to the carbon units created extreme back-pressure causing overheating of the system causing automatic extraction unit shut-downs for protection of the equipment. In addition, the resultant heat was melting the piping between the extraction unit and the carbon vessels;
- The system was shut off on June 26, 2014 for an off-cycle period. This coincided with the Second Quarter 2014 groundwater monitoring and sampling event which included system influent samples. The system was scheduled to remain off until July 11, 2014. Analytical data from both the groundwater and system influent were received at approximately the same time the system was scheduled to be restarted. The analytical data indicated that the system would need to be restarted in full time operating mode (due to the increase in dissolved-phase concentrations in LW-MW-1) and that the system influent concentrations were

sufficiently low to request permission from the EDCAQMD to remove the carbon emission control units. Therefore, on July 24, 2014 a request for an exemption to the Permit was submitted to the EDCAQMD and the system was left off pending the response to the request. The CRWQCB was sent a copy of the request at the time of the submittal to the EDCAQMD. The EDCAQMD approved the request on August 1, 2014 and the system was restarted in full time operational mode on August 4, 2014;

- On August 4, 2014, the SVE/GASS was restarted with discharge of extracted vapors directly to atmosphere. As the concentration of PCE in groundwater at LW-MW-1S had increased greater than an order of magnitude, as well as shallow soil-vapor concentrations at several of the VP wells, since the March 2014 monitoring event, in accordance with the CRWQCB letter, dated April 9, 2014, the SVE/GASS will operate on a full-time basis until such time as the dissolved-phase concentrations are reduced sufficiently to resume system cycling; and
- Vapor extraction operations should continue to be focused in those areas of higher dissolved-phase concentrations and/or soil-vapor concentrations.

### **Recommendations**

Based on the above conclusions, E<sub>2</sub>C recommends the following:

- Continue groundwater and shallow soil vapor monitoring with subsequent status reporting in accordance with the approved RAP;
- Continue full-time SVE/GASS until dissolved-phase PCE concentrations are reduced such that system cycling can re-commence; and
- Upon confirmation that VOC concentrations remain at or below target cleanup levels, and cyclic system operations are no longer yielding rebound concentrations, shut down the SVE/GASS with approval from the CRWQCB and commence post-remediation monitoring.

### **Discussion of Future Activities**

Activities will consist of SVE/GASS operations in full-time operational mode until system cycling can re-commence. Once system cycling re-commences, operate cyclic mode until concentrations of chlorinated hydrocarbons in groundwater, specifically PCE, remain at or below target cleanup levels at all Site groundwater monitoring wells. Once those concentrations are achieved, with the approval of the CRWQCB, commence the post-remediation monitoring program. Groundwater and shallow soil vapor monitoring will continue on a quarterly basis for two years with subsequent status reporting.

## 1.0 INTRODUCTION

On behalf of Seven Springs Limited Partnership and Fox Capital Management, E<sub>2</sub>C Remediation (E<sub>2</sub>C) is submitting this report documenting groundwater and soil vapor monitoring activities conducted through the Second Quarter 2014 and remedial activities conducted through August 4, 2014 at the Lake Tahoe Laundry Works (LTLW) facility located at 1024 Lake Tahoe Boulevard in South Lake Tahoe, California (Site). All work documented in this report was conducted in accordance with the Remedial Action Plan (RAP) and the CRWQCB letters, dated November 1, 2013 and April 9, 2014, respectively.

### 1.1 Site Description

The Site is located approximately 9,000 feet south of Lake Tahoe in the City of South Lake Tahoe, El Dorado County (see Figure 1). The Site is situated in the northwest corner of the South Y Shopping Center, along Lake Tahoe Boulevard between U.S. Highway 50 and Tata Lane and is cross-corner from the dead-end intersection of Glorene Avenue with Lake Tahoe Boulevard (see Figure 2).

### 1.2 Previous Investigations

Based on a review of previous investigations, it appeared that shallow soils (vadose zone) beneath the Site and shallow groundwater beneath and immediately adjacent to the Site had been impacted by low to moderate concentrations of volatile organic compounds (VOCs), principally PCE and trichloroethene (TCE) (a.k.a. trichloroethylene). From October 2003 through November 2005, PES Environmental, Inc. (PES) conducted soil and shallow groundwater investigation work (PES, 2003, 2004, 2005 and PES 2006). In August and September 2008, E<sub>2</sub>C Remediation (E<sub>2</sub>C) conducted a site investigation to further evaluate vadose zone and groundwater conditions beneath and adjacent to the Site. The findings of the 2008 investigation were presented in the *Site Investigation Report of Findings* (E<sub>2</sub>C, 2008).

In accordance with the CRWQCB approved IRAWP, an Interim Remedial Action system using SVE/GASS was installed at the Site. On April 6, 2010 the SVE/GASS commenced operation with the start of the 60-day system pilot test. Operation of the SVE/GASS Pilot Test was documented in the report, *Interim Remedial System Installation/Pilot Testing Report of Findings and Draft Remedial Action Plan for Vadose Zone Soil and Shallow Groundwater Cleanup, Lake Tahoe Laundry Works, 1024 Lake Tahoe Boulevard, South Lake Tahoe, California* (IRSI/PTROF/DRAP) (E<sub>2</sub>C, 2010).

Pursuant to the approved IRAWP and Addendum to IRAWP, the system was left operational pending review, approval and implementation of the IRSI/PTROF/DRAP. On October 31, 2012, E<sub>2</sub>C recommended that the SVE/GASS be shut-down and 'pulsed' ozone sparging commence. That recommendation was approved by the CRWQCB by letter, dated December 3, 2012. On August 2, 2013, the CRWQCB approved the Draft RAP, formally placing the Site into the Remediation Phase.

In a directive from the CRWQCB, dated November 1, 2013, Investigative Order No. R6T-2013-0090 required that the SVE/GASS be re-started at the Site as PCE concentrations increased to greater than 50 µg/L from the First Quarter 2013 to the Second Quarter 2013. According to the Draft RAP approved by the CRWQCB on August 2, 2013, the

operation of 'pulsed' ozone sparging was intended for polishing of low concentrations (less than 50 µg/L) of chlorinated hydrocarbons in groundwater. As PCE concentrations at the Site in the Second Quarter 2013 exceeded 50 µg/L, the SVE/GASS was re-started on November 5, 2013.

### **1.3 Interim Remedial System Operations**

The SVE/GASS operated almost continuously since the end of the Pilot Test period to shut-down on November 30, 2012 (see Table 6 for system operational data). The Site was visited generally on a weekly basis to record system operating parameters and to measure vapor influent, mid-fluent and effluent. Vapor samples were collected periodically for laboratory analyses. Extraction rates from the SVE wells were adjusted during each visit to improve removal of subsurface contaminants (see Table 7 for SVE wellfield configurations). Specific well-head configurations up to November 2012 were documented in the status report, dated March 11, 2013. The results of the vapor extraction wellhead focusing were effective, as indicated by continued reduction of dissolved-phase VOCs into the First Quarter 2013, well after shut-down of the remediation system on November 30, 2012 (see Graphs 2-13).

The SVE/GASS was shut-down due to system influent concentrations of 'zero' on November 30, 2012. In December 2012, after approval by the CRWQCB, E<sub>2</sub>C mobilized an ozone sparging unit to the Site and began plumbing the unit to select AS wells. On December 20, 2012, E<sub>2</sub>C collected water samples from LW-MW-1S and LW-MW-2S to evaluate baseline hexavalent chromium concentrations (reported as less than the laboratory MRL). On January 10, 2013, plumbing of the ozone system was completed and the system was started; however, based on initial operating observations, the system was found to need repairs (replaced compressor seals) prior to commencing longer-term operations. On January 31, 2013, the repairs were made and the system was re-started (see Appendix I).

Pulsed ozone sparging was conducted from January 31, 2013 through February 5, 2013. On May 9, 2013, an attempt was made to conduct the second phase of 'pulsed' ozone sparging; however, it was found that parts within the ozone unit had malfunctioned and required repairs. The unit was removed from the site and transported to the repair facility in San Luis Obispo. On August 6, 2013, the unit was re-mobilized to the site and re-started. On November 5, 2013, the ozone sparge system was shut down and removed from the Site as SVE/GASS operations were re-started.

In accordance with the approved ozone sparging Workplan, groundwater samples collected from wells LW-MW-1S, LW-MW-2S and LW-MW-5S were analyzed for hexavalent chromium during the quarterly monitoring events for which ozone sparging occurred (see Table 9 for summary of historical hexavalent chromium data). Groundwater samples were not analyzed for hexavalent chromium in the First Quarter 2014 as ozone sparging operations were discontinued on November 5, 2013.

## **1.4 SVE/GASS Restart**

As directed by the CRWQCB, the SVE/GASS was re-started on November 5, 2013. The Permit to Operate (PTO) for the remedial system was renewed through the El Dorado County Air Quality Management District on November 5, 2013, prior to system startup.

In accordance with the directive from the CRWQCB on November 1, 2013, E<sub>2</sub>C submitted a letter to the CRWQCB on November 12, 2013 confirming SVE/GASS startup at the Site. Investigate Order R6T-2013-0090 also requires that the CRWQCB be notified if operation of the SVE/GASS at the Site ceases for seven (7) days or more. Furthermore, per the November 1, 2013 directive, another SVE/GASS will be mobilized to the Site and put into operation if the current system is unable to operate within a period of two (2) weeks. See Section 3.2 below for current system operation status.

## **2.0 SECOND QUARTER 2014 GROUNDWATER MONITORING**

Soil vapor and groundwater monitoring in the Second Quarter 2014 consisted of collection of shallow soil vapor samples from VP wells, measuring depths to groundwater in accessible groundwater monitoring wells, and collecting groundwater samples for chemical analysis from the monitoring wells.

### **2.1 Groundwater Elevation Monitoring**

On June 26, 2014, depths to groundwater were measured at all site monitoring wells, as well as the far offsite well OS-1.

During each monitoring event, depths to water were measured from a mark located at the top of each well casing (generally the north side) using a Solinst water level meter and were recorded to the nearest 0.01 foot (see Appendix A for field data sheets). Depths to groundwater from the site wells were used to calculate the groundwater elevation at each well. Groundwater elevation data were further utilized for generation of a groundwater gradient plot.

#### **2.1.1 Groundwater Gradient**

On June 26, 2014, depths to water ranged from 11.27 feet below top of casing (BTOC) (LW-MW-5S) to 15.40 feet BTOC (LW-MW-2S) (see Table 1 for a summary of depth to groundwater data and Table 2 for summary of historical depth to groundwater data). Groundwater elevations increased an average of 1.33 feet since March 2014 (see Table 2 and Graph 1). Depth to groundwater data were used to calculate the shallow groundwater zone (SZA) elevations across the Site (see Figure 3). Based on the groundwater elevation data from the June 26, 2014 monitoring event, two (2) groundwater flow directions and corresponding gradients in the SZA beneath the Site were interpreted: 1) generally north-northeasterly in the area between LW-MW-1S and LW-MW-2S at an approximate gradient of 0.023 foot of elevation drop per foot of horizontal distance (ft/ft), and 2) generally northerly in the area of LW-MW-11S and LW-MW-5S at an approximate gradient of 0.010 ft/ft.

### **2.2 Groundwater Sampling**

Groundwater purging and sampling was conducted using low-flow purging and sampling method. In this method, groundwater was extracted from the well at a very low rate, approximately 200 to 250 milliliters per minute (mL/min), and drawdown of



the water table was stabilized. Water was recovered from the more hydrogeologically conductive areas of the water-bearing zone around the well screen, and monitored with water quality sensors for stability to determine chemical change from well water to formation water. Once stabilization occurred, a sample was collected with the assurance of representative formation water and the least amount of geochemical disruption to the sample.

During purging, groundwater parameters of temperature, pH, and conductivity were measured as water was purged from a well. Once the parameters stabilized, groundwater in the monitoring well casing was considered representative of formation groundwater and a sample was collected (see Appendix A for copies of field data sheets).

After purging, the low-flow method was also used to fill sample containers. Samples were collected into laboratory supplied glassware consisting of three (3) 40-milliliter volatile organic analysis (VOA) vials. Each VOA was sealed using a tight fitting Teflon®-lined screw cap. Care was taken so that no headspace or bubbles were present in the VOA vials. All samples were labeled and documented on a Chain-of-Custody record immediately after sealing and placed into a cooler with ice for transport to the analytical laboratory.

### **2.2.1 Chemical Analysis of Groundwater Samples**

Groundwater samples collected by E<sub>2</sub>C were analyzed at ProVera Analytical Laboratories, Inc. of Roseville, California (State DHS ELAP-Certification #2606) (ProVera) for the following constituents of concern (COCs) by the appropriate EPA Method (see Appendix B for a copy of the analytical laboratory report):

- Volatile Organic Compounds (VOCs), including PCE, TCE and associated PCE and TCE degradation products, using EPA Method 8260b.

### **2.2.2 Summary of Groundwater Analytical Results**

The reported results are summarized as follows (see Table 1 for summary of current data and Table 3 for summary of historical data):

#### Site Wells

- PCE was reported at all but one well (LW-MW-9S) at concentrations ranging from 0.84 µg/L (LW-MW-10SR) to 130 µg/L (LW-MW-1S) (see Figure 4);
- TCE was reported at one (1) well (LW-MW-2S) at a concentration of 0.57 µg/L (see Figure 5);
- Cis-1,2-DCE was not reported at concentrations at, or equal, to the laboratory method reporting limit (MRL) of 0.50 µg/L (non-detect) (see Figure 6);
- Chloroform was reported at three (3) wells at concentrations of 1.9 µg/L (LW-MW-10SR), 1.1 µg/L (LW-MW-11S) and 0.63 µg/L (LW-MW-13S); and
- All other VOCs were reported as non-detect.

#### Off-Site Well OS-1

- PCE was reported at a concentration of 15 µg/L in the groundwater sample collected from well OS-1; and
- No other VOCs were detected at concentrations exceeding the MRL.

### **2.2.3 Quality Control Samples**

The duplicate sample from LW-MW-5S was reported to contain concentrations of VOCs that were within acceptable ranges as compared to the primary sample from that well. The trip blank did not contain concentrations of VOCs exceeding the MRL. In addition, the laboratory control samples all had recoveries within acceptable ranges. These results indicate that the analytical data are usable and are of adequate quality and reproducibility to satisfy data validity requirements.

### **2.2.4 Electronic Submittal of Data to GeoTracker Database**

Groundwater monitoring data (elevation and laboratory) have been uploaded to the State GeoTracker database. A copy of this report has also been uploaded (see Appendix C for copies of recent upload confirmation reports). Any upload not documented in this status report will be documented in the next status report.

## **2.3 Shallow Soil-Vapor Sampling**

Shallow soil-vapor samples were collected in accordance with soil-gas monitoring procedures outlined in Appendix E of the IRAWP (E<sub>2</sub>C, 2009a) (copy included as Appendix E). A shallow soil vapor sample was attempted at VP-6, however, high negative pressure from the vacuum extraction system prevented the collection.

### **2.3.1 Summary of Shallow Soil-Vapor Data**

Analytical data for shallow soil vapor samples are summarized below and are presented with historical data in Tables 4A and 4B (see Appendix F for a copy of the soil vapor laboratory report):

- PCE was reported at all VP wells, except VP-6 and VP-7 at concentrations ranging from 100 parts per billion by volume (ppbV) (678 micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]) at VP-8 to 8,500 ppbV (57,630  $\mu\text{g}/\text{m}^3$ ) (VP-2) (see Figure 7A and 7B);
- Cis-1,2-DCE was reported at two (2) VP wells at concentrations of 250 ppbV (990  $\mu\text{g}/\text{m}^3$ ) (VP-2) and 0.27 ppbV (1.07  $\mu\text{g}/\text{m}^3$ ) (VP-5);
- TCE was reported at two (2) VP wells at concentrations of 240 ppbV (12,888  $\mu\text{g}/\text{m}^3$ ) (VP-2) and 52 ppbV (2,792  $\mu\text{g}/\text{m}^3$ ) (VP-5); and
- Other VOCs were reported at low concentrations at vapor wells VP-1, VP-2, VP-4 and VP-9 (see Table 4A for summary of data).

## **2.4 Discussion of Monitoring Data**

### Groundwater Elevation Monitoring

Based on the June 26, 2014 groundwater elevation data, groundwater beneath the Site increased in average elevation by approximately 1.33 feet from the First Quarter 2014 to the Second Quarter 2014 (see Graph 1), and the direction of flow generally ranged from northwesterly to northerly. The interpreted flow directions and approximate gradients were similar to those in the First Quarter 2014.

### Groundwater Chemical Conditions Monitoring

PCE concentrations in groundwater (dissolved-phase) generally decreased, or remained relatively similar to those of the First Quarter 2014; however, at LW-MW-1S, PCE increased more than an order of magnitude from 2.8  $\mu\text{g}/\text{L}$  (First Quarter 2014) to 130  $\mu\text{g}/\text{L}$  (Second Quarter 2014).

TCE was reported in only one groundwater sample, LW-MW-2S

The PCE concentration at OS-1 (off-site well) continued to fluctuate up and down. These fluctuations appear independent of site remedial operations.

#### Shallow Soil Vapor Monitoring

VOC concentrations at the shallow soil vapor wells generally increased from the First Quarter 2014 to the Second Quarter 2014. Increases, though, were to concentrations significantly less than those reported during previous times of higher concentrations (i.e., the overall trends are still ones of decline).

### **3.0 CURRENT SITE REMEDIATION STATUS**

Prior to November 1, 2013, site cleanup was conducted under the Interim Remedial Action Plan (IRAP). On November 1, 2013, the Remedial Action Plan (RAP) was approved by the CRWQCB. Since that date, site cleanup has been conducted in accordance with the approved RAP.

#### **3.1 SVE/GASS Cyclic Operations**

As PCE concentrations were less than 10 µg/L in all groundwater samples in the First Quarter 2014, E<sub>2</sub>C proposed to the CRWQCB on March 17, 2014 that cyclical SVE/GASS operating periods commence. Ms. Lisa Dernbach of the CRWQCB approved the proposal via electronic message on April 7, 2014. Therefore, the SVE/GASS was shut off on April 10, 2014 to begin the approved cycling plan (2 weeks off/2 weeks on). On April 25, 2014, the SVE/GASS was re-started.

##### **3.1.1 SVE/GASS Cycling Influent Concentrations**

During the cycling period, system influent vapor concentrations, as measured in the field with a PID, ranged from 0.0 parts per million by volume (ppmV) to 5.0 ppmV. Laboratory-derived influent PCE concentrations were non-detect (not detectable at, or above the MRL of 0.010 ppmV) for the vapor samples collected between April 1, 2014 and June 26, 2014. The laboratory-derived PCE concentration in the influent vapor samples collected in April, May and June 2014 were low, 1.0 ppmV, or less (see Table 8).

#### **3.2 Current SVE/GASS Operations**

With the exception of downtime for maintenance and repairs, and several power outages at the Site which caused the system to remain off until re-start during the next weekly O&M visit, the SVE/GASS operated continuously from November 5, 2013 through April 10, 2014. For the period after April 10, 2014, the system continued to experience shut-down problems after numerous restarts and repairs to the piping system. Finally, it was determined that extreme back-pressure from the carbon units back to the extraction unit was causing overheating of the piping, resulting in pipe melt-down, thus resulting in automatic shut-down of the system to prevent damage to the unit. This back-pressure was the result of fines build-up in the carbon due to break-down of the carbon granules. These fines caused flow through the carbon vessels to be restricted. These restrictions caused pressure to build and heat to be generated. Based on this, E<sub>2</sub>C commenced an evaluation to assess corrective measures, including replacement of equipment and/or piping. The evaluation found that influent concentrations to the

carbon were too low for effective carbon use. Additionally, the evaluation determined that the influent had never exceeded concentrations that would cause exception to the EDCAQMD PTO Item 14 condition of not exceeding “9.9 lb/day” of VOC emissions to the atmosphere. Additionally, data indicated that influent concentrations since June 14, 2011 would have yielded less than 1 lb/day of total VOC emissions into the atmosphere had the carbon units been taken out of line. As such, the EDCAQMD was contacted and a Request for Permitting Exemption, dated July 24, 2014, was prepared to bypass the carbon units and emit directly to atmosphere. On July 30, 2014, the EDCAQMD approved the Request (see Appendix K for copies of Request and the approval letter). On August 4, 2014, the system was restarted in full-time operation mode.

As the PCE concentration at LW-MW-1S increased more than an order of magnitude from the First to Second Quarters 2014, E<sub>2</sub>C personnel were scheduled and visited the site to re-start the remedial system for full-time operation in accordance with the system cycling approval letter from the CRWQCB. On August 4, 2014, the carbon units were taken out of service and the system was restarted with emission of extracted vapors directly to atmosphere. With re-plumbing of the system to discharge directly to atmosphere, there is now only one vapor sampling port and that is the influent port. The vapor sample collected at that port for laboratory analysis indicated that the maximum discharge to atmosphere was approximately 0.722 lbs/day (PCE = 3.5 ppmV, TCE = 0.095 ppmV, cis-1,2-DCE = 0.028 ppmV and other VOCs = 0.017 ppmV) (the field measurement was zero). This result is well below the 2.0 lb/day limit requiring a Permit to Operate. Note the carbon vessels remain at the Site. Should emissions exceed 2.0 lb/day the EDCAQMD will be contacted, the system will be shut down and a new PTO will be issued for operations through carbon.

### **3.3 VOC Mass Removal**

Laboratory analytical data were used to estimate the VOC mass removed during SVE/GASS operations (see Table 6). Mass removal calculations were performed for PCE, TCE and cis-1,2-DCE individually. Low concentrations of fuel hydrocarbon compounds and other VOCs have also been reported in influent vapor samples. These compounds have been included in the ‘Total VOC’ category for mass removal calculation purposes.

Based on laboratory-derived vapor influent concentrations and incremental running time, approximately 866.11 pounds (lbs) of VOC mass were removed via the SVE/GASS operations from system startup (April 9, 2010) to August 4, 2014 (see Table 6). Of that total, for the period of system re-start (November 5, 2013) until August 4, 2014, approximately 20.3 lbs of VOC mass were removed, an average removal rate of approximately 0.099 lbs/day.

## **4.0 ESTIMATE OF RESIDUAL PCE MASS IN SOILS AND GROUNDWATER**

In their August 2, 2013 letter, CRWQCB directed that PCE mass remaining in soil and the aquifer be calculated based on known conditions in each status report, which are to be submitted quarterly.

### **4.1 Estimate of Residual PCE Mass in Vadose Zone**

In order to estimate residual PCE mass in soils, analytical data from soil samples collected from confirmation borings would be needed. Although this is technically

feasible, it is not financially feasible to advance soil borings every quarter to collect soil samples for laboratory analyses. However, it is possible to estimate residual PCE soil vapor mass in the vadose zone using shallow-soil vapor analytical data, which is collected quarterly, except during times that VP wells are not able to be sampled due to snow and ice in wells (see Table 4A). Although the soil vapor data can be used to estimate residual PCE in soil, some assumptions need to be applied to provide a conservative estimate as follows:

- 1) The impacted area is approximately 15,100 square feet (sf) (measured from Figure 7B) (note: although the size of the impacted area would change through time, increasing, or decreasing, as concentrations fluctuate, this area of impact allows for relative interpretations);
- 2) The soil vapor data represents residual PCE concentrations entrained within the pore space of the shallow subsurface soils with a conservative estimate of porosity at 30%; and
- 3) Although the VP wells are set at 5 feet in depth, the resultant data is assumed to represent the thickness of the vadose zone; in this case, approximately 10 feet on average.

Based on these assumptions, and using the most recent soil vapor data collected on June 26, 2014 (see Table 4A), the estimated residual PCE mass in vadose zone vapor is 0.025 lb (see Table 9B).

#### **4.2 Estimate of Residual PCE Mass in Groundwater**

The following assumptions have been made to estimate residual PCE mass in groundwater:

- 1) Groundwater samples collected from wells LW-MW-1S, LW-MW-2S, LW-MW-5S and LW-MW-12S contained PCE concentrations above 5  $\mu\text{g}/\text{L}$  in the Second Quarter 2014. A conservative estimate of 2,750 sf was used to approximate residual PCE mass in groundwater near these four (4) wells. Note: The PCE groundwater plume in March 2014 was approximated at 10,000 sf(see Table 10A);
- 2) The saturated zone soil porosity is 30%; and
- 3) The impacted thickness within the saturated zone is approximately 10 feet on average.

Based on these assumptions, an estimate of residual PCE groundwater mass can be made. Using the most recent June 2014 data, the estimated PCE mass in groundwater is 0.02 lb (see Table 10B). This estimate is slightly higher than that of the First Quarter 2014; however, the overall size of the residual 5  $\mu\text{g}/\text{L}$  plume has reduced significantly in size to only approximately 2,750 square feet in area (see Figure 4A).

## 5.0 CONCLUSIONS

Based on the monitoring data collected to date, the following conclusions can be made:

- Although, operation of the SVE/GASS was effectively reducing residual VOC mass in the subsurface, low influent concentrations to the carbon units created extreme back-pressure causing overheating of the system causing automatic extraction unit shut-downs for protection of the equipment; however, the resultant heat was melting the piping between the extraction unit and the carbon vessels;
- The system was shut off on June 26, 2014 for an off-cycle period. This coincided with the Second Quarter 2014 groundwater monitoring and sampling event which included system influent samples. The system was scheduled to remain off until July 11, 2014. Analytical data from both the groundwater and system influent were received at approximately the same time the system was scheduled to be restarted. The analytical data indicated that the system would need to be restarted in full time operating mode (due to the increase in dissolved-phase concentrations in LW-MW-1) and that the system influent concentrations were sufficiently low to request permission from the EDCAQMD to remove the carbon emission control units. Therefore, on July 24, 2014 a request for an exemption to the Permit was submitted to the EDCAQMD and the system was left off pending the response to the request. The CRWQCB was sent a copy of the request at the time of the submittal to the EDCAQMD. The EDCAQMD approved the request on August 1, 2014 and the system was restarted in full time operational mode on August 4, 2014:
- On August 4, 2014, the SVE/GASS was restarted with discharge of extracted vapors directly to atmosphere. As the concentration of PCE in groundwater at LW-MW-1S had increased greater than an order of magnitude , as well shallow soil-vapor concentrations at several of the VP wells, since the March 2014 monitoring event, in accordance with the CRWQCB letter, dated April 9, 2014, the SVE/GASS will operate on a full-time basis until such time as the dissolved-phase concentrations are reduced sufficiently to resume system cycling; and
- Vapor extraction operations should continue to be focused in those areas of higher dissolved-phase concentrations and/or soil-vapor concentrations.

## 6.0 RECOMMENDATIONS

Based on the above conclusions, E<sub>2</sub>C recommends the following:

- Continue groundwater and shallow soil vapor monitoring with subsequent status reporting in accordance with the approved RAP;
- Continue full-time SVE/GASS until dissolved-phase concentrations are reduced such that system cycling can re-commence; and
- Upon confirmation that VOC concentrations remain at or below target cleanup levels, and cyclic system operations are no longer yielding rebound concentrations, shut down the SVE/GASS with approval from the CRWQCB and commence post-remediation monitoring.

## 7.0 DESCRIPTION OF FUTURE ACTIVITIES


Activities will consist of SVE/GASS operations in full-time operational mode until system cycling can re-commence. Once system cycling re-commences, operate cyclic mode until concentrations of chlorinated hydrocarbons in groundwater, specifically PCE, remain at or below target cleanup levels at all site groundwater monitoring wells. Once those concentrations are achieved, with the approval of the CRWQCB, commence the post-remediation monitoring program. Groundwater and shallow soil vapor monitoring will continue on a quarterly basis with subsequent status reporting.

## 8.0 LIMITATIONS AND CERTIFICATION

E<sub>2</sub>C has performed this investigation in accordance with generally accepted standards of care existing in California at this time. It should be recognized that definition and evaluation of geologic conditions is a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with limited knowledge of subsurface conditions present. No warranty expressed or implied is made.

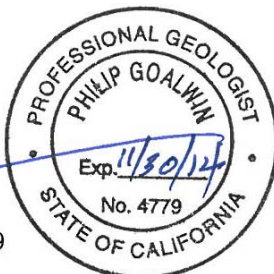

This Report has been prepared under the professional supervision of the registered professionals whose seals and signatures appear herein. The proposed site monitoring and remediation tasks in this Report are based solely on the Scope of Services outlined and the sources of information referenced in this report. Any additional information that becomes available concerning the Site should be submitted to E<sub>2</sub>C so that our conclusions may be reviewed and modified, if necessary. This Report was prepared for the sole use of Seven Springs Limited Partnership, Fox Capital Management, and/or their agent(s), the CRWQCB and the CEDEMD.

Prepared By:



William A. Lawson, P.G. #7171  
Senior Geologist

Reviewed By:



Philip Goalwin, P.G. #4779  
Principal Geologist

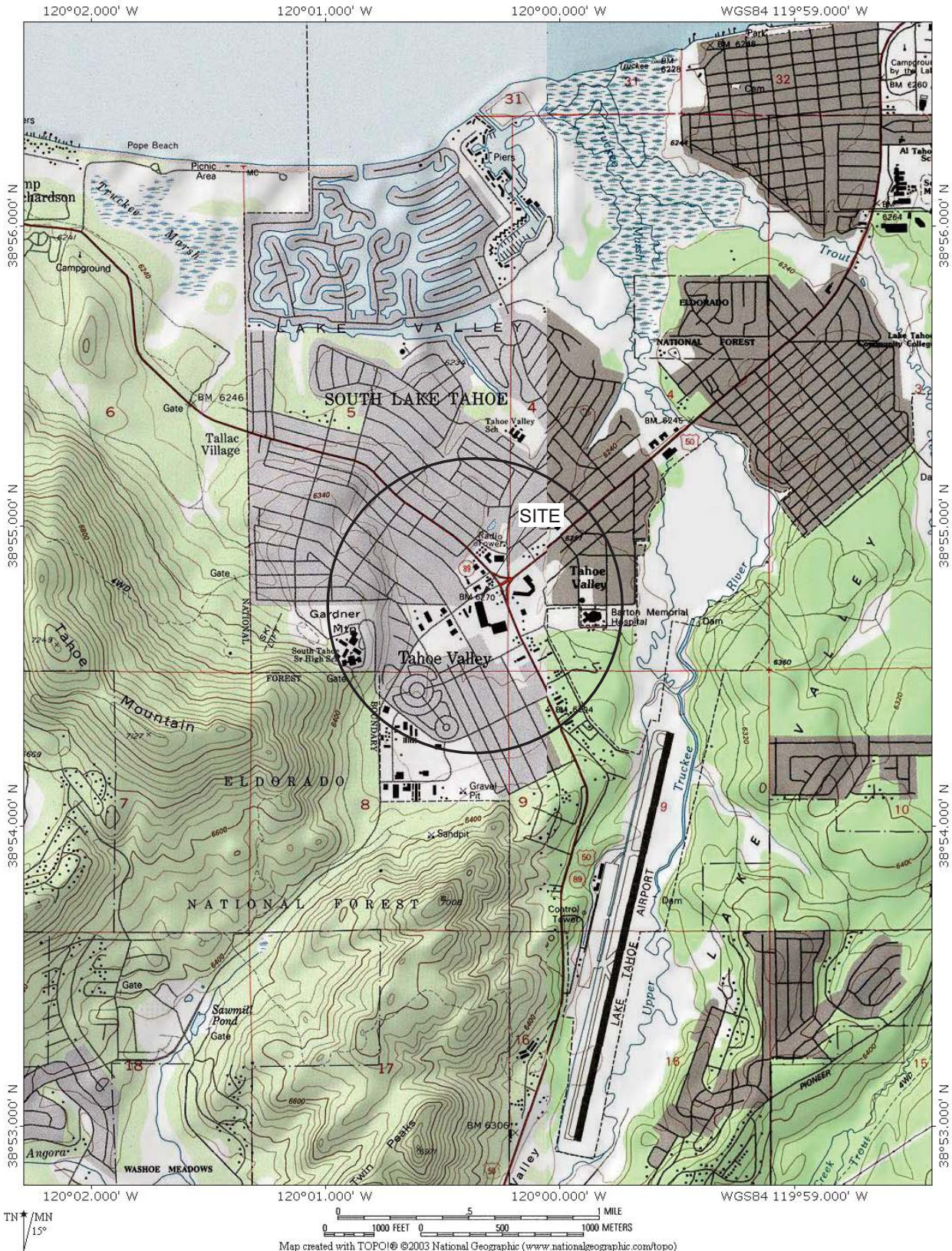
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## FIGURES

- Figure 1 Site Location Map
- Figure 2 Site Plan
- Figure 3 Second Quarter 2014 Groundwater Gradient Plot
- Figure 4 Second Quarter 2014 Dissolved-Phase PCE Distribution Plot
- Figure 4A Second Quarter 2014 Dissolved-Phase PCE 5  $\mu\text{g}/\text{L}$  Boundary Plot
- Figure 5 Second Quarter 2014 Dissolved-Phase TCE Distribution Plot
- Figure 6 Second Quarter 2014 Dissolved-Phase cis-1,2-DCE Distribution Plot
- Figure 7A Second Quarter 2014 Shallow Soil Vapor Distribution Plot
- Figure 7B Second Quarter 2014 Shallow Soil Vapor PCE Distribution Plot
- Figure 8 Remediation Well Location Plot



**E<sub>2</sub>C Remediation**

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Roseville, CA 95678

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**LAKE TAHOE LAUNDRY WORKS**  
1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA

**SITE LOCATION MAP**

**FIGURE**

**1**

**LEGEND**

☒ Approximate Location of Groundwater Monitoring Well  
LW-MW-1S



NOT TO SCALE



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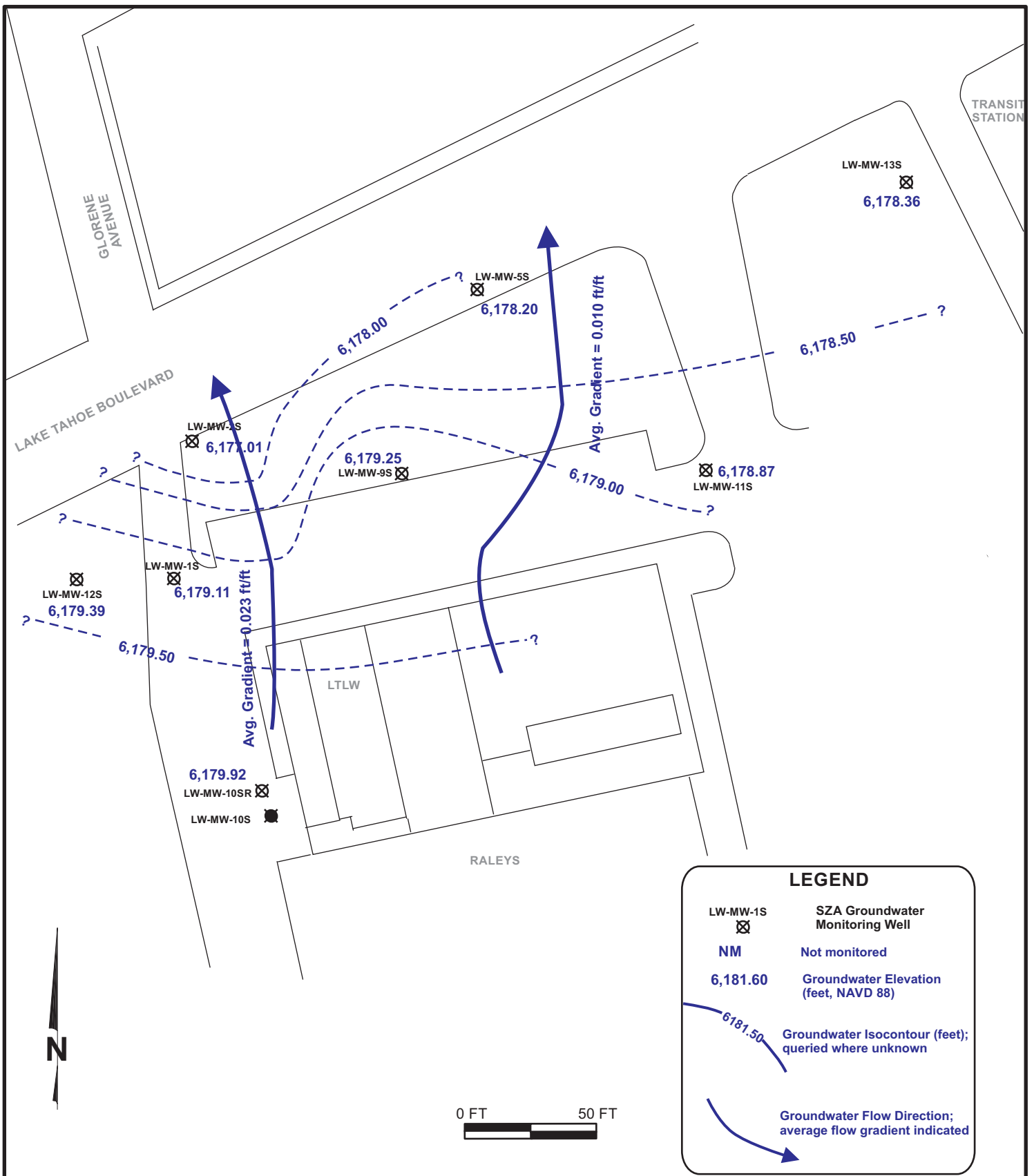
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**SITE PLAN**

**FIGURE**

**2**



**E<sub>2</sub>C Remediation**

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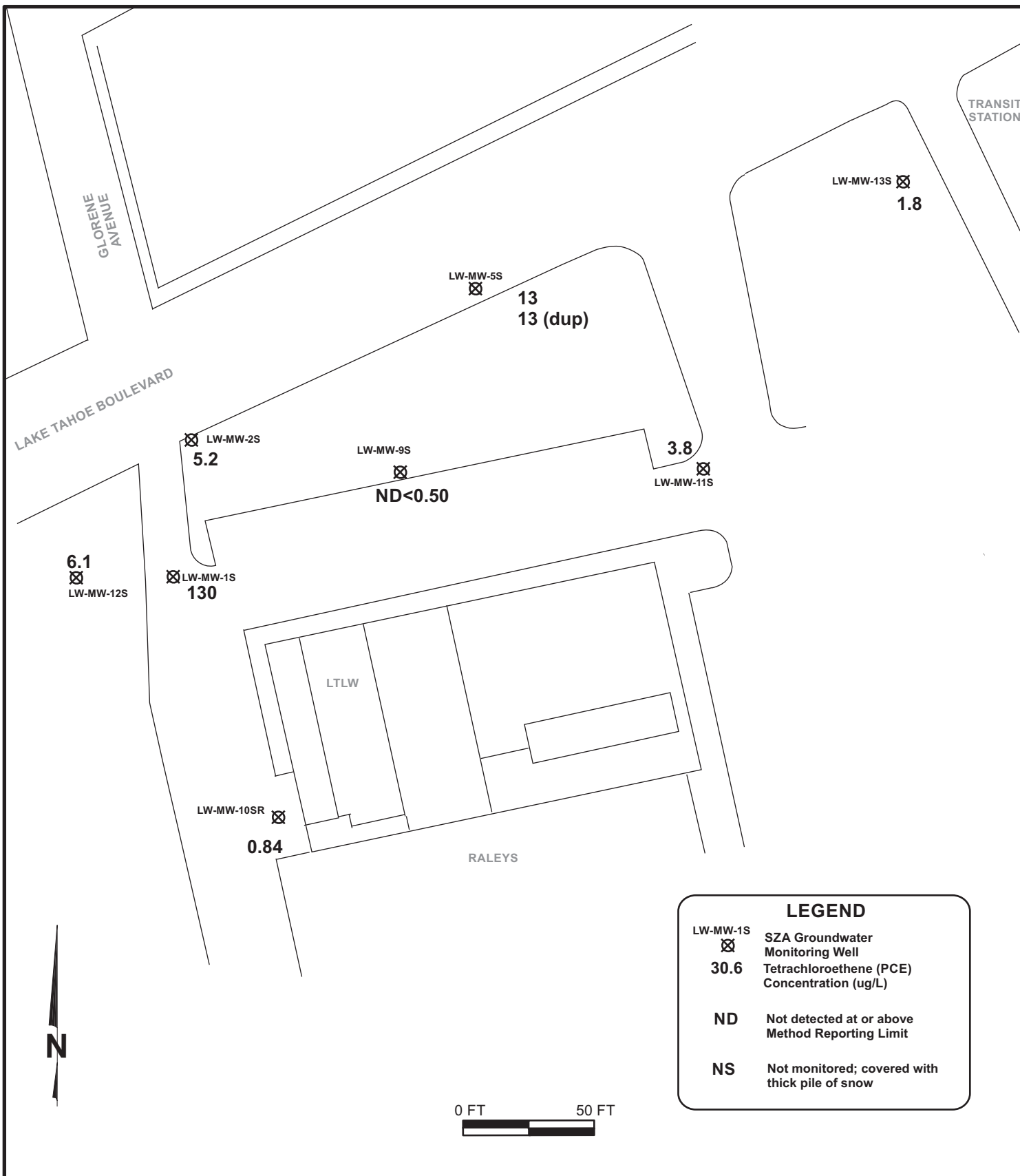
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**SECOND QUARTER 2014**  
**GROUNDWATER GRADIENT PLOT**

**FIGURE**

**3**



**E<sub>2</sub>C Remediation**

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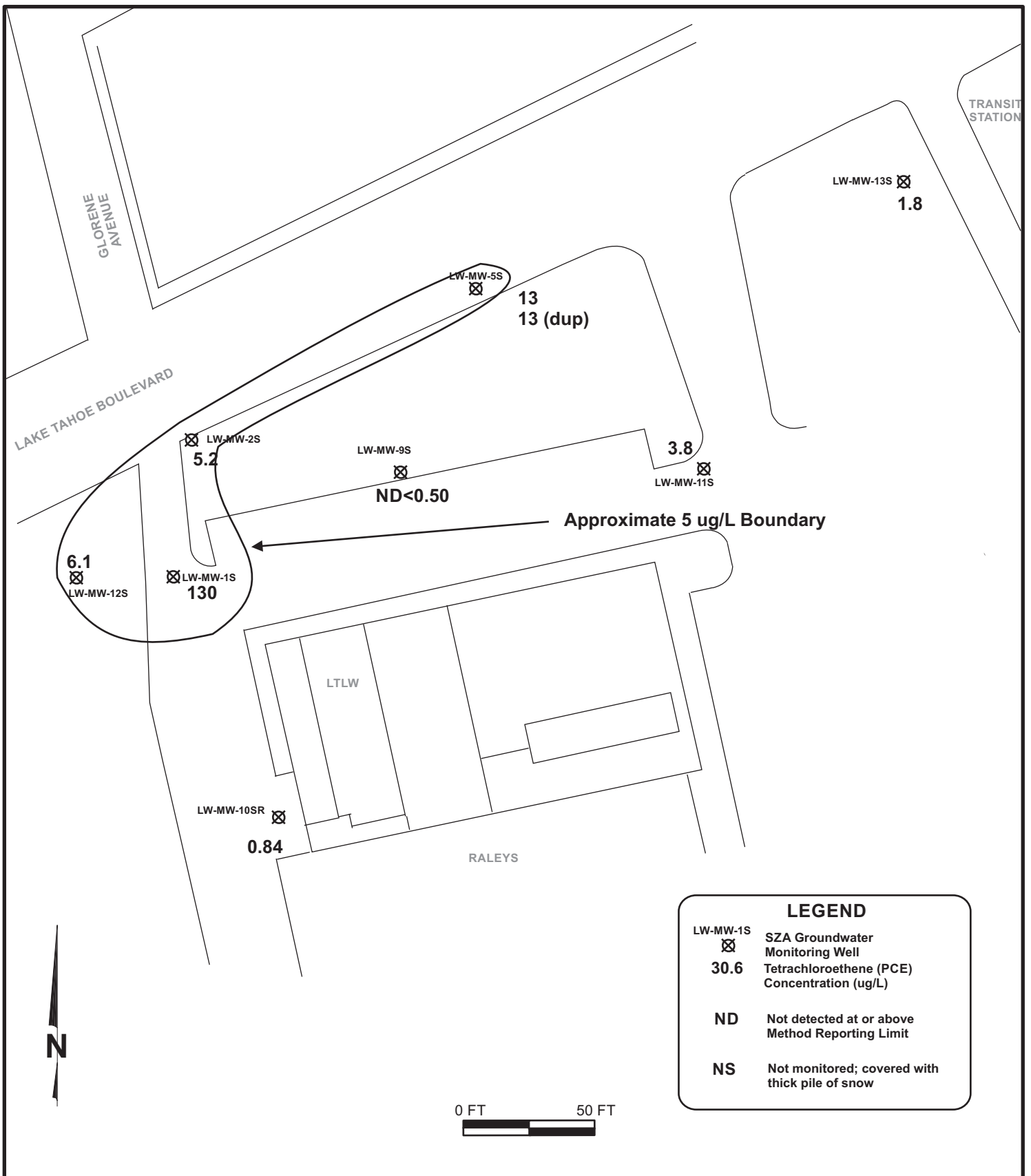
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SOUTH LAKE TAHOE, CALIFORNIA**

**SECOND QUARTER 2014  
DISSOLVED-PHASE  
PCE DISTRIBUTION PLOT**

**FIGURE**

**4**



**E<sub>2</sub>C Remediation**

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Roseville, CA 95678

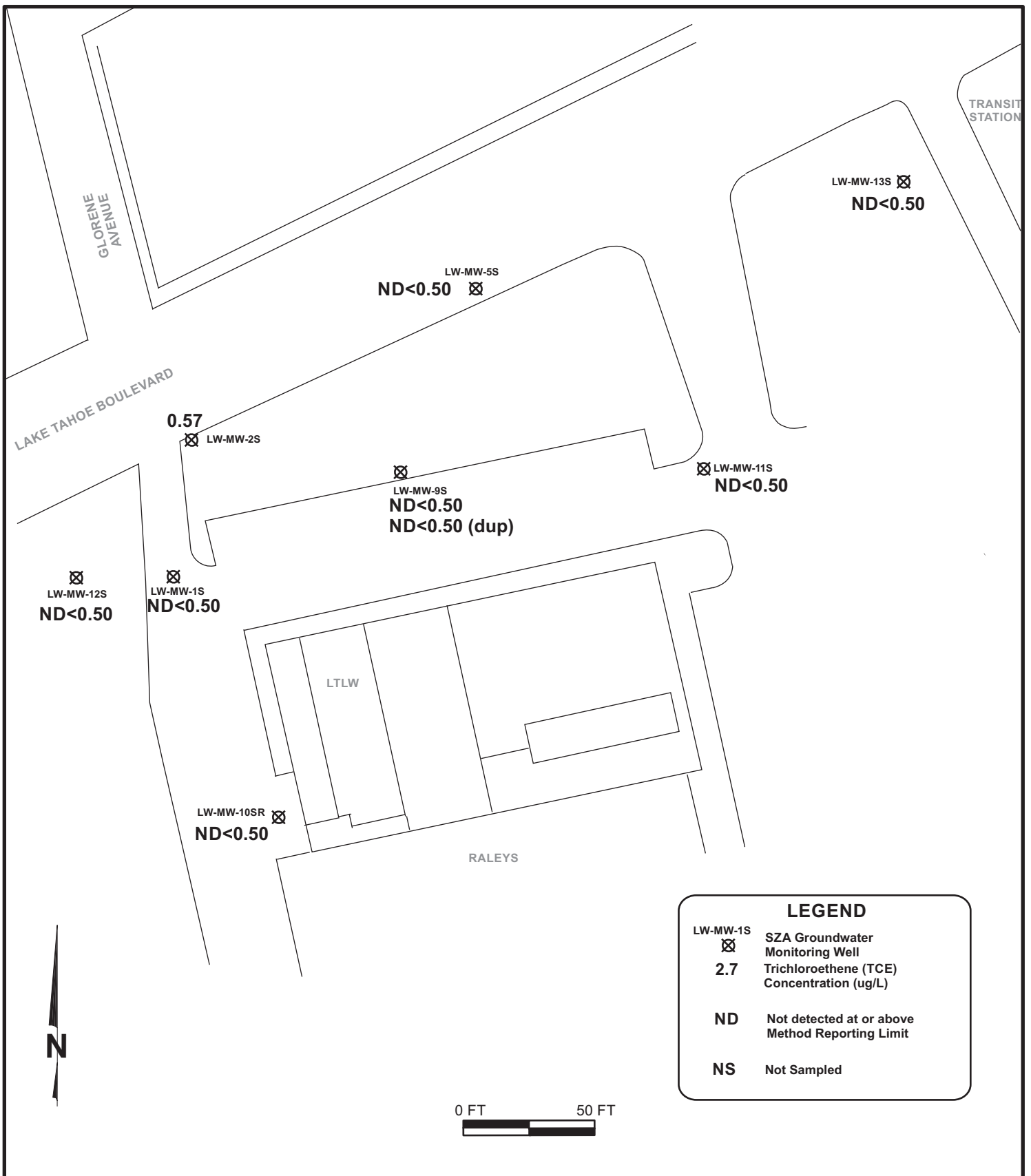
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1024 LAKE TAHOE BOULEVARD  
SOUTH LAKE TAHOE, CALIFORNIA**

**SECOND QUARTER 2014  
DISSOLVED-PHASE  
PCE 5 ug/L PLOT**

**FIGURE**

**4A**



**E<sub>2</sub>C Remediation**

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 Roseville, CA 95678

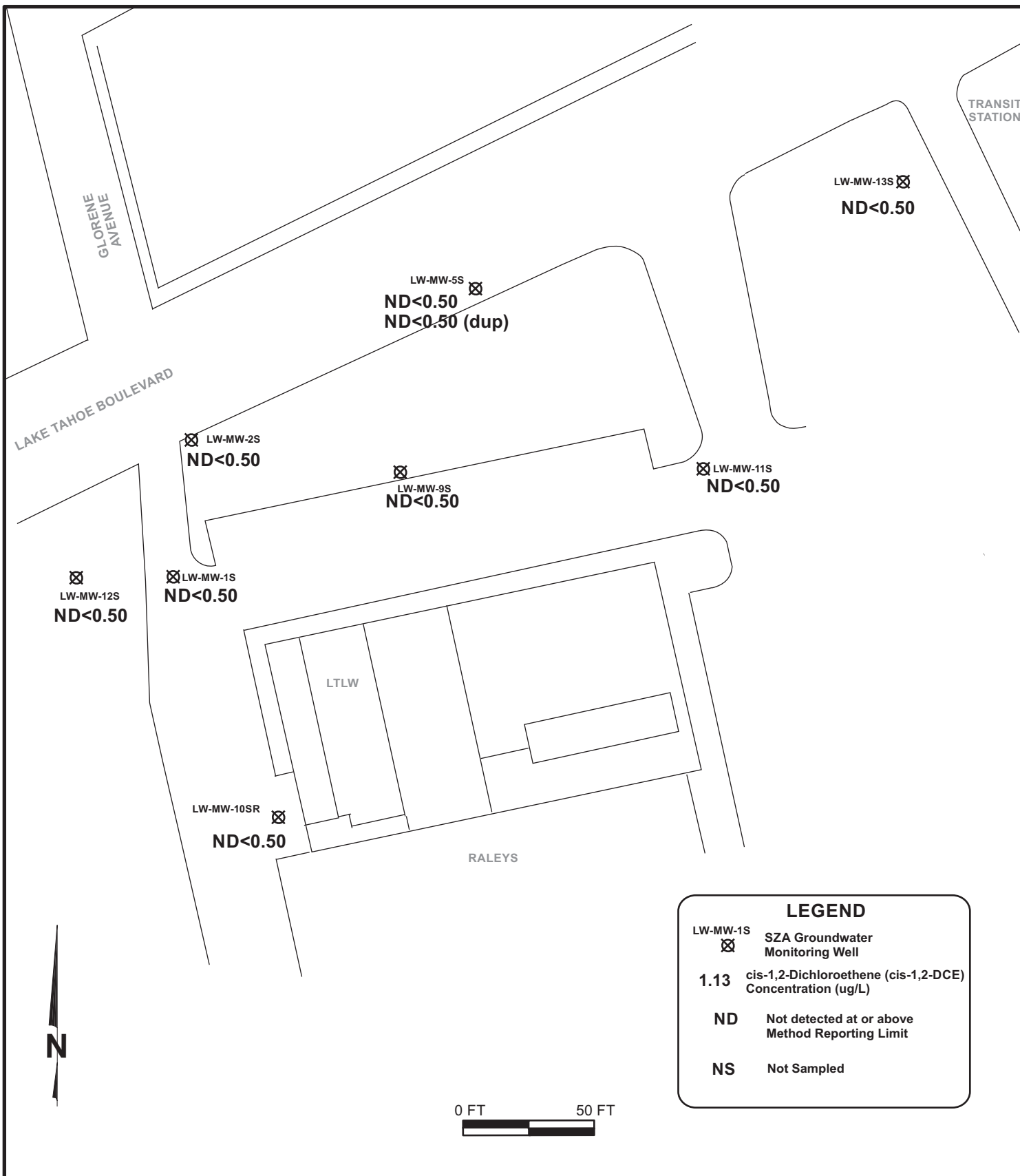
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**SECOND QUARTER 2014  
 DISSOLVED-PHASE  
 TCE DISTRIBUTION PLOT**


**FIGURE**

**5**



**LEGEND**

LW-MW-1S  
 SZA Groundwater Monitoring Well

1.13  
 cis-1,2-Dichloroethene (cis-1,2-DCE) Concentration (ug/L)

ND Not detected at or above Method Reporting Limit

NS Not Sampled



**E<sub>2</sub>C Remediation**

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Phone: (916) 782-8700  
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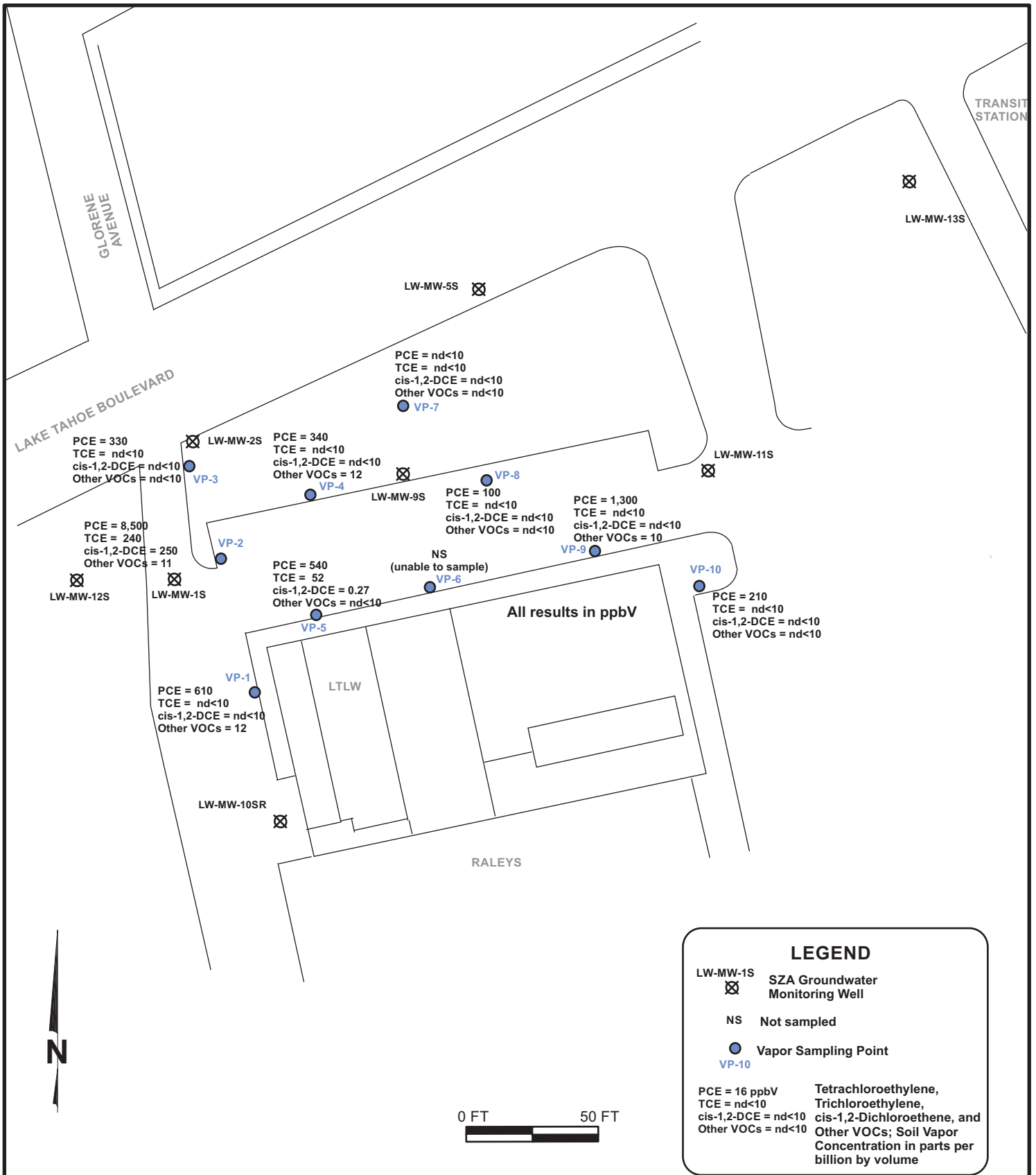
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**SECOND QUARTER 2014  
 DISSOLVED-PHASE  
 cis-1,2-DCE DISTRIBUTION PLOT**

**FIGURE**

**6**





**E<sub>2</sub>C Remediation**

1020 Winding Creek Rd., #110  
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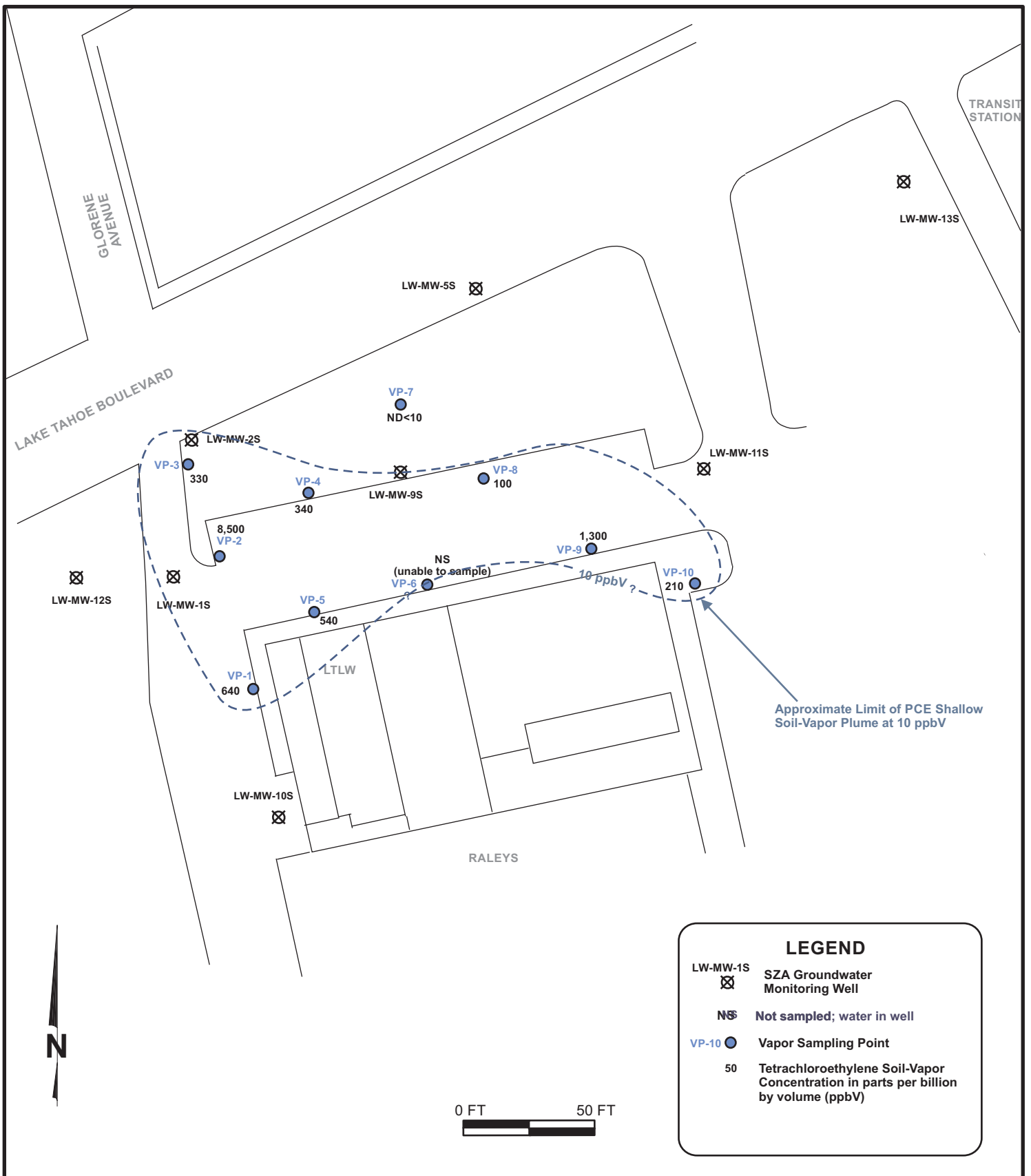
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
**SECOND QUARTER 2014  
SHALLOW SOIL VAPOR  
DISTRIBUTION PLOT**

**FIGURE**

**7A**



**LEGEND**

- LW-MW-1S  SZA Groundwater Monitoring Well
- NS  Not sampled; water in well
- VP-10  Vapor Sampling Point
- 50  Tetrachloroethylene Soil-Vapor Concentration in parts per billion by volume (ppbV)




**E<sub>2</sub>C Remediation**  
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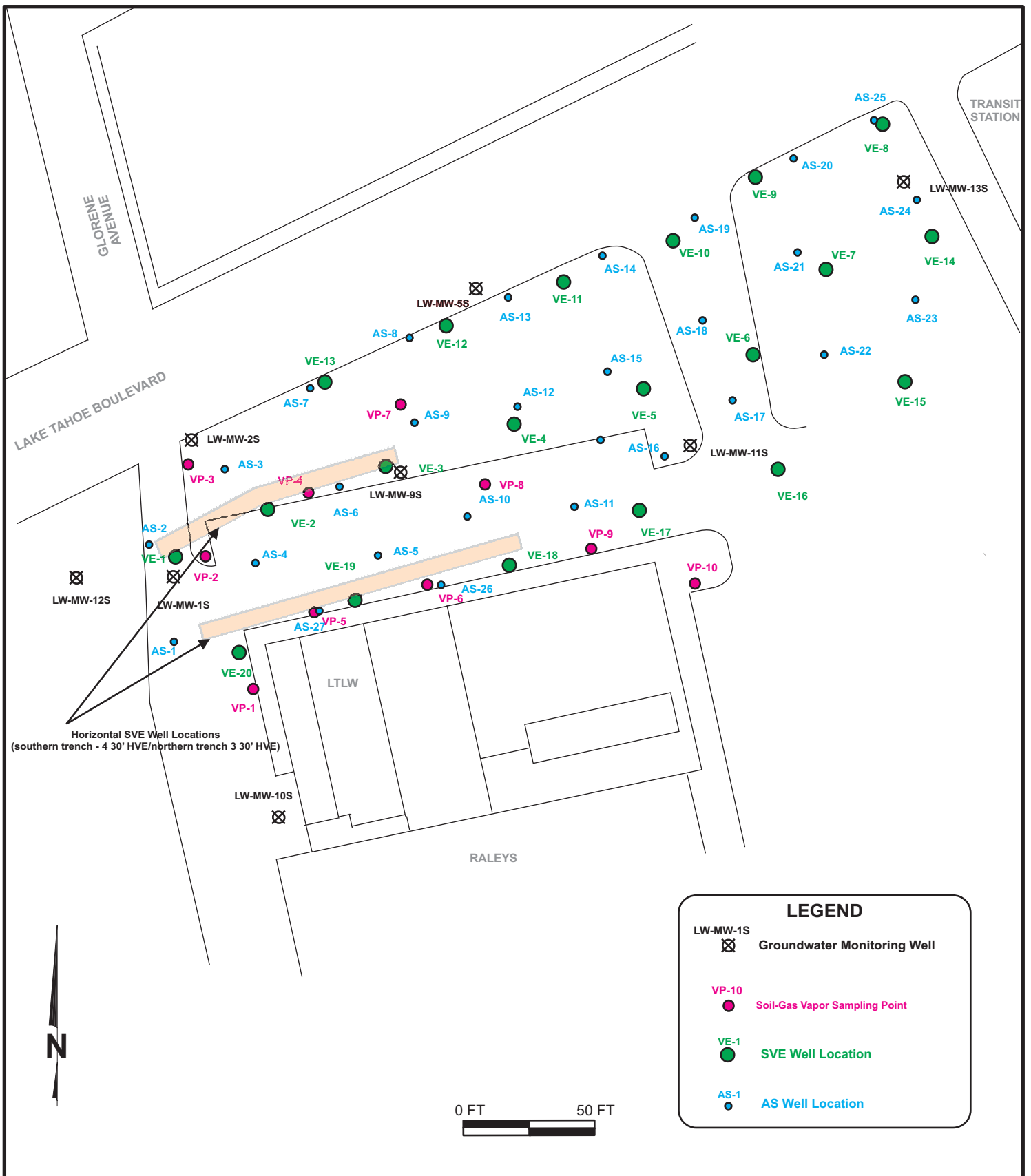
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**SECOND QUARTER 2014  
 SHALLOW SOIL VAPOR PCE  
 DISTRIBUTION PLOT**


**FIGURE**


**7B**




**LEGEND**

LW-MW-1S  
 Groundwater Monitoring Well

VP-10  
 Soil-Gas Vapor Sampling Point

VE-1  
 SVE Well Location

AS-1  
 AS Well Location



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**REMEDIATION WELL  
 LOCATION PLOT**

**FIGURE**

**8**

## **TABLES**

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**TABLE 1  
SUMMARY OF SECOND QUARTER 2014 GROUNDWATER MONITORING DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California  
June 26, 2014**

Well ID	TOC Elev. (feet rel MSL)	Depth to GW (feet BTOC)	GW Elevation (feet MSL)	PCE	TCE	VC	CA	CB	1,1-DCE	MC	Trans-1,2-DCE	1,1-DCA	cis-1,2-DCE	1,2-DCA	1,1,1,2-Tetra	1,1,1-TCA	CF	B	EB	MtBE
LW-MW-1S	6,191.41	12.30	6,179.11	<b>130</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
LW-MW-2S	6,192.41	15.40	6,177.01	<b>5.2</b>	<b>0.57</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
LW-MW-5S	6,189.47	11.27	6,178.20	<b>13</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
Duplicate	Labeled LW-MW-14 on Chain of Custody			<b>13</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
LW-MW-9S	6,192.98	13.73	6,179.25	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
LW-MW-10SR	6,191.91	11.99	6,179.92	<b>0.84</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	<b>1.9</b>	nd<0.50	nd<0.50
LW-MW-11S	6,191.67	12.80	6,178.87	<b>3.8</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	<b>1.1</b>	nd<0.50	nd<0.50
LW-MW-12S	6,190.71	11.32	6,179.39	<b>6.1</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
LW-MW-13S	6,190.82	12.46	6,178.36	<b>1.8</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	<b>0.63</b>	nd<0.50	nd<0.50
OS-1	6,188.12	12.71	6,175.41	<b>15</b>	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50

Notes:

Results in micrograms per liter (µg/L) (equivalent to parts per billion, ppb)

- 1,1-DCA = 1,1-Dichloroethane
- 1,1-DCE = 1,2-Dichloroethene
- 1,1,1-TCA = 1,1,1-Trichloroethane
- 1,1,1,2-Tetra = 1,1,1,2-Tetrachloroethane
- CA = Chloroethane
- CB = Chlorobenzene
- cis-1,2-DCE = cis-1,2-Dichloroethene
- BTOC = Below Top of Casing
- MC = Methylene Chloride
- nm = Not monitored
- PCE = Tetrachloroethene (a.k.a. perchloroethene)
- TCE = Trichloroethene
- trans-1,2-DCE = trans-1,2-Dichloroethene
- VC = Vinyl Chloride
- MtBE = Methyl tertiary-butyl ether
- CF = Chloroform
- B = Benzene
- EB = Ethylbenzene

LW-MW-14 is the duplicate of LW-MW-10SR on Chain-of-Custody

<b>TABLE 2</b> <b>SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
LW-MW-1S	08/13/08	6,191.41	---	13.69	6,177.72	---
	12/04/09		23.91	15.09	6,176.32	-1.40
	03/23/10		23.90	13.99	6,177.42	1.10
	06/15/10		23.90	11.16	6,180.25	2.83
	09/08/10		23.90	12.73	6,178.68	-1.57
	12/16/10		23.90	12.49	6,178.92	0.24
	05/11/11		23.90	5.08	6,186.33	7.41
	09/29/11		23.90	10.71	6,180.70	-5.63
	12/09/11		23.90	10.16	6,181.25	0.55
	03/29/12		23.90	9.03	6,182.38	1.13
	06/08/12		23.90	10.75	6,180.66	-1.72
	08/21/12		23.90	12.19	6,179.22	-1.44
	11/19/12		23.90	13.66	6,177.75	-1.47
	03/11/13		23.90	10.18	6,181.23	3.48
	07/30/13		23.90	11.27	6,180.14	-1.09
	09/30/13		23.90	12.31	6,179.10	-1.04
	12/10/13		23.90	13.91	6,177.50	-1.60
03/06/14	23.90	14.14	6,177.27	-0.23		
06/26/14	23.90	12.30	6,179.11	1.84		
LW-MW-2S	08/13/08	6,192.41	---	14.99	6,177.42	---
	12/04/09		34.82	17.29	6,175.12	-2.30
	03/23/10		34.85	15.44	6,176.97	1.85
	06/15/10		34.85	13.21	6,179.20	2.23
	09/08/10		34.85	14.85	6,177.56	-1.64
	12/16/10		34.85	14.11	6,178.30	0.74
	05/11/11		34.85	7.41	6,185.00	6.70
	09/29/11		34.85	11.76	6,180.65	-4.35
	12/09/11		34.85	12.63	6,179.78	-0.87
	03/29/12		34.85	11.85	6,180.56	0.78
	06/08/12		34.85	12.73	6,179.68	-0.88
	08/21/12		34.85	13.64	6,178.77	-0.91
	11/19/12		34.85	14.97	6,177.44	-1.33
	03/11/13		34.85	12.84	6,179.57	2.13
	07/30/13		34.85	14.32	6,178.09	-1.48
	09/30/13		34.85	15.11	6,177.30	-0.79
	12/10/13		34.85	16.52	6,175.89	-1.41
03/06/14	34.85	15.94	6,176.47	0.58		
06/26/14	34.85	15.4	6,177.01	0.54		

<b>TABLE 2</b> <b>SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
LW-MW-5S	08/13/08	6,189.47	---	14.04	6,175.43	---
	12/04/09		29.73	14.85	6,174.62	-0.81
	03/23/10		29.73	14.21	6,175.26	0.64
	06/15/10		29.73	9.75	6,179.72	4.46
	09/08/10		29.73	12.06	6,177.41	-2.31
	12/16/10		29.73	nm		
	05/11/11		29.73	4.75	6,184.72	
	09/29/11		29.73	9.21	6,180.26	-4.46
	12/09/11		29.73	8.94	6,180.53	0.27
	03/29/12		29.73	7.94	6,181.53	1.00
	06/08/12		29.73	8.84	6,180.63	-0.90
	08/21/12		29.73	11.84	6,177.63	-3.00
	11/19/12		29.73	15.25	6,174.22	-3.41
	03/11/13		29.73	9.25	6,180.22	6.00
	07/30/13		29.73	10.22	6,179.25	-0.97
	09/30/13		29.73	11.36	6,178.11	-1.14
	12/10/13		29.73	14.32	6,175.15	-2.96
03/06/14	29.73	12.93	6,176.54	1.39		
06/26/14	29.73	11.27	6,178.20	1.66		
LW-MW-9S	12/04/09	6,192.98	24.40	16.01	6,176.97	---
	03/23/10		24.25	14.82	6,178.16	1.19
	06/15/10		24.25	12.29	6,180.69	2.53
	09/08/10		24.25	13.91	6,179.07	-1.62
	12/16/10		24.25	14.75	6,178.23	-0.84
	05/11/11		24.25	6.37	6,186.61	8.38
	09/29/11		24.25	12.51	6,180.47	-6.14
	12/09/11		24.25	11.57	6,181.41	0.94
	03/29/12		24.25	10.68	6,182.30	0.89
	06/08/12		24.25	12.76	6,180.22	-2.08
	08/21/12		24.25	13.92	6,179.06	-1.16
	11/19/12		24.25	15.26	6,177.72	-1.34
	03/11/13		24.25	11.66	6,181.32	3.60
	07/30/13		24.25	12.69	6,180.29	-1.03
	09/30/13		24.25	13.75	6,179.23	-1.06
12/10/13	24.25	17.23	6,175.75	-3.48		
03/06/14	24.25	16.80	6,176.18	0.43		
06/26/14	24.25	13.73	6,179.25	3.07		
LW-MW-10S	12/04/09	6,192.15	24.76	14.30	6,177.85	---
	03/23/10		24.60	13.27	6,178.88	1.03
	06/15/10		24.60	10.55	6,181.60	2.72
	09/08/10		24.60	12.13	6,180.02	-1.58
	12/16/10		24.60	11.07	6,181.08	1.06
	05/11/11		24.60	4.41	6,187.74	6.66
	09/29/11		24.60	9.20	6,182.95	-4.79
	12/09/11		24.60	9.80	6,182.35	-0.60
	03/29/12		24.60	9.02	6,183.13	0.78
	06/08/12		24.60	9.43	6,182.72	-0.41
	08/21/12		24.60	10.45	6,181.70	-1.02
11/19/12	Well Grouted Up on Arrival/Unaccessible					
LW-MW-10SR	07/30/13	6,191.91	24.65	11.73	6,180.18	---
	09/30/13		24.65	11.95	6,179.96	-0.22
	12/10/13		24.65	13.40	6,178.51	-1.45
	03/06/14		24.65	13.21	6,178.70	0.19
	06/26/14		24.65	11.99	6,179.92	1.22

<b>TABLE 2</b> <b>SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
LW-MW-11S	12/04/09	6,191.67	24.30	14.91	6,176.76	---
	03/23/10		24.02	14.72	6,176.95	0.19
	06/15/10		24.02	11.38	6,180.29	3.34
	09/08/10		24.02	12.87	6,178.80	-1.49
	12/16/10		24.02	14.95	6,176.72	-2.08
	05/11/11		24.02	5.40	6,186.27	9.55
	09/29/11		24.02	10.25	6,181.42	-4.85
	12/09/11		24.02	10.61	6,181.06	-0.36
	03/29/12		24.02	9.79	6,181.88	0.82
	06/08/12		24.02	10.52	6,181.15	-0.73
	08/21/12		24.02	11.06	6,180.61	-0.54
	11/19/12		24.02	13.03	6,178.64	-1.97
	03/11/13		24.02	11.84	6,179.83	1.19
	07/30/13		24.02	11.74	6,179.93	0.10
	09/30/13		24.02	12.85	6,178.82	-1.11
	12/10/13		24.02	14.59	6,177.08	-1.74
03/06/14	24.02	14.01	6,177.66	0.58		
06/26/14	24.02	12.80	6,178.87	1.21		
LW-MW-12S	12/04/09	6,190.71	24.20	15.00	6,175.71	---
	03/23/10		23.80	13.36	6,177.35	1.64
	06/15/10		23.80	9.99	6,180.72	3.37
	09/08/10		23.80	11.57	6,179.14	-1.58
	12/16/10		23.80	nm		
	05/11/11		23.80	4.07	6,186.64	
	09/29/11		23.80	10.75	6,179.96	-6.68
	12/09/11		23.80	9.15	6,181.56	1.60
	03/29/12		nm	nm		
	06/08/12		23.80	9.51	6,181.20	
	08/21/12		23.80	9.37	6,181.34	0.14
	11/19/12		23.80	11.31	6,179.40	-1.94
	03/11/13		nm	nm		
	07/30/13		23.80	10.31	6,180.40	
	09/30/13		23.80	11.32	6,179.39	-1.01
	12/10/13		Not Measured - well covered with snow			
03/06/14	23.80	12.57	6,178.14	---		
06/26/14	23.80	11.32	6,179.39	1.25		
LW-MW-13S	12/04/09	6,190.82	24.95	14.39	6,176.43	---
	03/23/10		24.78	13.20	6,177.62	1.19
	06/15/10		24.78	11.02	6,179.80	2.18
	09/08/10		24.78	12.42	6,178.40	-1.40
	12/16/10		24.78	14.09	6,176.73	-1.67
	05/11/11		24.78	5.07	6,185.75	9.02
	09/29/11		24.78	10.61	6,180.21	-5.54
	12/09/11		24.78	10.19	6,180.63	0.42
	03/29/12		24.78	9.37	6,181.45	0.82
	06/08/12		24.78	8.85	6,181.97	0.52
	08/21/12		24.78	10.22	6,180.60	-1.37
	11/19/12		24.78	11.98	6,178.84	-1.76
	03/11/13		nm	nm		
	07/30/13		24.78	11.36	6,179.46	
	09/30/13		24.78	12.78	6,178.04	-1.42
	12/10/13		Not Measured - well covered with snow			
03/06/14	24.78	12.90	6,177.92	---		
06/26/14	24.78	12.46	6,178.36	0.44		



<b>TABLE 2</b> <b>SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Well ID	Date	Reference Elevation (feet MSL)	Total Well Depth (feet BTOC)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)	GW Elevation Change (feet)
OS-1	03/24/10	6,188.12	23.45	13.25	6,174.87	---
	06/15/10		24.00	11.17	6,176.95	2.08
	09/08/10		24.00	12.68	6,175.44	-1.51
	12/16/10		24.00	12.13	6,175.99	0.55
	05/11/11		24.00	5.91	6,182.21	6.22
	09/29/11		24.00	9.25	6,178.87	-3.34
	12/09/11		24.00	10.47	6,177.65	-1.22
	03/29/12		24.00	9.93	6,178.19	0.54
	06/08/12		24.00	9.52	6,178.60	0.41
	08/21/12		24.00	11.06	6,177.06	-1.54
	11/19/12		24.00	11.41	6,176.71	-0.35
	03/11/13		nm	nm		
	07/30/13		24.00	10.69	6,177.43	
	09/30/13		24.00	13.10	6,175.02	-2.41
	12/10/13		24.00	14.02	6,174.10	-0.92
	03/06/14		24.00	13.41	6,174.71	0.61
	06/26/14		24.00	12.71	6,175.41	0.70

Notes:  
BTOC = Below Top of Casing

<b>TABLE 3</b> <b>SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>																		
Well ID	Sample Date	PCE	TCE	VC	CA	CB	1,1-DCE	MC	Trans-1,2-DCE	1,1-DCA	cis-1,2-DCE	1,2-DCA	1,1,1,2-Tetra	1,1,1-TCA	Chloroform	Benzene	EB	MtBE
(ug/L)																		
LW-MW-1S	08/13/08	706	74.0	nd<0.50	nd<0.50	nd<0.50	1.25	nd<0.50	0.727	nd<0.50	41.3	nd<0.50	nd<0.50	nd<0.50	na	na	na	na
	12/04/09	5,150	72.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.575	na	na	na
	03/23/10	1,850	nd<0.500	nd<0.500	nd<0.500	0.962	7.71	nd<0.500	1.41	nd<0.500	339	nd<0.500	0.795	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	duplicate	2,000	nd<0.500	nd<0.500	nd<0.500	0.845	7.40	nd<0.500	1.23	nd<0.500	314	nd<0.500	0.710	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	06/15/10	4,920	8.90	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	6.48	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	09/08/10	547	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.71	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	12/16/10	109	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	05/11/11	5,380	21.4	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	12.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	09/29/11	93	4.0	nd<0.50	nd<0.50	nd<0.50	nd<0.50	61	nd<0.50	nd<0.50	2.8	nd<0.50	nd<0.50	nd<0.50	4.4	0.14	nd<0.50	0.26
	12/09/11	841	5.45	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	2.35	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	03/29/12	1,540	4.83	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	2.85	nd<0.500	5.56	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	duplicate	1,300	3.77	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	2.15	nd<0.500	6.26	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/08/12	95.5	2.06	nd<0.500	nd<0.500	nd<0.500	2.23	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	08/21/12	13.2	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	CLS-Split	11.0	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	CRWQCB	5.4	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	11/19/12	7.98	0.907	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	03/11/13	5.94	1.68	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	07/30/13	450	7.5	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.8	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	duplicate	550	7.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	4.0	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
09/30/13	770	8.4	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<0.50	nd<2.0	nd<0.50	
12/10/13	4.8	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	
03/06/14	2.8	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	
06/26/14	130	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	



<b>TABLE 3 SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL DATA Lake Tahoe Laundry Works 1024 Lake Tahoe Boulevard South Lake Tahoe, California</b>																			
Well ID	Sample Date	PCE	TCE	VC	CA	CB	1,1-DCE	MC	Trans-1,2-DCE	1,1-DCA	cis-1,2-DCE	1,2-DCA	1,1,1,2-Tetra	1,1,1-TCA	Chloroform	Benzene	EB	MtBE	
																			(ug/L)
LW-MW-9S	12/04/09	<b>324</b>	<b>12.7</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>19.0</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na	na	
	03/23/10	<b>174</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>7.78</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	06/15/10	<b>162</b>	<b>7.57</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>22.5</b>	nd<0.500	nd<0.500	nd<0.500	<b>1.32</b>	nd<0.500	na	nd<0.500	
	duplicate	<b>172</b>	<b>8.04</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>24.5</b>	nd<0.500	nd<0.500	nd<0.500	<b>1.29</b>	nd<0.500	na	nd<0.500	
	09/08/10	<b>2.18</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	12/16/10	<b>89.8</b>	<b>4.64</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>17.4</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	duplicate	<b>89.6</b>	<b>4.51</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>18.4</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	05/11/11	<b>30.6</b>	<b>0.509</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	09/29/11	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>64</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	12/09/11	<b>7.64</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	03/29/12	<b>1.15</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/08/12	<b>0.66</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>0.596</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	08/21/12	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	11/19/12	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	03/11/13	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	07/30/13	<b>5.3</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
09/30/13	<b>4.9</b>	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<0.500	nd<2.0	nd<0.500	
12/10/13	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
03/06/14	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
06/26/14	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
LW-MW-10S	12/04/09	<b>15.8</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na	na	
	duplicate	<b>10.6</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na	na	
	03/23/10	<b>1.04</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	06/15/10	<b>63.8</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/08/10	<b>23.7</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	12/16/10	<b>7.57</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>2.09</b>	nd<0.500	na	nd<0.500	
	05/11/11	<b>8.59</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>4.93</b>	nd<0.500	na	nd<0.500	
	09/29/11	<b>13</b>	<b>0.18</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>56</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>0.32</b>	nd<0.500	nd<0.500	nd<0.500
	12/09/11	<b>6.82</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	03/29/12	<b>1.42</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
06/08/12	<b>3.56</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>3.08</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
08/21/12	<b>2.02</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>4.45</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
11/19/12	<b>WELL FOUND TO BE DESTROYED ON ATTEMPT TO MONITOR</b>																		
LW-MW-10SR	07/30/13	<b>0.89</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>3.7</b>	nd<0.500	nd<0.500	nd<0.500	
	09/30/13	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	<b>4.1</b>	nd<0.500	nd<2.0	nd<0.500	
	duplicate	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	<b>4.3</b>	nd<0.500	nd<2.0	nd<0.500	
	12/10/13	<b>0.65</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>3.4</b>	nd<0.500	nd<0.500	nd<0.500	
	03/06/14	<b>1.4</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>0.62</b>	nd<0.500	nd<0.500	nd<0.500	
	duplicate	<b>1.5</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>0.63</b>	nd<0.500	nd<0.500	nd<0.500	
06/26/14	<b>0.84</b>	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	<b>1.9</b>	nd<0.500	nd<0.500	nd<0.500		

<b>TABLE 3</b> <b>SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>																			
Well ID	Sample Date	PCE	TCE	VC	CA	CB	1,1-DCE	MC	Trans-1,2-DCE	1,1-DCA	cis-1,2-DCE	1,2-DCA	1,1,1,2-Tetra	1,1,1-TCA	Chloroform	Benzene	EB	MtBE	
(ug/L)																			
LW-MW-11S	12/04/09	42.9	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na	na	
	03/23/10	32.5	1.08	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.63	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	06/15/10	28.3	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.909	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/08/10	14.8	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.830	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	12/16/10	2.63	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	05/11/11	1.33	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/29/11	0.68	0.27	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	1.1	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	
	12/09/11	18.3	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/29/12	1.41	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	06/08/12	2.13	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.547	nd<0.500	nd<0.500	
	08/21/12	2.14	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	3.97	nd<0.500	nd<0.500	
	11/19/12	6.19	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/11/13	4.41	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	07/30/13	4.5	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	2.4	nd<0.500	nd<0.500	
	09/30/13	4.6	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	2.0	nd<0.50	nd<2.0	
12/10/13	8.2	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	2.0	nd<0.50	nd<0.50		
03/06/14	7.2	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	0.70	nd<0.50	nd<0.50		
06/26/14	3.8	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	1.1	nd<0.50	nd<0.50		
LW-MW-12S	12/04/09	10.7	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na	na	
	03/23/10	34.3	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.613	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	06/15/10	314	1.40	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	1.46	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/08/10	824	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	4.31	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	12/16/10	not sampled; covered with 12 feet of snow																	
	05/11/11 duplicate	105 95.4	0.651 0.586	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	09/29/11	23	0.35	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	0.12	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	
	12/09/11	25.1	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/29/12	not sampled; covered with 12-foot high pile of snow																	
	06/08/12	7.89	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	08/21/12	2.45	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	11/19/12	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/11/13	not sampled; covered with high pile of snow																	
	07/30/13	35	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	09/30/13	34	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<0.50	nd<2.0	
12/10/13	Not Sampled - well covered with snow																		
03/06/14	2.4	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50		
06/26/14	6.1	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50		

<b>TABLE 3 SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL DATA</b> Lake Tahoe Laundry Works 1024 Lake Tahoe Boulevard South Lake Tahoe, California																			
Well ID	Sample Date	PCE	TCE	VC	CA	CB	1,1-DCE	MC	Trans-1,2-DCE	1,1-DCA	cis-1,2-DCE	1,2-DCA	1,1,1,2-Tetra	1,1,1-TCA	Chloroform	Benzene	EB	MtBE	
(ug/L)																			
LW-MW-13S	12/04/09	17	nd<0.50	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	na	na	
	03/23/10	65.2	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.784	nd<0.500	nd<0.500	2.92	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.645	na	nd<0.500	
	06/15/10	14.1	0.603	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.627	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/08/10	4.86	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	12/16/10	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	05/11/11	3.71	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/29/11	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	39	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	
	12/09/11	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/29/12	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	06/08/12	1.71	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	08/21/12	2.16	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	11/19/12 duplicate	2.33	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/11/13	not sampled; covered with high pile of snow																	
	07/30/13	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	2.7	nd<0.500	nd<0.500	nd<0.500
	09/30/13	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<0.50	nd<2.0	nd<0.50
	12/10/13	Not Sampled - well covered with snow																	
03/06/14	0.89	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	
06/26/14	1.8	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	0.63	nd<0.50	nd<0.50	nd<0.50	
OS-1	03/24/10	91.2	1.41	nd<0.500	nd<0.500	nd<0.500	nd<0.500	1.02	nd<0.500	nd<0.500	0.989	nd<0.500	nd<0.500	nd<0.500	nd<0.500	0.908	na	0.807	
	06/15/10	75.9	2.91	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	1.41	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/08/10	13.5	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	12/16/10	52.5	2.43	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	4.43	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	05/11/11	7.1	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500	
	09/29/11	4.6	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	25	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	0.12	nd<0.50	
	12/09/11	20.6	0.617	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/29/12	8.97	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	06/08/12 duplicate	11.60	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	08/21/12	6.3	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	11/19/12	34.9	1.84	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	
	03/11/13	not sampled; covered with high pile of snow																	
	07/30/13	26	1.7	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/30/13	8.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<1.0	nd<0.50	nd<2.0	nd<0.50
	12/10/13	16	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
	03/06/14	5.6	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
06/26/14	15	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	

Notes:  
 Results in micrograms per liter (ug/L) (equivalent to parts per billion, ppb)  
 1,1-DCA = 1,1-Dichloroethane  
 1,1-DCE = 1,2-Dichloroethene  
 1,1,1-TCA = 1,1,1-Trichloroethane  
 BTOC = Below Top of Casing  
 CA = Chloroethane  
 CB = Chlorobenzene  
 CF = Chloroform  
 cis-1,2-DCE = cis-1,2-Dichloroethene  
 MC = Methylene Chloride  
 MtBE = Methyl-tertiary butyl ether  
 PCE = Tetrachloroethene (a.k.a. perchloroethene)  
 TCE = Trichloroethene  
 trans-1,2-DCE = trans-1,2-Dichloroethene  
 VC = Vinyl Chloride

nd< = Not detected at or above the Method Detection Limit, which is indicated by the value  
 ns- not sampled

<b>TABLE 4A</b> <b>SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>											
Sample ID	Sample Date	PCE		TCE		cis-1,2-DCE		Tracer Gas		Other VOCs	
		(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )
VP-1	4/9/10	16	108.5	nd	nd	nd	nd	nd	nd	nd	nc
	9/8/10	72	488.2	nd	nd	nd	nd	nd	nd	0.031	nc
	12/16/10	133	901.7	nd	nd	nd	nd	nd	nd	nd	nc
	5/11/11	unable to sample - water in well									
	9/29/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	12/9/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	3/29/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	6/8/12	16.8	113.9	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	4.59	nc
	9/13/12	40	271.2	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	12/17/12	Unable to collect sample; well tubing filled with ice									
	2/14/13	6.48	43.9	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	6/25/13	Sample Collected - Sample Holding Time Expired, not analyzed									
	9/30/13	250	1,700	5.5	30	nd<1.2	nd<4.8	nd<1.2	nd<6.74	35.7	nc
	12/10/13	30	200	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	18	nc
	3/6/14	38	258	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	11	nc
	6/26/14	610	4,136	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	12	62.9
VP-2	4/9/10	429	2,908.6	29	155.7	380	1506	nd	nd	nd	nc
	9/8/10	82	556.0	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	2,510	17017.8	174	9,344	150	594	nd	nd	186	nc
	5/11/11	unable to sample - water in well									
	9/29/11	189	1,281	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	12/9/11	2,020	13,696	86.1	4,624	42.6	169	nd<1.0	nd<5.61	87.8	nc
	3/29/12	4,700	31,866	459	24,648	nd<1.0	nd<3.96	nd<1.0	nd<5.61	861.96	nc
	6/8/12	5,050	34,239	107	5,746	55.2	219	nd<1.0	nd<5.61	108	nc
	9/13/12	7,150	48,477	20	107.41	nd<1.0	nd<3.96	nd<1.0	nd<5.61	55	nc
	12/17/12	Unable to collect sample; well covered with snow									
	2/14/13	Unable to collect sample; well covered with snow									
	6/25/13	Sample Collected - Sample Holding Time Expired, not analyzed									
	9/30/13	140,000	949,200	4,400	236,280	26,000	102,960	nd<660	nd<3,700	2,700	nc
	12/10/13	Not Sampled - not accessible									
	3/6/14	Not Sampled - not accessible									
	6/26/14	8,500	57,630	240	12,888	250	990	nd<1.0	nd<5.61	11	nc

**TABLE 4A**  
**SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample ID	Sample Date	PCE		TCE		cis-1,2-DCE		Tracer Gas		Other VOCs	
		(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )
VP-3	4/9/10										
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10										
	5/11/11										
	9/29/11	527	3,573	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	12/9/11	469	3,180	1.96	10.53	nd<1.0	nd<3.96	nd<1.0	nd<5.61	1.98	nc
	3/29/12	900	6,102	3.24	18.4	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	6/8/12	522	3,539	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	9/13/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	12/17/12										
	2/14/13										
	6/25/13										
	9/30/13	3,900	26,442	47	2,524	170	673	nd<26	nd<140	nd	nc
	12/10/13	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc
	3/6/14	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc
6/26/14	330	2,237	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc	
VP-4	4/9/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10										
	5/11/11										
	9/29/11	47	318.7	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	12/9/11	22.1	149.8	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	3/29/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	6/8/12	54.3	368.2	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	9/13/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	12/17/12										
	2/14/13	1.38	9.4	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	6/25/13										
	9/30/13	4,300	29,154	64	3,437	26	103	nd<1.2	nd<6.74	21	78
	12/10/13	16	108	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc
	3/6/14	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc
6/26/14	340	2,305	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	12	41.6	
VP-5	4/9/10	12	81.4	nd	nd	15	59.44	nd	nd	nd	nc
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	63	427.1	nd	nd	62	246	nd	nd	nd	nc
	5/11/11										
	9/29/11	2,130	14,441	15	806	nd<1.0	nd<3.96	nd<1.0	nd<5.61	15.8	nc
	12/9/11	41.5	281.4	1.57	84	8.54	34	nd<1.0	nd<5.61	nd	nc
	3/29/12	93.1	631.2	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	332.3	nc
	6/8/12	393	2,665	nd<1.0	nd<5.37	230	911	nd<1.0	nd<5.61	23.0	nc
	9/13/12	390	2,644	40	2,148	420	1,663	nd<1.0	nd<5.61	40	nc
	12/17/12										
	2/14/13										
	6/25/13										
	9/30/13	3,700	25,000	480	25,776	2,500	9,900	nd<13	nd<74	505	nc
	12/10/13										
	3/6/14	62	420	nd<10	nd<53.7	39	154	nd<10	nd<56.1	nd<10	nc
6/26/14	540	3,661	52	2,792	0.27	1.07	nd<10	nd<56.1	nd<10	nc	



**TABLE 4A  
SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Sample ID	Sample Date	PCE		TCE		cis-1,2-DCE		Tracer Gas		Other VOCs		
		(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	
VP-6	4/9/10	<b>28</b>	<b>189.8</b>	nd	nd	nd	nd	nd	nd	nd	nc	
	9/8/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc	
	12/16/10	nd	nd	nd	nd	nd	nd	nd	nd	<b>98</b>	nc	
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc	
	9/29/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	12/9/11	<b>1.44</b>	<b>9.8</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	3/29/12	<b>1.77</b>	<b>12.0</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	6/8/12	<b>39.3</b>	<b>266.5</b>	nd<1.0	nd<5.37	<b>4.95</b>	<b>20</b>	nd<1.0	nd<5.61	<b>5.85</b>	nc	
	9/13/12	<b>50</b>	<b>339.0</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	12/17/12	Unable to collect sample; well covered with snow										
	2/14/13	Unable to collect sample; well box filled with ice										
	6/25/13	Sample Collected - Sample Holding Time Expired, not analyzed										
	9/30/13	<b>93</b>	<b>631</b>	<b>6.3</b>	<b>338</b>	<b>21</b>	<b>83</b>	nd<1.3	nd<7.5	<b>61.5</b>	nc	
	12/10/13	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	<b>11</b>	nc	
	3/6/14	Unable to collect sample; well box filled with ice										
	6/26/14	Unable to collect sample; too much vacuum on well										
VP-7	4/9/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nc	
	9/8/10	<b>64</b>	<b>433.9</b>	nd	nd	nd	nd	nd	nd	nd	nc	
	12/16/10	<b>32</b>	<b>217.0</b>	nd	nd	nd	nd	nd	nd	<b>247</b>	nc	
	5/11/11	<b>73</b>	<b>494.9</b>	nd	nd	nd	nd	nd	nd	nd	nc	
	9/29/11	<b>2.0</b>	<b>13.6</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	12/9/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	<b>16.1</b>	nc	
	3/29/12	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	6/8/12	<b>125</b>	<b>847.5</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	9/13/12	<b>60</b>	<b>406.8</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	12/17/12	Unable to collect sample; well box filled with ice										
	2/14/13	<b>5.03</b>	<b>34.1</b>	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	6/25/13	Sample Collected - Sample Holding Time Expired, not analyzed										
	9/30/13	<b>110</b>	<b>746</b>	nd<1.3	nd<6.8	<b>2.5</b>	<b>10</b>	nd<1.3	nd<7.1	<b>27.2</b>	nc	
	12/10/13	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc	
	3/6/14	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc	
	6/26/14	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc	

**TABLE 4A**  
**SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample ID	Sample Date	PCE		TCE		cis-1,2-DCE		Tracer Gas		Other VOCs		
		(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	
VP-8	4/9/10	34	230.5	nd	nd	nd	nd	nd	nd	nd	nc	
	9/8/10	133	901.7	nd	nd	nd	nd	nd	nd	nd	nc	
	12/16/10	318	2,156	nd	nd	nd	nd	nd	nd	nd	nc	
	5/11/11	281	1,905	nd	nd	nd	nd	173	971.3	nd	nc	
	9/29/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	12/9/11	2.01	13.6	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	3/29/12	39.9	270.5	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	3.33	nc	
	6/8/12	537	3,641	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	9/13/12	30	203.4	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	11/19/12	Unable to collect sample; well covered with snow										
	2/14/13	17.8	121	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	6/25/13	Sample Collected - Sample Holding Time Expired, not analyzed										
	9/30/13	580	3,932	5.9	317	nd<2.2	nd<8.6	nd<1.2	nd<6.74	127.7	nc	
	12/10/13	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	25	nc	
	3/6/14	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	27	nc	
6/26/14	100	678	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc		
VP-9	4/9/10	29	196.6	nd	nd	nd	nd	nd	nd	nd	nc	
	9/8/10	7,530	51,053	nd	nd	nd	nd	nd	nd	nd	nc	
	12/16/10	1,610	10,916	nd	nd	nd	nd	nd	nd	111	nc	
	5/11/11	4,480	30,374	nd	nd	nd	nd	nd	nd	nd	nc	
	9/29/11	nd<1.0	nd<6.78	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	60	nc	
	12/9/11	48.2	326.8	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	3/29/12	1,270	8,611	3.57	192	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	6/8/12	680	4,610	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	9/13/12	190	1,288	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	12/17/12	Unable to collect sample; well box filled with ice										
	2/14/13	Unable to collect sample; well box filled with ice										
	6/25/13	Sample Collected - Sample Holding Time Expired, not analyzed										
	9/30/13	3,800	25,764	nd<12	nd<67	nd<12	nd<49	nd<12	nd<70	nd	nc	
	12/10/13	1,300	8,814	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	23	nc	
	3/6/14	560	3,797	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	10	nc	
6/26/14	1,300	8,814	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	10	52.4		
VP-10	4/9/10	1,980	13,424	47	252.4	50	198.1	nd	nd	nd	nc	
	9/8/10	132	895.0	nd	nd	nd	nd	nd	nd	nd	nc	
	12/16/10	43	291.5	nd	nd	nd	nd	nd	nd	183	nc	
	5/11/11	132	895.0	nd	nd	nd	nd	nd	nd	nd	nc	
	9/29/11	114	772.9	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	12/9/11	9.34	63.3	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	3/29/12	nd<1.0	nd<6.78	3.57	192	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	6/8/12	416	2,820	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	9/13/12	290	1,966	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	12/17/12	Unable to collect sample; well box filled with ice										
	2/14/13	13.6	92.2	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc	
	6/25/13	Sample Collected - Sample Holding Time Expired, not analyzed										
	9/30/13	670	4,543	nd<2.5	nd<14	nd<2.5	nd<10	nd<2.5	nd<14	12.7	nc	
	12/10/13	70	475	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	13	nc	
	3/6/14	38	258	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	18	nc	
6/26/14	210	1,424	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	nd<10	nc		

<p style="text-align: center;"><b>TABLE 4A</b>  <b>SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA</b>  <b>Lake Tahoe Laundry Works</b>  <b>1024 Lake Tahoe Boulevard</b>  <b>South Lake Tahoe, California</b></p>											
Sample ID	Sample Date	PCE		TCE		cis-1,2-DCE		Tracer Gas		Other VOCs	
		(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )	(ppbV)	(ug/m <sup>3</sup> )
Notes:											
For Other VOCs and Individual concentrations - See Table 4B											
cis-1,2-DCE = cis-1,2-Dichloroethene (atomic weight = 96.95 g/mol)											
g/mol = grams per mole											
nc = Not calculated, as detection limit is based on atomic weight of a compound											
nd = Not detected at or above detection limit for each respective compound											
nd< = Not detected at or above the practical quantitation limit (PQL), which is indicated by value											
PCE = Tetrachloroethene (a.k.a. perchloroethene) (atomic weight = 165.82 g/mol)											
ppbV = parts per billion by volume											
TCE = Trichloroethene (atomic weight = 131.39 g/mol)											
Tracer Gas = Freon 11											
ug/m <sup>3</sup> = micrograms per cubic meter											

TABLE 4B
SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA - OTHER VOCs

Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Table with columns for Sample ID, Sample Date, and various VOCs (Vinyl Acetate, Vinyl Chloride, n-Hexane, Isopropyl Alcohol, 1,1-DCE, 1,1,1-TCA, Tetrahydrofuran, Chloroform, Ethanol, Acetone, MC, Benzene, Toluene, Ethylbenzene, Total Xylenes, 4-Ethyltoluene, 1,3,5-TMB, 1,2,4-TMB, Naphthalene). Rows are categorized by VP-1, VP-2, and VP-3.

TABLE 4B  
SUMMARY OF HISTORICAL VP SHALLOW SOIL-GAS ANALYTICAL DATA - OTHER VOCs

Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California

Table with 28 columns for chemical compounds (Vinyl Acetate, Vinyl Chloride, n-Hexane, Isopropyl Alcohol, 1,1-DCE, 1,1,1-TCA, Tetrahydrofuran, Chloroform, Ethanol, Acetone, MC, Benzene, Toluene, Ethylbenzene, Total Xylenes, 4-Ethyltoluene, 1,3,5-TMB, 1,2,4-TMB, Naphthalene) and rows for Sample ID and Sample Date (4/9/10 to 6/26/14). Data includes concentrations in ppbV and ug/m³, with various detection limits and values.



<b>TABLE 5</b> <b>SUMMARY OF WELL CONSTRUCTION DETAILS</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>							
<b>WELL ID</b>	<b>Completion Date</b>	<b>Well Type</b>	<b>Well Depth (feet bgs)</b>	<b>Well Casing Material</b>	<b>TOC Elevation (feet rel)</b>	<b>Top of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>
AS-1	11/3/09	Air Sparge	25.0	2" PVC	--	23.5	1.5
AS-2	11/5/09	Air Sparge	25.0	2" PVC	--	23.5	1.5
AS-3	11/6/09	Air Sparge	28.0	2" PVC	--	26.5	1.5
AS-4	11/5/09	Air Sparge	26.0	2" PVC	--	24.5	1.5
AS-5	11/5/09	Air Sparge	26.0	2" PVC	--	24.5	1.5
AS-6	11/5/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-7	11/7/09	Air Sparge	28.5	2" PVC	--	27.0	1.5
AS-8	11/7/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-9	11/9/09	Air Sparge	28.5	2" PVC	--	27.0	1.5
AS-10	11/4/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-11	11/4/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-12	11/8/09	Air Sparge	27.5	2" PVC	--	26.0	1.5
AS-13	11/8/09	Air Sparge	29.0	2" PVC	--	27.5	1.5
AS-14	11/8/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-15	11/9/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-16	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-17	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-18	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-19	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-20	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-21	11/12/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-22	11/11/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-23	11/6/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-24	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-25	11/13/09	Air Sparge	30.0	2" PVC	--	28.5	1.5
AS-26	11/4/09	Air Sparge	27.0	2" PVC	--	25.5	1.5
AS-27	11/9/09	Air Sparge	26.0	2" PVC	--	24.5	1.5

<b>TABLE 5</b> <b>SUMMARY OF WELL CONSTRUCTION DETAILS</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>							
<b>WELL ID</b>	<b>Completion Date</b>	<b>Well Type</b>	<b>Well Depth (feet bgs)</b>	<b>Well Casing Material</b>	<b>TOC Elevation (feet rel)</b>	<b>Top of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>
LW-MW-1S	7/16/08	Monitoring	23.91	2" PVC	6,191.41	8.9	15
LW-MW-2S	7/23/08	Monitoring	34.82	2" PVC	6,192.41	19.8	15
LW-MW-5S	7/24/08	Monitoring	29.70	2" PVC	6,149.87	14.7	15
LW-MW-9S	11/10/09	Monitoring	24.40	2" PVC	6,192.98	9.4	15
LW-MW-10S	11/12/09	Monitoring	24.76	2" PVC	6,192.15	9.8	15
LW-MW-10SR	6/8/13	Monitoring	24.65	2" PVC	6,191.91	9.7	15
LW-MW-11S	11/12/09	Monitoring	24.30	2" PVC	6,191.67	9.3	15
LW-MW-12S	11/10/09	Monitoring	24.20	2" PVC	6,190.71	9.2	15
LW-MW-13S	11/10/09	Monitoring	24.95	2" PVC	6,190.82	10.0	15
OS-1	3/19/10	Monitoring	25.00	2" PVC	6,176.95	10.0	15
VED-1	11/5/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2
VED-2	11/4/09	Deep Vapor Extraction	14.0	2" PVC	--	12.0	2
VED-3	11/7/09	Deep Vapor Extraction	14.0	2" PVC	--	12.0	2
VED-4	11/8/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2
VED-5	11/9/09	Deep Vapor Extraction	13.4	2" PVC	--	11.4	2
VED-6	11/10/09	Deep Vapor Extraction	12.5	2" PVC	--	10.5	2
VED-7	11/12/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-8	11/13/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-9	11/11/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-10	11/10/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-11	11/8/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-12	11/7/09	Deep Vapor Extraction	11.5	2" PVC	--	9.5	2
VED-13	11/7/09	Deep Vapor Extraction	13.5	2" PVC	--	11.5	2
VED-14	11/10/09	Deep Vapor Extraction	12.5	2" PVC	--	10.5	2
VED-15	11/6/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-16	11/12/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-17	11/4/09	Deep Vapor Extraction	15.0	2" PVC	--	13.0	2
VED-18	11/4/09	Deep Vapor Extraction	13.0	2" PVC	--	11.0	2
VED-19	11/3/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2
VED-20	11/3/09	Deep Vapor Extraction	12.0	2" PVC	--	10.0	2



<b>TABLE 5</b> <b>SUMMARY OF WELL CONSTRUCTION DETAILS</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>							
<b>WELL ID</b>	<b>Completion Date</b>	<b>Well Type</b>	<b>Well Depth (feet bgs)</b>	<b>Well Casing Material</b>	<b>TOC Elevation (feet rel)</b>	<b>Top of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>
VES-1	11/5/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-2	11/4/09	Shallow Vapor Extraction	10.0	2" PVC	--	5.0	5
VES-3	11/7/09	Shallow Vapor Extraction	10.0	2" PVC	--	5.0	5
VES-4	11/8/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-5	11/9/09	Shallow Vapor Extraction	9.4	2" PVC	--	4.4	5
VES-6	11/10/09	Shallow Vapor Extraction	8.5	2" PVC	--	3.5	5
VES-7	11/12/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-8	11/13/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-9	11/11/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-10	11/11/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-11	11/8/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-12	11/7/09	Shallow Vapor Extraction	7.5	2" PVC	--	3.5	4
VES-13	11/7/09	Shallow Vapor Extraction	9.5	2" PVC	--	4.5	5
VES-14	11/10/09	Shallow Vapor Extraction	8.5	2" PVC	--	3.5	5
VES-15	11/6/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-16	11/12/09	Shallow Vapor Extraction	8.0	2" PVC	--	3.0	5
VES-17	11/4/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-18	11/4/09	Shallow Vapor Extraction	9.0	2" PVC	--	4.0	5
VES-19	11/3/09	Shallow Vapor Extraction	7.0	2" PVC	--	2.0	5

<b>TABLE 5</b> <b>SUMMARY OF WELL CONSTRUCTION DETAILS</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>							
<b>WELL ID</b>	<b>Completion Date</b>	<b>Well Type</b>	<b>Well Depth (feet bgs)</b>	<b>Well Casing Material</b>	<b>TOC Elevation (feet rel)</b>	<b>Top of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>
VES-20	11/3/09	Shallow Vapor Extraction	7.0	2" PVC	--	2.0	5
VP-1	11/5/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-2	11/5/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-3	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-4	11/7/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-5	11/3/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-6	11/3/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-7	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-8	11/9/10	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-9	11/8/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
VP-10	11/8/09	Shallow Soil-Gas	5.0	1/8-inch Teflon Tubing		4.875	0.125
<b>Notes</b> All wells are of Schedule 40 PVC construction PVC = Poly vinyl chloride feet bgs = feet below ground surface TOC Elevation = Top of casing elevation based on feet above MSL relative at MW-1 taken from Topographic Map							

**TABLE 6  
SUMMARY OF SVE/GASS REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted (lbs)
						(in-Hg)	Wellfield		Influent (ppmV)	Effluent (ppmV)	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total	
4/8/10	off	0	202.0	0	500	3.75	2.75	20.6	140	0	0.681	0.031	0.041	ND	0.009	0.00032	0.00031	0.010	0.000
4/9/10	off	1	205.0	3.0	500	4.15	2.75	20.6	130	0	1.950	0.045	0.048	ND	0.026	0.00047	0.00037	0.026	0.054
4/16/10	off	8	369.4	167.4	500	3.50	3.50	20.2	110	0									3.419
4/29/10	off	21	678.9	476.9	500	3.70	3.70	20.1	80	0									7.917
5/6/10	on	28	841.0	639.0	500	4.50	4.50	20.9	25	0									10.27
5/12/10	on	34	978.7	776.7	500	3.50	3.50	20.9	90	0									12.27
6/1/10	off	54	1,462	1,260	500	3.70	3.70	20.9	90	0									19.30
6/15/10	on	68	1,834	1,632	500	3.30	3.30	20.8	65	0									24.71
6/24/10	on	77	2,006	1,804	500	3.45	3.45	20.9	45	0	0.204	ND	ND	ND	0.003	0.00	0.00	0.003	26.19
7/2/10	on	85	2,199	1,997	500	3.30	3.30	20.8	170	0									30.90
7/15/10	off	98	2514.0	2,312	500	2.50	2.50	20.8	130	0	6.61	0.281	ND	ND	0.087	0.00292	0.00	0.000	38.16
7/22/10	off	105	2680.0	2,478	500	3.00	3.00	20.7	120	0									43.00
7/28/10	off	111	2681.0	2,479	500	3.26	3.26	20.7	160	0									43.06
8/5/10	on	119	2850.0	2,648	500	3.15	3.15	nm	120	0									52.91
8/5/10	on	119	2853.0	2,651	500	3.14	3.14	nm	210	0									53.09
8/11/10	on	125	3020.0	2,818	500	3.15	3.15	20.9	170	0	2.04	0.031	ND	ND	0.027	0.00032	0.00	0.027	60.2
8/18/10	on	132	3187.0	2,985	500	3.46	3.46	20.9	170	0	9.14	0.096	0.047	ND	0.120	0.00100	0.00036	0.121	72.6
8/25/10	on	139	3355.0	3,153	500	2.46	2.46	nm	180	0	11.4	1.83	4.32	ND	0.149	0.01901	0.03311	0.202	99.7
9/3/10	on	148	3568.3	3,366	500	2.80	2.80	20.7	195	10									143.5
9/8/10	on	153	3694.4	3,492	500	2.80	2.80	20.7	85	0									169.9
9/15/10	on	160	3863.0	3,661	500	5.16	5.16	20.1	60	0									205.2
9/15/10	on	160	3866.0	3,664	500	5.16	5.16	20.1	120	0	16.4	0.154	0.046	0.266	0.215	0.00160	0.00035	0.217	205.8
9/23/10	off	168	4051.5	3,850	500	4.15	4.15	20.9	190	0									246.0
9/28/10	on	173	4169.9	3,968	500	3.99	4.00	20.1	130	0									271.7
10/6/10	off	181	4362.4	4,160	500	4.98	4.98	20.1	75	0	11.8	0.104	0.033	0.112	0.155	0.00108	0.00025	0.156	307.5
10/13/10	on	188	4532.7	4,331	500	5.71	5.71	20.8	135	0									329.0
10/22/10	on	197	4746.8	4,545	500	5.00	5.00	20.9	190	0									349.5
10/28/10	off	203	4889.2	4,687	500	4.95	4.95	20.1	180	0									363.1
11/4/10	on	210	5056.4	4,854	500	4.83	4.83	nm	110	0									379.1
11/11/10	on	217	5255.8	5,054	500	5.22	5.22	20.1	230	0	2.7	ND	ND	ND	0.035	0.00	0.00	0.035	392.2
11/23/10	off	229	5684.7	5,483	0	nm	nm	nm	0	0									399.8
12/1/10	off	237	5684.7	5,483	500	2.60	2.60	nm	200	0									399.8
12/7/10	on	243	5826.3	5,624	500	3.24	3.24	20.1	190	0									404.3
12/16/10	on	252	6043.2	5,841	500	nm	nm	nm	180	0	2.18	0.39	ND	ND	0.029	0.00405	0.00	0.033	411.3
1/4/11	off	271	6463.5	6,262	500	2.89	nm	20.1	80	0									436.7
1/14/11	off	281	6707.8	6,506	500	2.00	nm	20.9	55	0									447.5
1/21/11	on	288	6873.9	6,672	500	2.00	2.00	20.8	60	0	11.30	0.228	0.028	0.241	0.148	0.00237	0.00021	0.151	460.0
1/27/11	on	294	7018.5	6,817	500	2.50	nm	20.9	45	0									476.7
2/2/11	on	300	7158.7	6,957	500	3.03	3.03	20.9	45	0									488.0
2/11/11	on	309	7375.1	7,173	500	2.80	2.80	20.9	25	0									505.4
2/21/11	off	319	7616.5	7,415	500	2.80	2.80	20.4	30	0									524.8
3/4/11	off	330	7879.0	7,677	500	3.00	3.00	20.8	75	0									546.0
3/11/11	on	337	8048.6	7,847	500	4.45	4.45	20.9	220	0									559.6
3/26/11	off	352	8456.8	8,255	500	5.00	5.00	19.8	200	0									592.5
4/6/11	off	363	8674.5	8,473	500	5.90	nm	nm	0	0									610.0
4/12/11	off	369	8675.5	8,474	500	1.95	1.95	20.8	60	0									610.0
5/11/11	off	398	9322.6	9,121	500	nm	nm	nm	nm	nm									662.1
5/18/11	on	405	9488.9	9,287	500	1.75	1.75	20.8	60	0	0.795	ND	ND	0.049	0.010	0.00	0.00	0.010	669.7
5/24/11	on	411	9632.8	9,431	500	4.10	4.10	nm	20	0									672.8
6/1/11	on	419	9823.0	9,621	500	3.50	3.50	20.8	10	0									679.1
6/9/11	on	427	10012.3	9,810	500	4.00	4.00	20.8	20	0									685.3
6/14/11	on	432	10134.7	9,933	500	5.30	5.30	nm	5	0	4.23	ND	ND	1.181	0.055	0.00	0.00	0.055	690.7
6/21/11	on	439	10303.2	10,101	500	5.50	5.50	nm	2.8	0									697.9
6/27/11	on	445	10446.1	10,244	500	4.80	4.80	nm	0	0									702.2
7/5/11	no	453	10637.1	10,435	500	5.50	5.50	nm	5.0	0									707.9
7/12/11	no	460	10803.4	10,601	0	0.00	0.00		0	0									710.4
7/13/11	no	461	10803.9	10,602	500	3.00	3.00	20.1	260	10									710.4
7/18/11	no	466	10949.5	10,748	500	3.00	3.00	20.8	160	10	0.332	ND	ND	0.419	0.0044	0.00	0.00	0.004	712.9
7/27/11	yes	475	11164.6	10,963	500	3.00	3.00	20.9	205	5									716.3
8/11/11	yes	490	11526.4	11,324	500	4.75	4.75	20.6	120	0									726.4

**TABLE 6**  
**SUMMARY OF SVE/GASS REMEDIATION SYSTEM OPERATIONAL DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs (ppmV)		PCE	TCE**	cis-1,2-DCE	Other VOCs	VOCs Extracted (lbs/hr)				Cumulative VOCs Extracted (lbs)
						Wellfield	Influent		Effluent	PCE					TCE**	cis-1,2-DCE	Total		
8/18/11	no	497	11692.8	11,491	500	4.60	4.60	nm	3	0									731.1
8/26/11	yes	505	11883.2	11,681	500	2.30	2.30	20.6	103	0									736.4
8/31/11	no	510	12005.0	11,803	500	3.80	3.80	nm	11	4	0.028	ND	ND	0.013	0.00037	0.00	0.00	0.0004	738.1
9/7/11	no	517	12170.7	11,969	500	3.75	3.75	nm	5	1									739.7
9/15/11	no	525	12362.0	12,160	500	3.70	3.70	nm	4	0.5									743.5
9/22/11	yes	532	12531.8	12,330	500	4.50	4.50	nm	3	6									746.8
9/29/11	yes	539	12703.5	12,502	500	4.60	4.60	nm	285	0									750.1
10/5/11	no	545	12838.8	12,637	0	0.00	0.00	0.0	67	0									751.5
10/6/11	no	546	12839.3	12,637	500	nm	nm	nm	160	0									751.5
10/13/11	yes	553	13010.1	12,808	500	3.00	3.00	nm	18.6	0	2.95	0.19	ND	0.0197	0.039	0.00194	0.00	0.041	756.6
10/18/11	yes	558	13130.1	12,928	500	5.00	5.00	20.9	45	0									760.8
10/26/11	yes	566	13324.3	13,122	500	3.00	3.00	20.6	60	0									766.6
11/30/11	no	601	13324.3	13,122	500	4.00	4.00	20.3	50	0									766.6
12/9/11	no	610	13535.1	13,333	500	3.50	3.50	20.8	140	0	1.61	0.024	ND	29.60	0.021	0.00025	0.00	0.021	772.3
12/15/11	yes	616	13681.1	13,479	500	3.50	3.50	20.8	160	0									775.2
12/21/11	yes	622	13825.5	13,624	500	3.00	3.00	20.8	85	0									777.6
1/4/12	yes	636	14165.5	13,964	500	2.15	nm	20.9	75	5.5	0.997	ND	ND	ND	0.013	0.00	0.00	0.013	782.5
1/12/12	yes	644	14353.0	14,151	500	3.15	3.15	20.9	60	0									785.1
1/17/12	no	649	14471.7	14,270	500	3.60	3.60	20.8	85	0									786.4
1/25/12	no	657	14667.2	14,465	500	4.10	4.10	20.9	90	0									787.5
2/3/12	no	666	14881.7	14,680	500	4.23	4.23	20.8	70	0									788.9
2/9/12	no	672	15024.4	14,822	500	4.00	4.00	nm	50	0	1.24	0.012	ND	ND	0.016	0.00	0.00	0.016	790.8
2/17/12	no	680	15215.9	15,014	0	0.00	0.00	0.0	0	0									792.4
3/8/12	no	700	15215.9	15,014	0	0.00	0.00	0.0	0	0									792.4
3/29/12	no	721	15215.9	15,014	500	0.00	0.00	0.0	0	0									792.4
4/18/12	no	741	15216.0	15,014	500	3.50	3.50	nm	4	0									792.4
4/26/12	no	749	15407.3	15,205	0	0.00	0.00	0.0	0	0									793.9
5/1/12	yes	754	15525.6	15,324	500	3.50	2.50	nm	10	0									794.9
5/8/12	yes	761	15693.3	15,491	500	3.50	2.50	nm	10	0									797.6
5/14/12	yes	767	15839.8	15,638	500	3.45	2.50	nm	18	0	1.24	ND	ND	0.056	0.016	0.00	0.00	0.016	800.0
5/23/12	yes	776	16053.1	15,851	500	3.95	3.00	nm	20-23	0									804.4
5/30/12	yes	783	16220.0	16,018	500	3.00	3.00	nm	15.3	0									808.7
6/8/12	no	792	16438.7	16,237	500	3.95	3.00	nm	14.3	0									814.3
6/14/12	yes	798	16582.0	16,380	500	0.00	0.00	0.0	0	0									818.0
6/21/12	no	805	16584.2	16,382	500	3.50	2.75	nm	30	0									818.0
6/27/12	yes	811	16723.0	16,521	500	4.0	3.25	20.9	35	0	2.66	ND	ND	0.03	0.035	0.00	0.00	0.035	822.2
7/20/12	no	834	17275.9	17,074	500	4.5	4.00	20.8	35	0									839.0
7/26/12	no	840	17424.0	17,222	500	4.0	3.25	nm	22	0	1.31	0.013	ND	ND	0.017	0.00	0.00	0.017	842.2
8/1/12	yes	846	17564.2	17,362	500	4.0	3.40	nm	18.3	0									844.2
8/8/12	yes	853	17736.3	17,534	500	3.3	2.60	nm	20.6	0									846.2
8/16/12	no	861	17925.7	17,724	500	4.0	3.25	nm	21	0									848.4
8/21/12	yes	866	18043.6	17,842	500	3.7	3.00	nm	18.2	0	0.441	ND	ND	ND	0.006	0.00	0.00	0.006	849.4
8/28/12	yes	873	18212.9	18,011	500	4.5	5.20	20.8	40.0	0									850.1
9/7/12	no	883	18452.3	18,250	0	0.0	0.00	0.0	0.0	0									850.5
9/13/12	no	889	18452.3	18,250	500	5.5	4.15	nm	28.6	0	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.000	850.5
9/18/12	yes	894	18714.5	18,513	500	4.5	3.75	nm	14.1	0									850.6
9/28/12	yes	904	18949.8	18,748	500	4.1	3.40	nm	13.6	0									850.8
10/3/12	yes	909	19072.9	18,871	500	4.75	3.95	nm	18.6	0									851.0
10/12/12	no	918	19074.2	18,872	500	2.80	3.15	nm	13.1	0									851.0
10/17/12	yes	923	19191.5	18,990	500	2.32	1.86	20.3	20	0									851.1
10/23/12	yes	929	19335.9	19,134	500	3.75	2.50	20.8	65	0									851.2
10/31/12	yes	937	19527.3	19,325	500	2.45	2.00	nm	25	0	0.145	0.00	0.00	0.233	0.002	0.00	0.00	0.002	851.5
11/6/12	yes	943	19673.6	19,472	500	2.75	2.30	20.8	40	0									851.7
11/19/12	yes	956	19985.0	19,783	500	2.80	2.35	nm	14.4	0									852.0
11/30/12	no	967	20248.3	20,046	500	4.90	4.33	nm	5.0	0	0.000	0.00	0.00	0.00	0.000	0.00	0.00	0.000	852.1
11/5/13	off	967	36969.0	20,046	500	3.71	2.98	nm	149.5	1.6									852.1
11/15/13	on	977	37209.0	20,286	500	2.75	2.25	nm	13.6	0.3									852.7
11/22/13	on	984	170.7	20,457	500	2.80	2.25	nm	6.3	1.1	0.39	0.00	0.00	1.7	0.005	0.00	0.00	0.005	853.4

**TABLE 6  
SUMMARY OF SVE/GASS REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted (lbs)	
							Wellfield		Influent (ppmV)	Effluent (ppmV)	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
11/26/13	on	988	266.3	20,553	500	2.80	2.25	nm	6.1	0.4										853.9
12/4/13	on	996	459.9	20,746	500	2.95	2.50	nm	5.8	0										855.0
12/10/13	on	1,002	599.9	20,886	500	2.80	2.25	nm	4.6	0.1	0.49	0.00	0.00	0.09	0.006	0.00	0.00	0.006	855.9	
12/19/13	on	1,011	812.3	21,099	500	2.95	2.50	nm	5.1	0									857.1	
12/27/13	off	1,019	1006.4	21,293	500	2.96	2.50	nm	5.3	0									858.0	
1/3/14	on	1,026	1173.1	21,459	500	2.90	2.30	nm	4.3	0									858.9	
1/7/14	on	1,030	1267.9	21,554	500	2.90	2.30	nm	3.9	0	0.27	0.00	0.00	0.00	0.004	0.00	0.00	0.004	859.3	
1/14/14	on	1,037	1434.8	21,721	500	2.90	2.30	nm	5.4	0									859.7	
1/20/14	on	1,043	1577.8	21,864	500	3.20	2.60	nm	0.7	0									860.0	
1/28/14	off	1,051	1767.7	22,054	500	2.90	2.30	nm	3.6	0									860.3	
1/31/14	off	1,054	1834.9	22,121	500	1.49	1.88	nm	4.6	0									860.4	
2/4/14	on	1,058	1924.8	22,211	500	2.21	1.76	nm	2.4	0									860.6	
2/14/14	on	1,068	2164.8	22,451	500	3.41	3.71	nm	5.0	0									861.01	
2/18/14	off	1,072	2166.9	22,453	500	1.07	1.54	20.9	5.0	0									861.02	
2/26/14	on	1,080	2354.3	22,641	500	nm	nm	nm	0.0	0									861.35	
2/28/14	off	1,082	2354.3	22,641	500	2.75	2.30	nm	0.0	0	0.00	0.00	0.00	0.025	0.000	0.00	0.00	0.000	861.35	
3/6/14	on	1,088	2495.7	22,782	500	2.60	2.00	nm	2.4	0									861.35	
3/20/14	off	1,102	2496.1	22,782	500	1.25	0.70	nm	0.0	0	0.00	0.00	0.00	0.048	0.000	0.00	0.00	0.000	861.35	
3/24/14	off	1,106	2590.5	22,877	500	1.20	0.65	nm	1.2	0									861.36	
4/4/14	off	1,117	2850.6	23,137	0	0.00	0.00	nm	0.0	0									861.37	
4/4/14	on at depart	1,117	2852.2	23,139	500	1.40	0.78	nm	1.3	0									861.37	
4/10/14	on	1,123	2996.5	23,283	500	1.44	0.80	nm	0.8	0	0.022	0.00	0.00	0.011	0.000	0.00	0.00	0.000	861.41	
4/25/14	off	1,138	2997.6	23,284	500	1.50	0.85	nm	1.1	0									861.41	
5/1/14	off	1,144	3137.9	23,424	500	1.32	0.75	20.4	5.0	0									861.92	
5/6/14	off	1,149	3258.1	23,544	0	0.00	0.00	nm	0.0	0									862.15	
5/6/14	on at depart	1,149	3259.3	23,546	500	1.25	0.70	nm	3.6	0									862.15	
5/9/14	on	1,152	3330.4	23,617	500	2.30	1.75	nm	4.8	0.019	0.540	0.00	0.00	0.00	0.007	0.00	0.00	0.007	862.53	
5/9/14	off at depart	1,152	3331.5	23,618	0	0.00	0.00	nm	0.0	0									862.53	
5/22/14	off	1,165	3331.5	23,618	0	0.00	0.00	nm	0.0	0									862.53	
5/22/14	on at depart	1,165	3333.1	23,619	500	2.15	1.50	nm	1.3	0									862.54	
5/30/14	off	1,173	3524.7	23,811	0	0.00	0.00	nm	0.0	0									863.51	
5/30/14	on at depart	1,173	3526.1	23,812	500	2.20	1.53	nm	0.6	0									863.52	
6/6/14	off	1,180	3689.6	23,976	0	0.00	0.00	nm	0.0	0									864.34	
6/6/14	on at depart	1,180	3691.1	23,977	500	2.25	1.55	nm	3.1	0									864.35	
6/13/14	on	1,187	3857.7	24,144	500	2.10	1.50	nm	1.8	0									866.03	
6/13/14	off at depart	1,187	3859.6	24,146	0	0.00	0.00	nm	0.0	0									866.04	
6/26/14	off	1,200	3859.6	24,146	0	0.00	0.00	nm	0.0	0									866.04	
6/26/14	on	1,200	3861.1	24,147	500	2.55	2.02	nm	1.9	0.019	1.0	0.013	0.00	0.014	0.013	0.00	0.00	0.013	866.05	
6/26/14	off at depart	1,200	3861.1	24,147	0	0.00	0.00	nm	0.0	0									866.05	
8/4/14	off	1,239	3861.1	24,147	0	0.00	0.00	0.0	0.0	0									866.05	
8/4/14	on at depart	1,239	3863.1	24,149	500	2.48	1.88	17.7	0.0	0	3.5	0.095	0.028	0.017	0.046	0.013	0.00	0.059	866.11	

**TABLE 6  
SUMMARY OF SVE/GASS REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System (in-Hg)	Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted (lbs)
								Influent (ppmV)	Effluent (ppmV)	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total	
<b>Notes:</b>											Average Extraction Rate (Lbs/Hr)				0.031	0.00066	0.00055	0.032
<p><b>System shut down for ozone sparging on 11/30/12; system restarted on 11/5/13 per CRWQCB directive, dated 11/1/13</b></p> <p><b>System shut off on 4/10/14, with approval from CRWQCB, for 2 weeks on/2 weeks off cycling plan; system re-started on 4/25/14</b></p> <p>-- = Data not available / not recorded                      cis-1,2-DCE = cis-1,2-Dichloroethene                      in-Hg = Inches of Mercury                      Lbs./Hr. = Pounds per hour                      nm = Not measured                      ND = Not detected at or above the method detection limit                      PCE = Tetrachloroethene                      ppmV = Parts per million by volume                      scfm = Standard cubic feet per minute                      SVE/GASS = Soil Vapor Extraction / Groundwater Air Sparge System                      TCE = Trichloroethene                      VOCs = Volatile Organic Compounds (primarily tetrachloroethylene and trichloroethylene)                      Volatile Organic Compounds Removal Rate (lbs/hr) = Influent (ppmV) x 10-6 x Influent Flow Rate (scfm) x 1 lb-mole/379.5 ft3 x 165.82 (lb/lb-mole) x 60 (min/hour)</p> <p>** = TCE mass removed includes 1,1,1-Trichloroethane, as their atomic weights are similar                      For mass removal calculations (lb/lb-mole) - PCE mass weight = 165.82, TCE = 131.39 and cis-1,2-DCE = 96.95</p> <p>8/5/10 - Extensive wellfield optimization conducted                      9/23/10 - System off on arrival due to power outages                      11/23/10 - System off on arrival due to power outages                      12/1/10 - System off on arrival due to high water                      1/4/11 - System off on arrival; power outage; also repaired knockout pot                      4/6/11 - System off on arrival due to high water and would not start; off on departure                      4/12/11 - System restarted                      5/11/11 - System off on arrival due to high water                      7/12/11 - System off on arrival; high water                      7/13/11 - Remove water and restart system                      7/18/11 - System off on arrival due to power outage                      8/31/11 - System off on arrival due to power outage                      9/7/11 - System off on arrival due to power outage                      9/15/11 - System off on arrival due to power outage                      10/5/11 - System off on arrival due to full water tank                      10/6/11 - Water tank emptied and system restarted                      10/26/11 - System shut off due to carbon back pressure                      11/30/11 - Carbon changeout, restart system                      12/9/11 - System off on arrival due to power outage                      1/17/12 - System off on arrival due to power outage                      1/25/12 - System off on arrival due to power outage                      2/3/12 - System off on arrival due to power outage                      2/9/12 - System off on arrival due to power outage                      2/17/12 - System off on arrival due to high water                      3/5/12 - Snow conditions finally were conducive to remove water; also, attempted to fix an oil leak, which was a broken seal; seal was back-ordered                      3/8/12 - Attempted to repair seal; however, wrong parts were delivered                      3/29/12 - Attempted to replace the broken seal; however, the part failed; had to order a new one (back-ordered)                      4/18/12- Fix seal on compressor; change compressor and blower oil                      4/26/12- High water upon arrival (system off); system off on departure; tech to empty water and restart system                      5/1/12- Added air sparge to water and opened dilution air to drop VAC and collect vapors                      5/8/12- Changed AS manifold and closed off wells at east end of field near compound                      5/14/12- Shut off AS-14,15,16 to focus near MW-1S                      5/23/12- Reduced dilution air; raised VAC from 2.35 to 3 in-Hg                      6/8/12 - System off on arrival due to high water                      6/14/12- turned system off..all PVC going to carbon and inbetween carbons melted from high temp.                      6/21/12- replaced plumbing for carbon; added pressure switch between blower and carbon; added vent and therm.                      6/27/12- installed fan over compressor exhaust                      7/20/12 - System off on arrival due to power outage                      7/26/12 - System off on arrival due to power outage; installed fan and additional vents to reduce heat inside building                      8/16/12 - System off on arrival due to power outage                      9/7/12 - System off on arrival due to high water</p>																		

**TABLE 6  
SUMMARY OF SVE/GASS REMEDIATION SYSTEM OPERATIONAL DATA  
Lake Tahoe Laundry Works  
1024 Lake Tahoe Boulevard  
South Lake Tahoe, California**

Date Monitored	Operational Status on Arrival	Cumulative Calendar Days	Hour Meter Reading	Cumulative Operating Hours	Inlet Flow (scfm)	Vacuum System Wellfield (in-Hg)	Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted (lbs)
								Influent (ppmV)	Effluent (ppmV)	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total	
9/10/12	Water removed for recycling																	
9/13/12	System restarted																	
10/3/12	System on on arrival, performed maintenance and recorded operational parameters; left system off on departure as carbon vessels needed re-plumbing																	
10/12/12	Arrived and re-plumbed carbon vessels; started system, recorded parameters; system running on departure																	
11/30/12	System off on arrival due to power outage; restarted, recorded operational parameters, then shut down during storm period to not extract large volume of water during storms																	
12/18/12	Installed and plumbed ozone unit to wells AS-1, AS-2, AS-3, AS-9, AS-7, AS-8 and AS-13; attempted to start; fuse problems requiring parts; ozone unit off on departure																	
11/5/13-11/15/13	Air compressor hour meter reading used as system hour meter reading not functioning; replaced system hour meter on 11/15/13																	
12/10/13	System shut-off for sampling and repairs to 4" pvc pipe (hairline crack at couple); restarted system before departure from site																	
12/27/13	System off on arrival, possibly from a power outage; operating normally upon system startup; hour meter reading shows that system was only down for several hours before arrival to site																	
1/28/14	System off on arrival; operated normally upon system startup																	
1/31/14	System off on arrival due to possible power outage																	
2/18/14	System off on arrival due to possible power outage																	
2/26/14	Shut down system to make repairs to carbon system																	
2/28/14	Completed repairs to carbon system, restarted; operated normally																	
3/6/14	Shut down system to make additional repairs to carbon system																	
3/20/14	Completed repairs to carbon system, restarted; operated normally																	
3/24/14	System off on arrival due to possible power outage																	
4/4/14	System off on arrival due to power outage; restarted, measured parameters, left system on on departure																	
4/10/14	System on at arrival, record parameters, then shut down for off cycling (2 weeks on/2 weeks off)																	
4/25/2014	System was in off-cycling mode, restart system, recorded parameters and left on at departure																	
5/1/14	System off on arrival due to power outage; restart and record parameters; left on at departure																	
5/6/14	System off on arrival, likely due to high temp; restarted system, recorded parameters and left on at departure																	
5/9/14	System running on arrival; perform O&M, shut down for cycling																	
5/22/14	Off for off-cycling on arrival; restart for on-cycle period, record parameters; left on at departure																	
5/30/14	Off on arrival, likely due to overheating related to high back-pressure in GAC; restart, record parameters, left on at departure																	
6/6/14	Off on arrival due to thermal overload related to high back-pressure in GAC; restarted, recorded parameters, left on at departure																	
6/13/14	System on on arrival, however, pressure switch had shut down due to thermal overload related to high back-pressure in GAC; restarted, recorded parameters; had to leave off, could not keep running																	
6/26/14	System off on arrival, same back-pressure problem; restart and record measurements; left off on departure																	
8/4/14	Replumbed to discharge directly to atmosphere; restarted system; cleaned compound																	

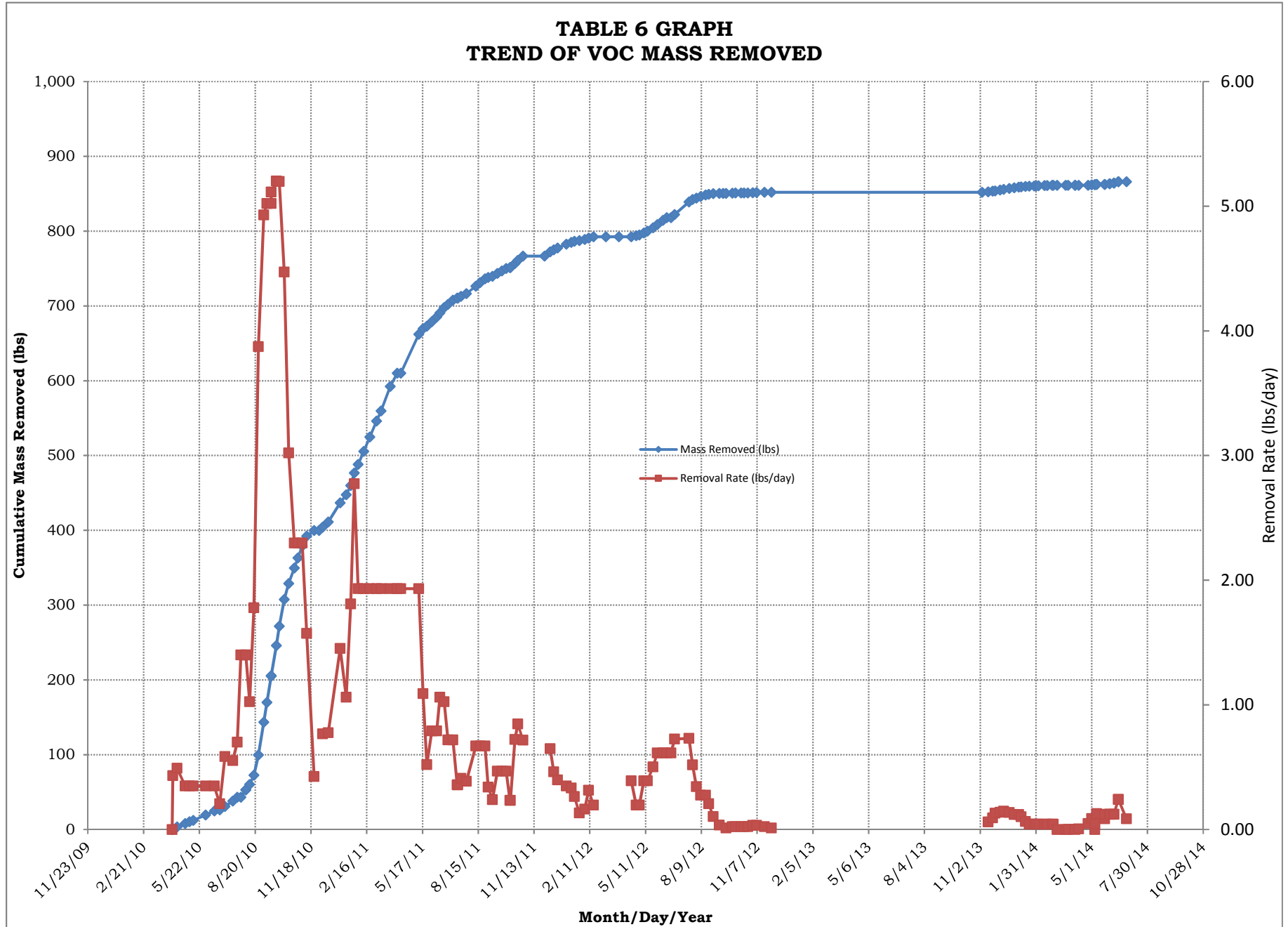




TABLE 7
SUMMARY OF VE WELLFIELD DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Table with 32 columns (Date Monitored, Well HVE-1 to Well VED-20) and 50 rows of data. The table contains numerical values (0, 1/2, 20%) and text entries such as 'varying well configurations' and 'System off on arrival and left off due to high water'.

TABLE 7
SUMMARY OF VE WELLFIELD DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Table with 32 columns (Date Monitored, Well HVE-1 valve, Well HVE-2 valve, Well HVE-3 valve, Well HVE-4 valve, Well HVE-5 valve, Well HVE-6 valve, Well VES-1 valve, Well VED-1 valve, Well VES-2 valve, Well VED-2 valve, Well VES-3 valve, Well VED-3 valve, Well VES-4 valve, Well VED-4 valve, Well VES-5 valve, Well VED-5 valve, Well VES-6 valve, Well VED-6 valve, Well VES-7 valve, Well VED-7 valve, Well VES-8 valve, Well VED-8 valve, Well VES-9 valve, Well VED-9 valve, Well VES-10 valve, Well VED-10 valve, Well VES-11 valve, Well VED-11 valve, Well VES-12 valve, Well VED-12 valve, Well VES-13 valve, Well VED-13 valve, Well VES-14 valve, Well VED-14 valve, Well VES-15 valve, Well VED-15 valve, Well VES-16 valve, Well VED-16 valve, Well VES-17 valve, Well VED-17 valve, Well VES-18 valve, Well VED-18 valve, Well VES-19 valve, Well VED-19 valve, Well VES-20 valve, Well VED-20 valve) and 40 rows of data.

**TABLE 7**  
**SUMMARY OF VE WELLFIELD DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Date Monitored	Well HVE-1 valve	Well HVE-2 valve	Well HVE-3 valve	Well HVE-4 valve	Well HVE-5 valve	Well HVE-6 valve	Well VES-1 valve	Well VED-1 valve	Well VES-2 valve	Well VED-2 valve	Well VES-3 valve	Well VED-3 valve	Well VES-4 valve	Well VED-4 valve	Well VES-5 valve	Well VED-5 valve	Well VES-6 valve	Well VED-6 valve	Well VES-7 valve	Well VED-7 valve	Well VES-8 valve	Well VED-8 valve	Well VES-9 valve	Well VED-9 valve	Well VES-10 valve	Well VED-10 valve	Well VES-11 valve	Well VED-11 valve	Well VES-12 valve	Well VED-12 valve	Well VES-13 valve	Well VED-13 valve	Well VES-14 valve	Well VED-14 valve	Well VES-15 valve	Well VED-15 valve	Well VES-16 valve	Well VED-16 valve	Well VES-17 valve	Well VED-17 valve	Well VES-18 valve	Well VED-18 valve	Well VES-19 valve	Well VED-19 valve	Well VES-20 valve	Well VED-20 valve						
4/10/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
4/25/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
5/1/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
5/6/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
5/9/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
5/22/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
5/30/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
6/6/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
6/13/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
6/26/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
8/13/14	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Notes:  
 11/5/13: System restarted per CRWQCB directive, dated 11/1/13  
 8/13/14 - Restart with emissions direct to atmosphere per EDCQMD letter, dated 7/30/14

20% = 20 percent open  
 1/2 = One-half open  
 1/4 = 1/4 open  
 C = Closed  
 O = Fully open  
 PO = Partially Open

<b>TABLE 8</b> <b>SUMMARY OF HISTORICAL INTERIM REMEDIAL SYSTEM VAPOR LABORATORY ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Sample Point	Sample Date	PCE	TCE	cis-1,2-DCE	Trans-1,2-DCE	Other VOCs
ppmV						
Influent	4/8/10	<b>0.680</b>	<b>0.031</b>	<b>0.041</b>	nd<0.01	nd<0.01
	4/9/10 - Test 9	<b>0.268</b>	<b>0.02</b>	<b>0.027</b>	nd<0.01	nd<0.01
	4/9/10	<b>1.950</b>	<b>0.045</b>	<b>0.048</b>	nd<0.01	nd<0.01
	6/24/10	<b>0.204</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	<b>6.61</b>	<b>0.281</b>	nd<2.00	nd<2.00	nd<2.00
	8/11/10	<b>2.04</b>	<b>0.031</b>	nd<0.025	nd<0.025	nd<0.025
	8/18/10	<b>9.14</b>	<b>0.096</b>	<b>0.047</b>	nd<0.041	nd<0.041
	8/25/10	<b>11.4</b>	<b>1.83</b>	<b>4.32</b>	nd<0.041	nd<0.041
	9/15/10	<b>16.4</b>	<b>0.154</b>	<b>0.046</b>	nd<0.041	<b>0.266</b>
	10/6/10	<b>11.8</b>	<b>0.104</b>	<b>0.033</b>	nd<0.041	<b>0.112</b>
	11/11/10	<b>2.7</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/16/10	<b>2.18</b>	<b>0.39</b>	nd<0.01	nd<0.01	nd<0.01
	1/21/11	<b>11.30</b>	<b>0.228</b>	<b>0.028</b>	nd<0.025	<b>0.241</b>
	5/18/11	<b>0.795</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.049</b>
	6/14/11	<b>4.23</b>	nd<0.027	nd<0.027	nd<0.027	<b>1.181</b>
	7/18/11	<b>0.332</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.419</b>
	8/31/11	<b>0.028</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.015</b>
	10/13/11	<b>2.95</b>	<b>0.187</b>	nd<0.01	nd<0.01	<b>0.0197</b>
	12/9/11	<b>1.61</b>	<b>0.024</b>	nd<0.01	nd<0.01	<b>29.6</b>
	1/4/12	<b>0.997</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	2/9/12	<b>1.24</b>	<b>0.0124</b>	nd<0.01	nd<0.01	nd<0.01
	5/14/12	<b>1.24</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.056</b>
	6/27/12	<b>2.66</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.03</b>
	7/26/12	<b>1.31</b>	<b>0.013</b>	nd<0.01	nd<0.01	nd<0.01
	8/21/12	<b>0.441</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	9/13/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/31/12	<b>0.145</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.233</b>
	11/30/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	11/22/13	<b>0.39</b>	nd<0.010	nd<0.010	nd<0.010	<b>1.7</b>
	12/10/13	<b>0.49</b>	nd<0.010	nd<0.010	nd<0.010	<b>0.09</b>
1/7/14	<b>0.27</b>	nd<0.010	nd<0.010	nd<0.010	nd<0.010	
2/28/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	<b>0.025</b>	
3/20/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	<b>0.048</b>	
4/10/14	<b>0.022</b>	nd<0.010	nd<0.010	nd<0.010	<b>0.011</b>	
5/9/14	<b>0.54</b>	nd<0.010	nd<0.010	nd<0.010	nd<0.010	
6/26/14	<b>1.0</b>	<b>0.013</b>	nd<0.010	nd<0.010	<b>0.014</b>	
8/4/14	<b>3.5</b>	<b>0.095</b>	<b>0.028</b>	nd<0.010	<b>0.017</b>	
Operational Average		<b>3.056</b>	<b>0.209</b>	<b>0.513</b>	<b>0.000</b>	<b>1.796</b>

<b>TABLE 8</b> <b>SUMMARY OF HISTORICAL INTERIM REMEDIAL SYSTEM VAPOR LABORATORY ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Sample Point	Sample Date	PCE	TCE	cis-1,2-DCE	Trans-1,2-DCE	Other VOCs
		ppmV				
Mid-Fluent	4/9/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/24/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	nd<2.00	nd<2.00	nd<2.00	nd<2.00	nd<2.00
	8/18/10	<b>2.23</b>	<b>0.027</b>	<b>0.19</b>	nd<0.02	<b>0.29</b>
	8/25/10	<b>3.98</b>	<b>0.272</b>	<b>0.161</b>	nd<0.02	<b>0.276</b>
	9/15/10	<b>3.29</b>	<b>0.133</b>	<b>0.097</b>	nd<0.02	<b>0.139</b>
	10/6/10	<b>1.5</b>	<b>0.034</b>	nd<2.00	nd<2.00	<b>0.032</b>
	11/11/10	<b>2.52</b>	nd<2.00	nd<2.00	nd<2.00	<b>0.024</b>
	1/21/11	<b>1.35</b>	nd<0.025	nd<0.025	nd<0.025	nd<0.025
	5/18/11	<b>1.00</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.026</b>
	6/14/11	<b>2.00</b>	<b>0.109</b>	<b>0.128</b>	nd<0.029	<b>0.626</b>
	7/18/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	<b>0.195</b>
	8/31/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/13/11	<b>0.142</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/9/11	<b>1.61</b>	<b>0.024</b>	nd<0.01	nd<0.01	nd<0.01
	1/4/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	8/21/12	<b>0.297</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
Operational Average		<b>1.811</b>	<b>0.100</b>	<b>0.144</b>	<b>0.000</b>	<b>0.201</b>

<b>TABLE 8</b> <b>SUMMARY OF HISTORICAL INTERIM REMEDIAL SYSTEM VAPOR LABORATORY ANALYTICAL DATA</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>						
Sample Point	Sample Date	PCE	TCE	cis-1,2-DCE	Trans-1,2-DCE	Other VOCs
		ppmV				
Effluent	4/9/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/24/10	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/15/10	nd<2.00	nd<2.00	nd<2.00	nd<2.00	nd<2.00
	8/11/10	nd<0.023	nd<0.023	nd<0.023	nd<0.023	nd<0.023
	8/18/10	nd<0.01	nd<0.01	<b>0.192</b>	nd<0.01	nd<0.01
	8/25/10	nd<0.01	nd<0.01	<b>0.175</b>	nd<0.01	nd<0.01
	9/15/10	nd<0.01	nd<0.01	<b>0.221</b>	nd<0.01	nd<0.01
	10/6/10	<b>0.206</b>	nd<0.01	<b>0.024</b>	nd<0.01	nd<0.01
	11/11/10	<b>2.93</b>	<b>0.263</b>	nd<2.00	nd<0.01	<b>0.286</b>
	12/16/10	<b>0.948</b>	<b>0.067</b>	nd<2.00	nd<0.01	nd<0.01
	1/21/11	<b>3.68</b>	<b>0.233</b>	<b>0.081</b>	nd<0.027	<b>0.249</b>
	5/18/11	<b>0.106</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.152</b>
	6/14/11	nd<0.029	nd<0.029	nd<0.029	nd<0.029	nd<0.029
	7/18/11	<b>0.187</b>	nd<0.01	nd<0.01	nd<0.01	<b>0.176</b>
	8/31/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/13/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/9/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	1/4/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	2/9/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	5/14/12	<b>0.633</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/27/12	<b>0.04</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	7/26/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	8/21/12	<b>0.287</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	9/13/12	<b>0.346</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/31/12	<b>0.117</b>	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	11/30/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	11/22/13	nd<0.010	nd<0.010	nd<0.010	nd<0.010	nd<0.010
	12/10/13	<b>0.13</b>	nd<0.010	nd<0.010	nd<0.010	nd<0.010
	1/7/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	nd<0.010
	2/28/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	<b>0.128</b>
3/20/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	<b>1.5</b>	
4/10/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	<b>0.024</b>	
5/9/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	<b>0.019</b>	
6/26/14	<b>0.019</b>	nd<0.010	nd<0.010	nd<0.010	nd<0.010	
Operational Average		<b>0.801</b>	<b>0.188</b>	<b>0.139</b>	<b>0.00</b>	<b>0.359</b>

**TABLE 8**  
**SUMMARY OF HISTORICAL INTERIM REMEDIAL SYSTEM VAPOR LABORATORY ANALYTICAL DATA**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

Sample Point	Sample Date	PCE	TCE	cis-1,2-DCE	Trans-1,2-DCE	Other VOCs
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ppmV

Notes:

cis-1,2-DCE = cis-1,2-Dichloroethene

na = Not applicable

nd< = Not detected at or above the detection limit, which is indicated by value

PCE = Tetrachloroethene (a.k.a. perchloroethene)

ppmV = parts per million by volume

TCE = Trichloroethene

Trans-1,2-DCE = Trans-1,2-dichloroethene

1/27/11 - Vapor samples collected; however, during lab analyses instrument malfunctioned; no results

2/21/11 - Vapor samples collected; however, during lab analyses instrument malfunctioned; no results

10/26/11-11/30/11 - carbon changeout

**TABLE 9A**  
**SUMMARY OF RESIDUAL VAPOR-PHASE PCE MASS ESTIMATES**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

<b>Date</b>	<b>~PCE Plume Area (square feet)</b>	<b>Average PCE Concentration (ug/L)</b>	<b>Estimated Mass (pounds)</b>	<b>Change (+/-)</b>
9/13/12	15,100	1,966	0.020	
2/14/13	15,100	0.060	0.0002	-0.02
9/30/13	15,100	1,614	0.005	0.005
12/10/13	8,500	2.4	0.004	-0.001
3/6/14	8,500	1.2	0.002	-0.002
6/26/14	14,500	20.1	0.025	0.023

Notes:



<b>TABLE 9B</b> <b>6/26/14 - RESIDUAL PCE MASS IN SOIL-VAPOR CALCULATIONS</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>					
<b>Area Encompassed by all VP Wells within the 1 ppbV Plume Boundary Limit</b>					
Well ID	Sample Date	Impacted Soil Column (feet)	PCE		
			(ppbV)	(ug/m3)	(ug/L)
VP-1	6/26/2014	10	640.0	4339.2	4.339
VP-2		10	8,500	57630.0	57.630
VP-3		10	330	2237.4	2.237
VP-4		10	340	2305.2	2.305
VP-5		10	540.0	3661.2	3.661
VP-7		10	0.0	0.0	0.000
VP-8		10	100	678.0	0.678
VP-9		10	1,300	8,814	8.814
VP-10		10	210.0	1423.8	1.424
		Averages (ug/m3)	<b>1,328.89</b>	<b>9,009.87</b>	<b>9.010</b>
For conservative estimate assumes 10-foot thick soil column and Area ~ 15,100 sf					
As conservative estimate, assumes that VP analytical data represents residual in top 10 feet of soil column					
Table 4 PCE ug/m3 concentration calculated based on PCE atomic weight of 165.82 g/mol					
<b>Residual PCE Mass</b>					
Area in square feet (sf) - Estimated from Figure 7B			<b>15,100</b>		
Impacted Column (ft)			<b>10</b>		
Impacted Volume in cubic feet (cf)			<b>151,000</b>		
Volume of soil gas, using 30% porosity (cf)			<b>45,300</b>		
Soil gas volume in cubic meters			<b>1,283</b>		
PCE in Mass in Soil Gas (ug)			<b>11,557,434</b>		
PCE in Mass in Soil Gas (g)			<b>11.56</b>		
PCE in Mass in Soil Gas (lbs)			<b>0.025</b>		
Notes: ppbV = parts per billion by volume PCE = Tetrachloroethene (a.k.a. perchloroethene) ug/L = micrograms per liter ug/m3 = micrograms per cubic meter					

<b>TABLE 10A</b> <b>SUMMARY OF RESIDUAL DISSOLVED-PHASE PCE MASS ESTIMATES</b> <b>Lake Tahoe Laundry Works</b> <b>1024 Lake Tahoe Boulevard</b> <b>South Lake Tahoe, California</b>				
Date	~PCE Plume Area (square feet)	Average PCE Concentration (ug/L)	Estimated Mass (pounds)	Change (+/-)
7/30/13	24,300	143.26	0.65	na
9/30/13	23,000	242.75	1.05	0.40
12/10/13	15,300	63.73	0.18	-0.87
3/6/14	10,000	6.7	0.013	-0.17
6/26/14	2,750	20.1	0.020	0.01
Notes: See Figure 4A for plot of data				

**TABLE 10B**  
**6/26/14 - RESIDUAL DISSOLVED-PHASE PCE MASS CALCULATIONS**  
**Lake Tahoe Laundry Works**  
**1024 Lake Tahoe Boulevard**  
**South Lake Tahoe, California**

**Area Encompassed by all LW-MW wells within the 5 ppb Plume Limit**

Well ID	Sample Date	Impacted GW Column (feet)	PCE	
				(ug/L)
LW-MW-1S	7/30/2013	10		130
LW-MW-2S		10		5
LW-MW-5S		10		13
LW-MW-11S		10		3.8
LW-MW-12S		10		6.1
			Average (ug/L)	<b>31.62</b>

For conservative estimate assumes 10-foot aquifer thickness

**Residual PCE Mass**

Area in square feet (sf) - From Figure 4	<b>2,750</b>	
Impacted Column (ft)	<b>10</b>	
Impacted GW Volume in cubic feet (cf)	<b>27,500</b>	multiply area by column
Aqueous volume using 30% porosity (cf)	<b>8,250</b>	
Groundwater Volume (GWV) in Liters	<b>233,982</b>	multiply GW volume (gal) by 3.78541178 liters per gal
GW PCE Mass (ug)	<b>7,398,523</b>	multiply GWV by avg concentration in ug/L
GW PCE Mass in grams (g)	<b>7.399</b>	divide by (1000 ug/mg)*1000 mg/g
GW PCE Mass in pounds (lbs)	<b>0.02</b>	multiply by 0.00220462 lbs/g

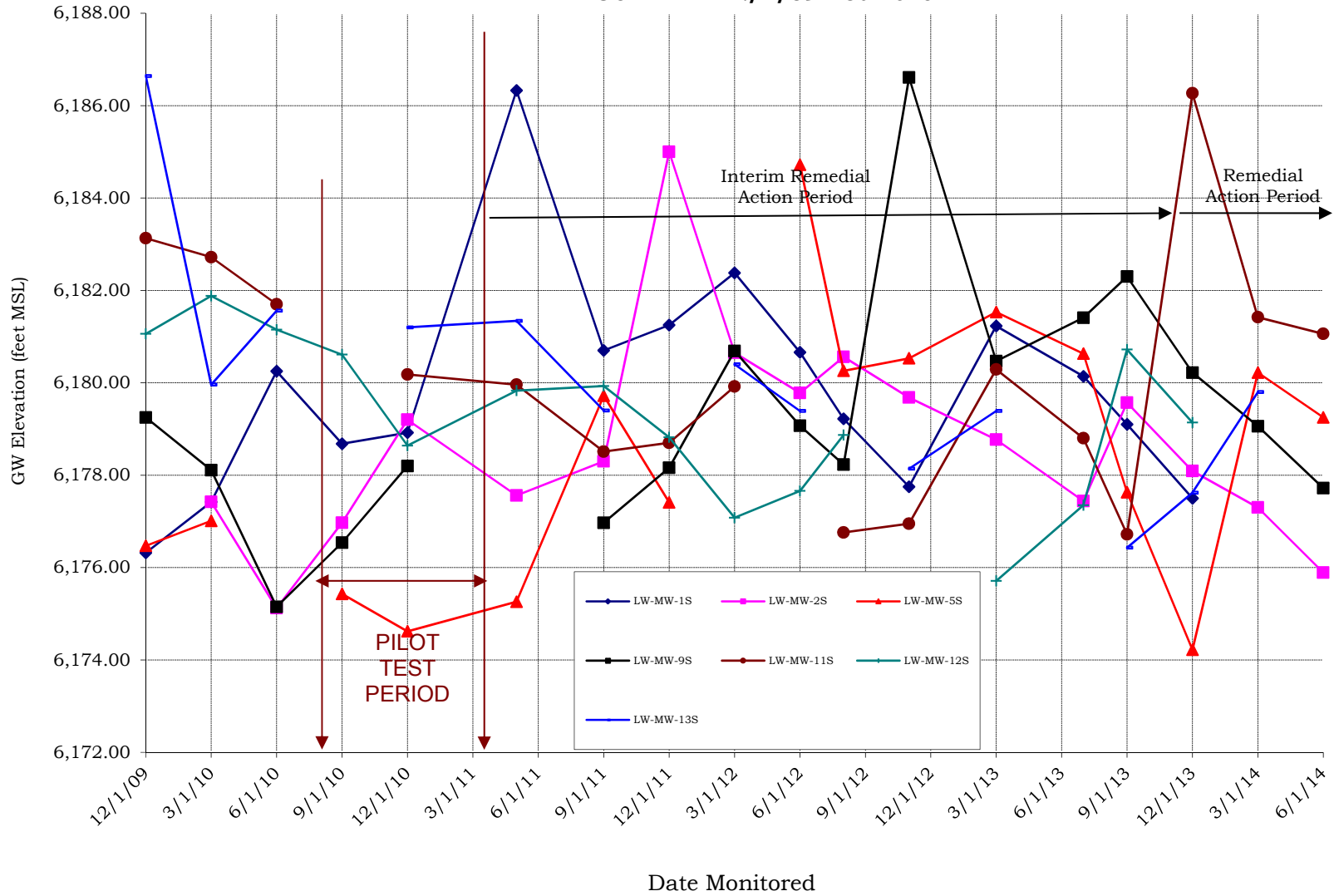
Notes:

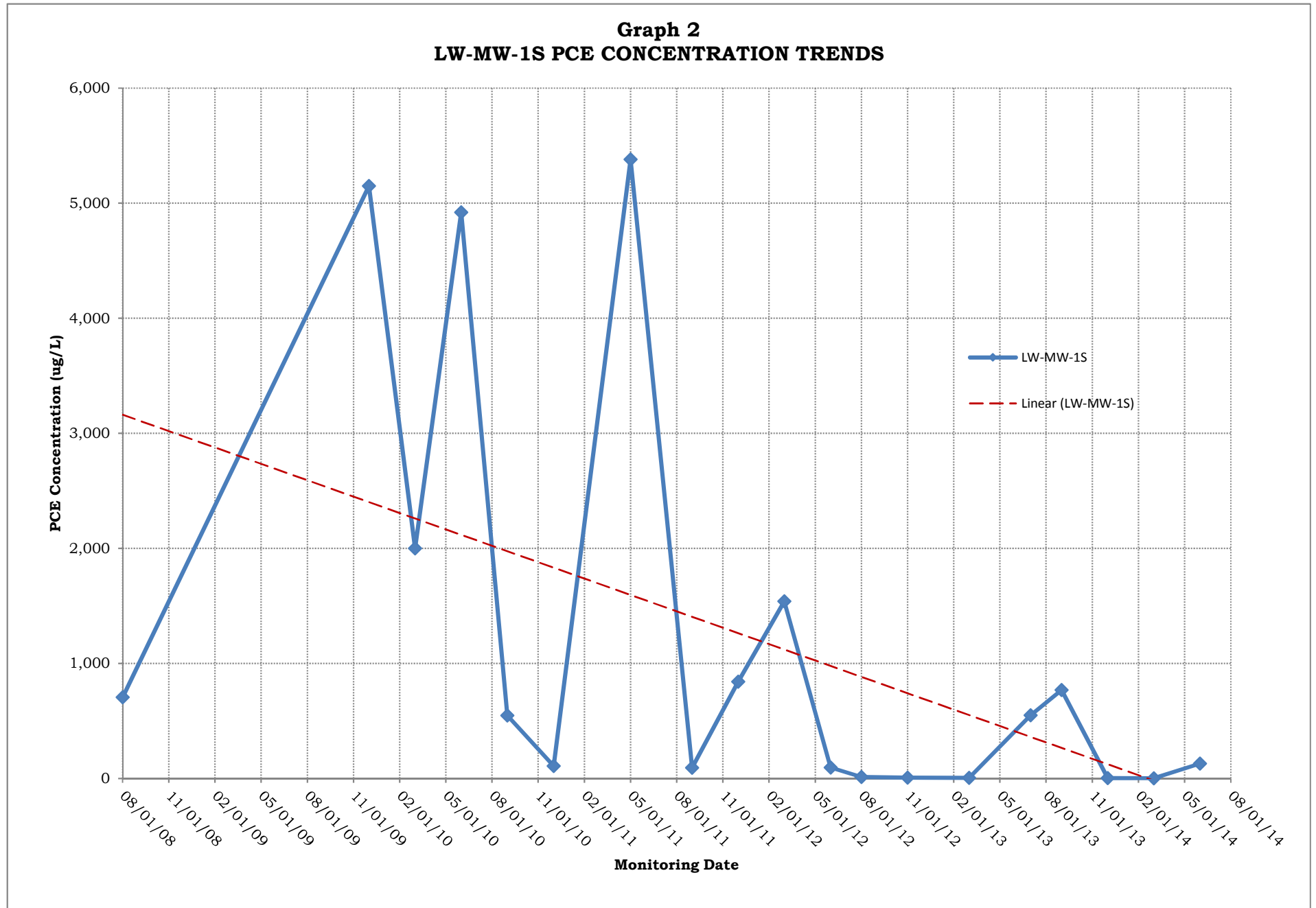
PCE = Tetrachloroethene (a.k.a. perchloroethene)  
 ug/L = micrograms per liter (equivalent to parts per billion, or ppb)

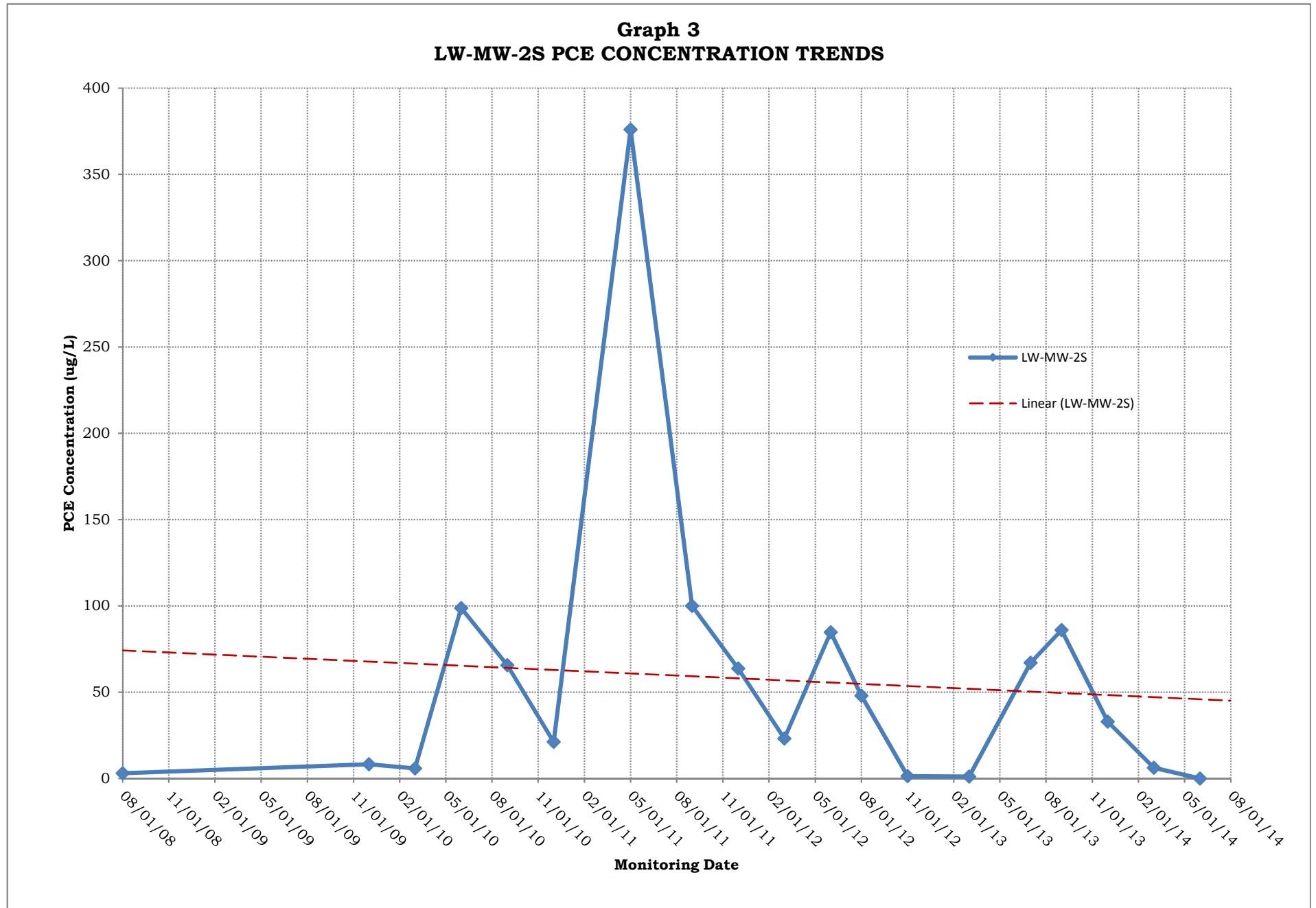
## **GRAPHS**

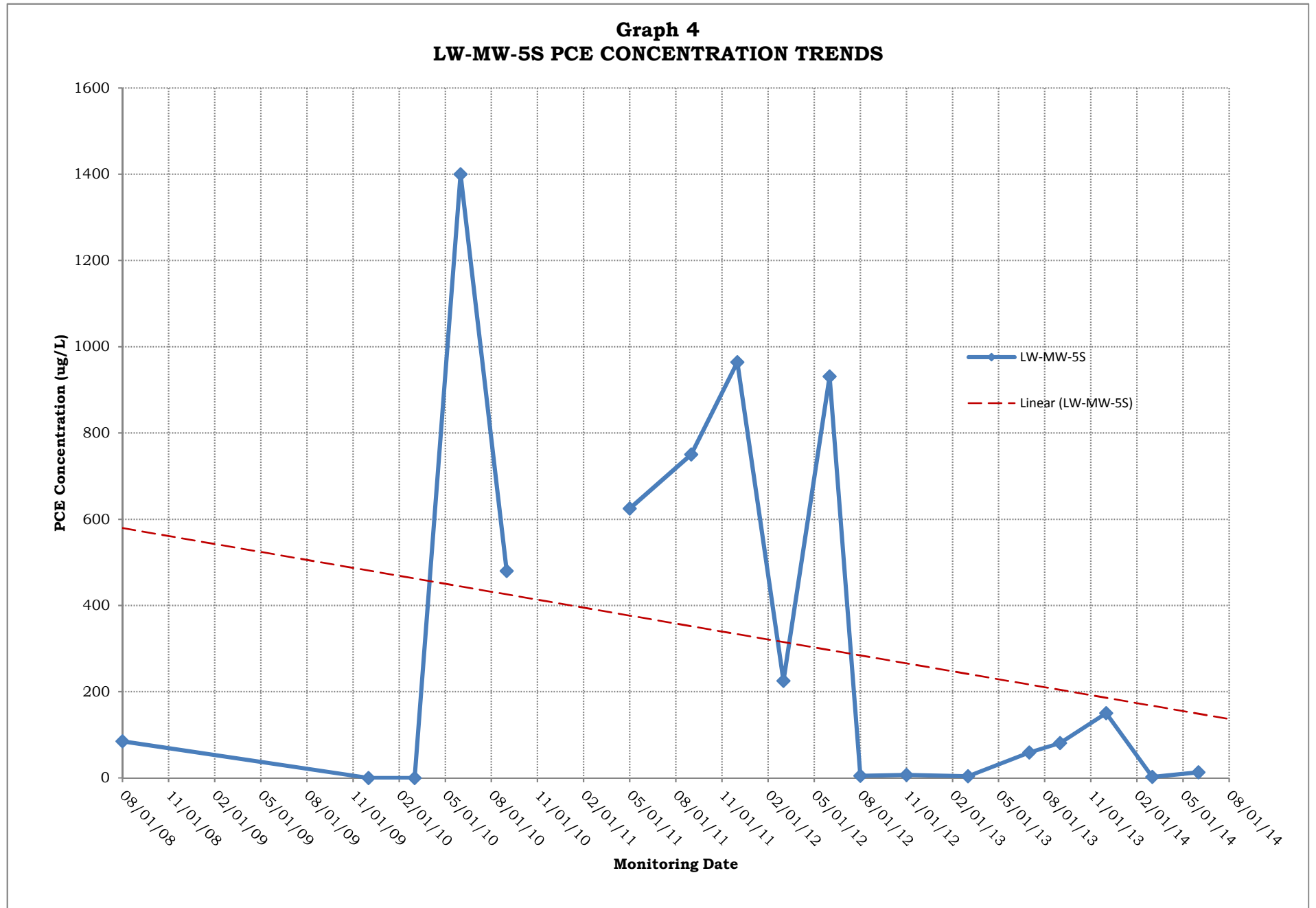
- Graph 1 Lake Tahoe Laundry Works Hydrograph - 12/4/09 - Current
- Graph 2 LW-MW-1S PCE Concentration Trends
- Graph 3 LW-MW-2S PCE Concentration Trends
- Graph 4 LW-MW-5S PCE Concentration Trends
- Graph 5 LW-MW-9S PCE Concentration Trends
- Graph 6 LW-MW-10S/SR PCE Concentration Trends
- Graph 7 LW-MW-11S PCE Concentration Trends
- Graph 8 LW-MW-12S PCE Concentration Trends
- Graph 9 LW-MW-13S PCE Concentration Trends
- Graph 10 OS-1 PCE Concentration Trends

**GRAPH 1  
LAKE TAHOE LAUNDRY WORKS  
HYDROGRAPH - 12/4/09 - Current**



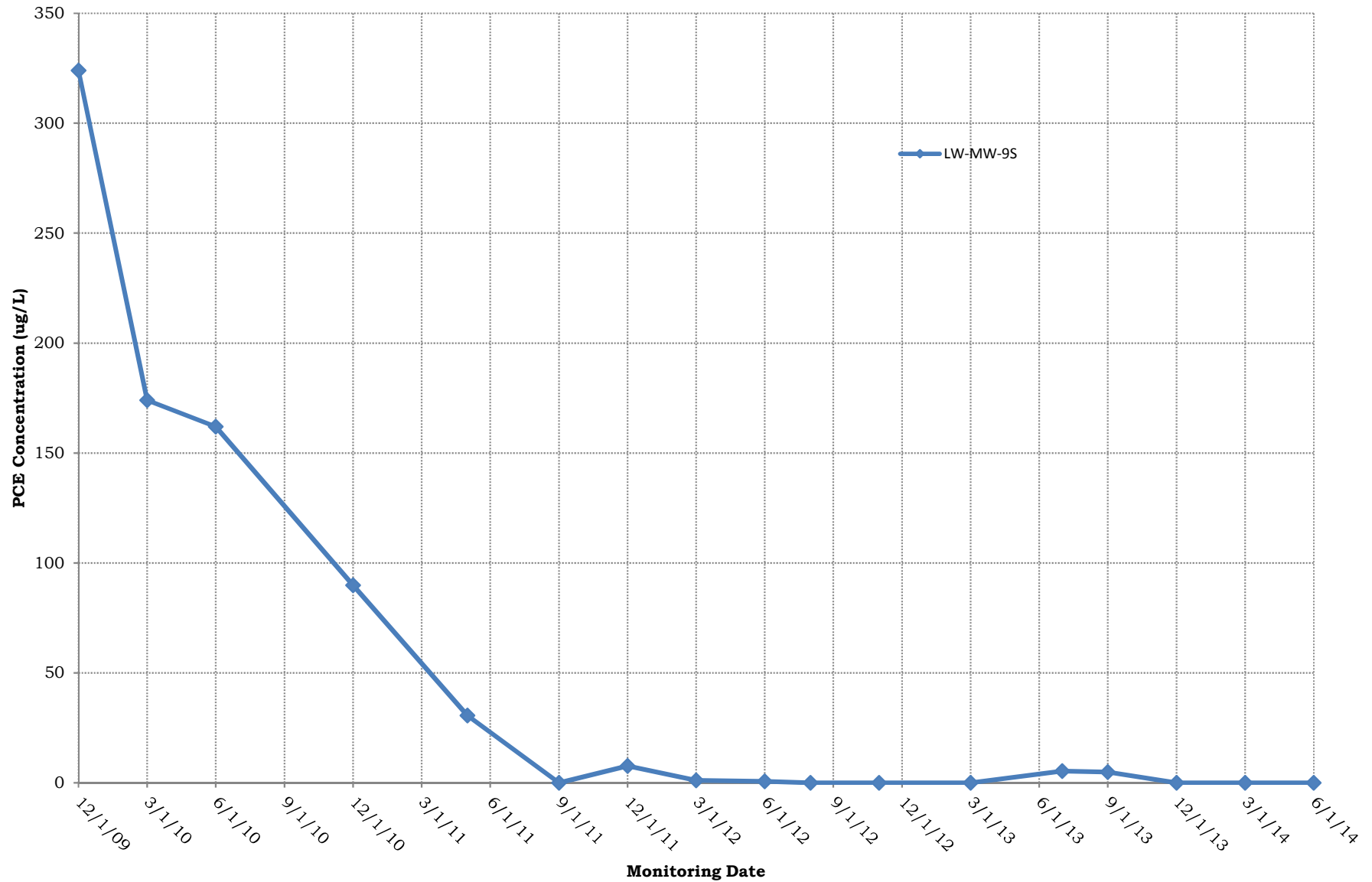


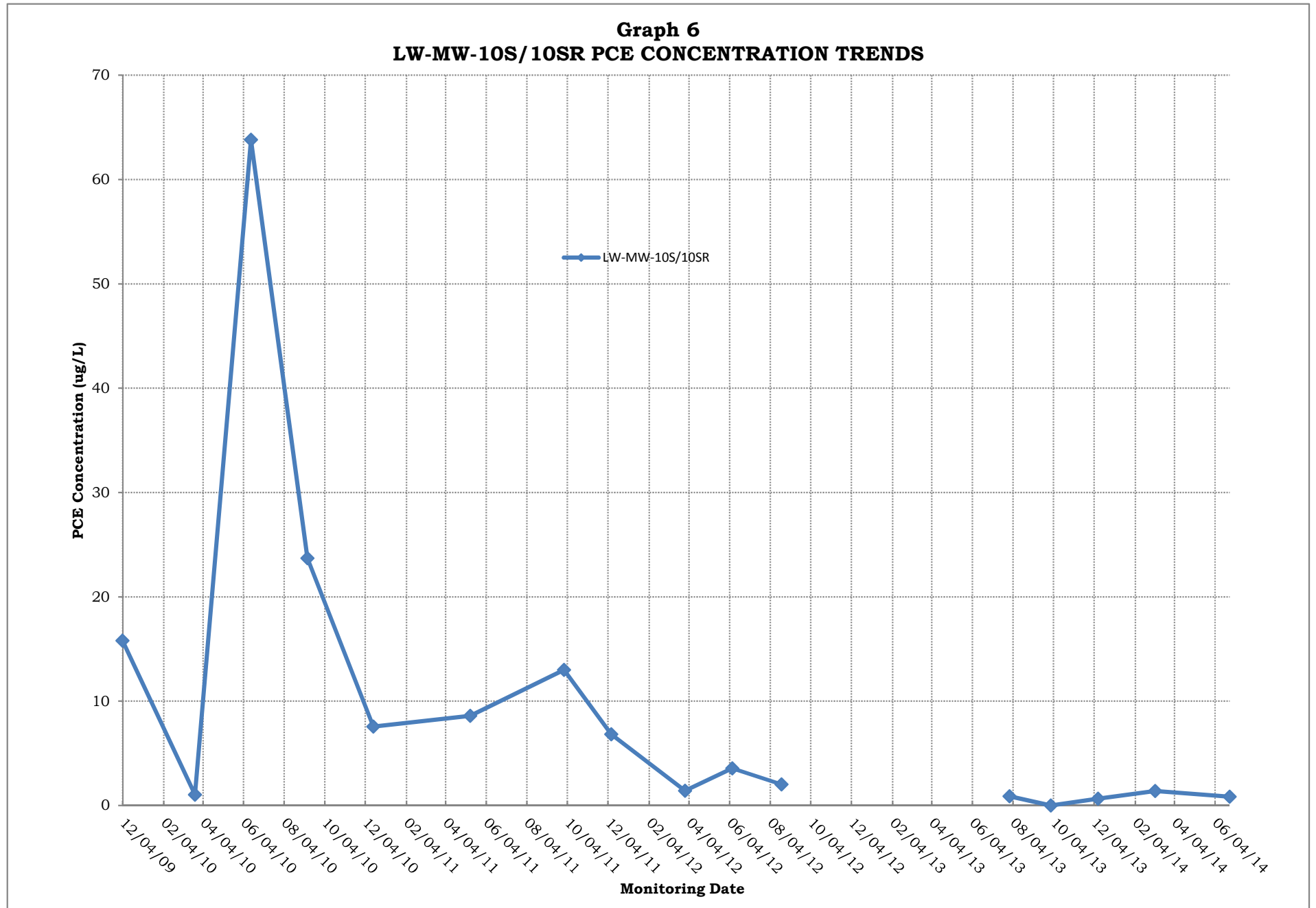




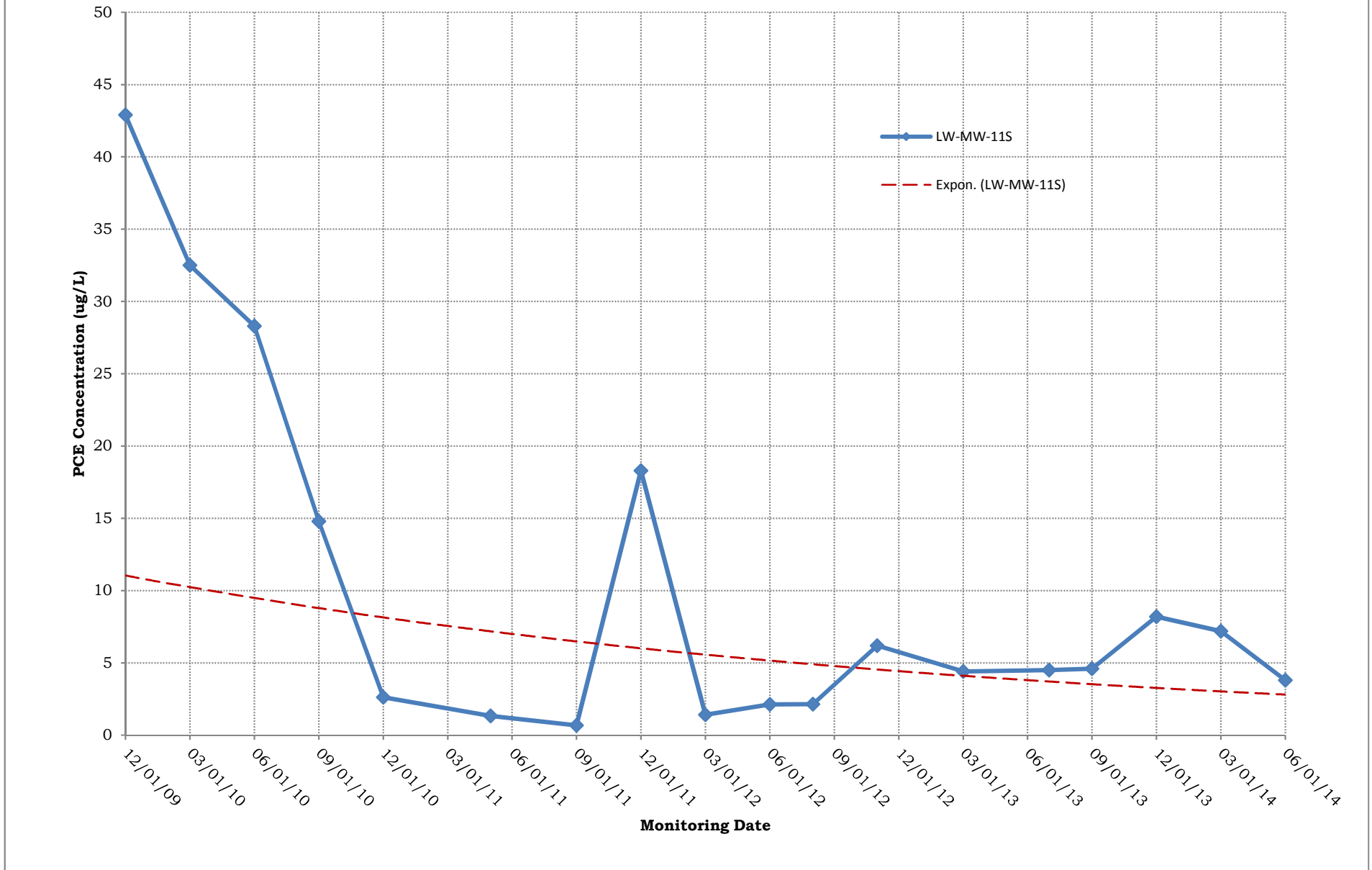


**Graph 5**  
**LW-MW-9S PCE CONCENTRATION TRENDS**

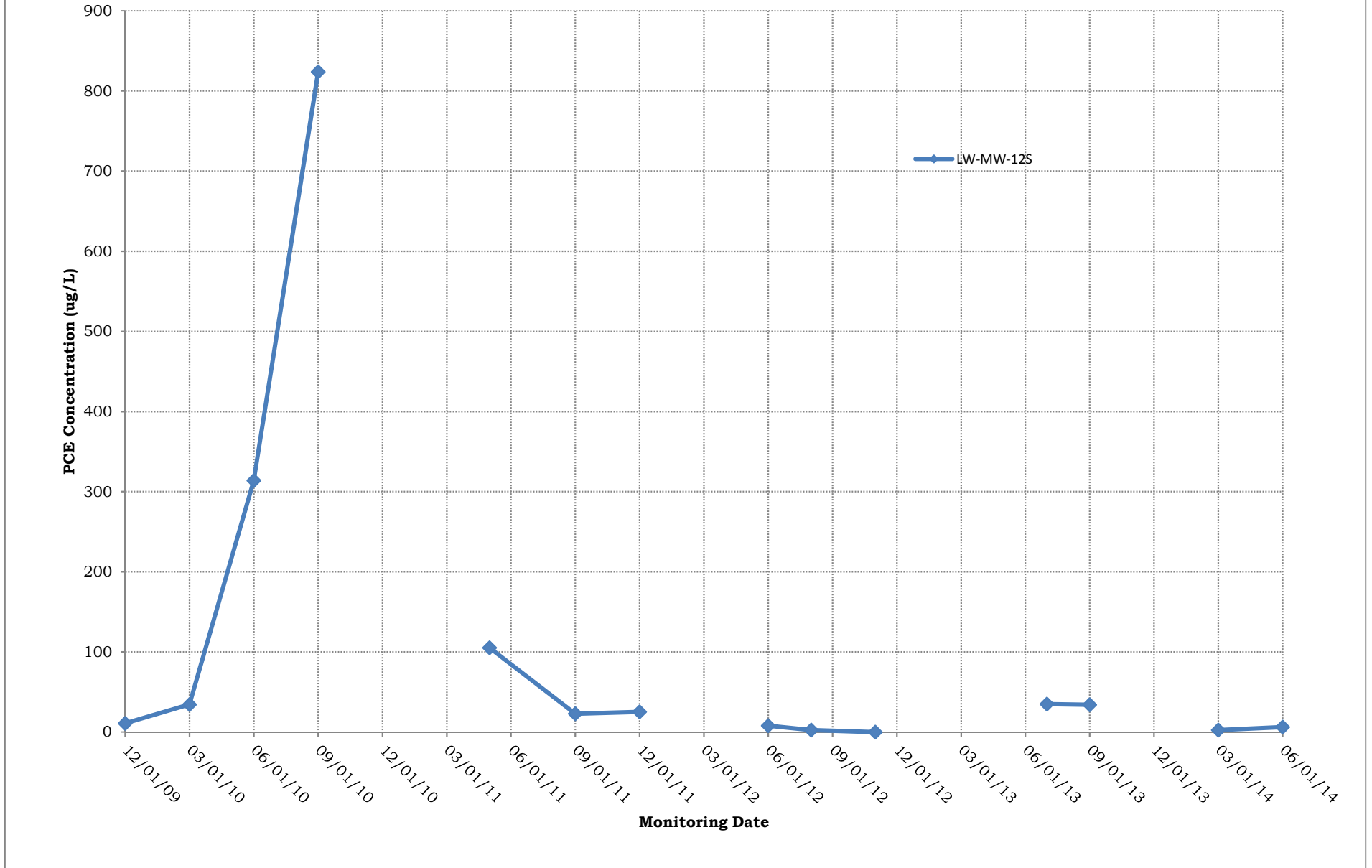




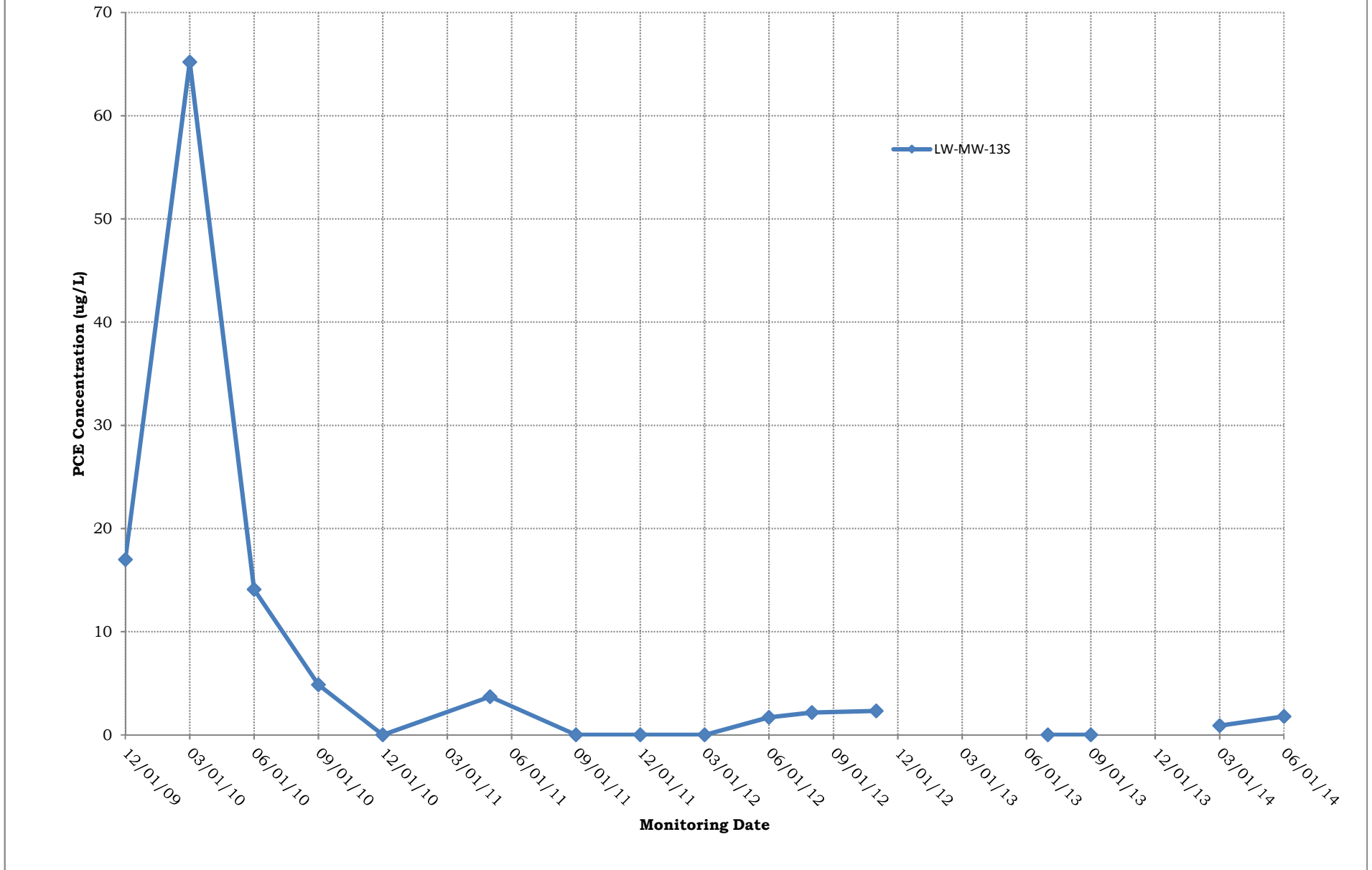
**Graph 7**  
**LW-MW-11S PCE CONCENTRATION TRENDS**

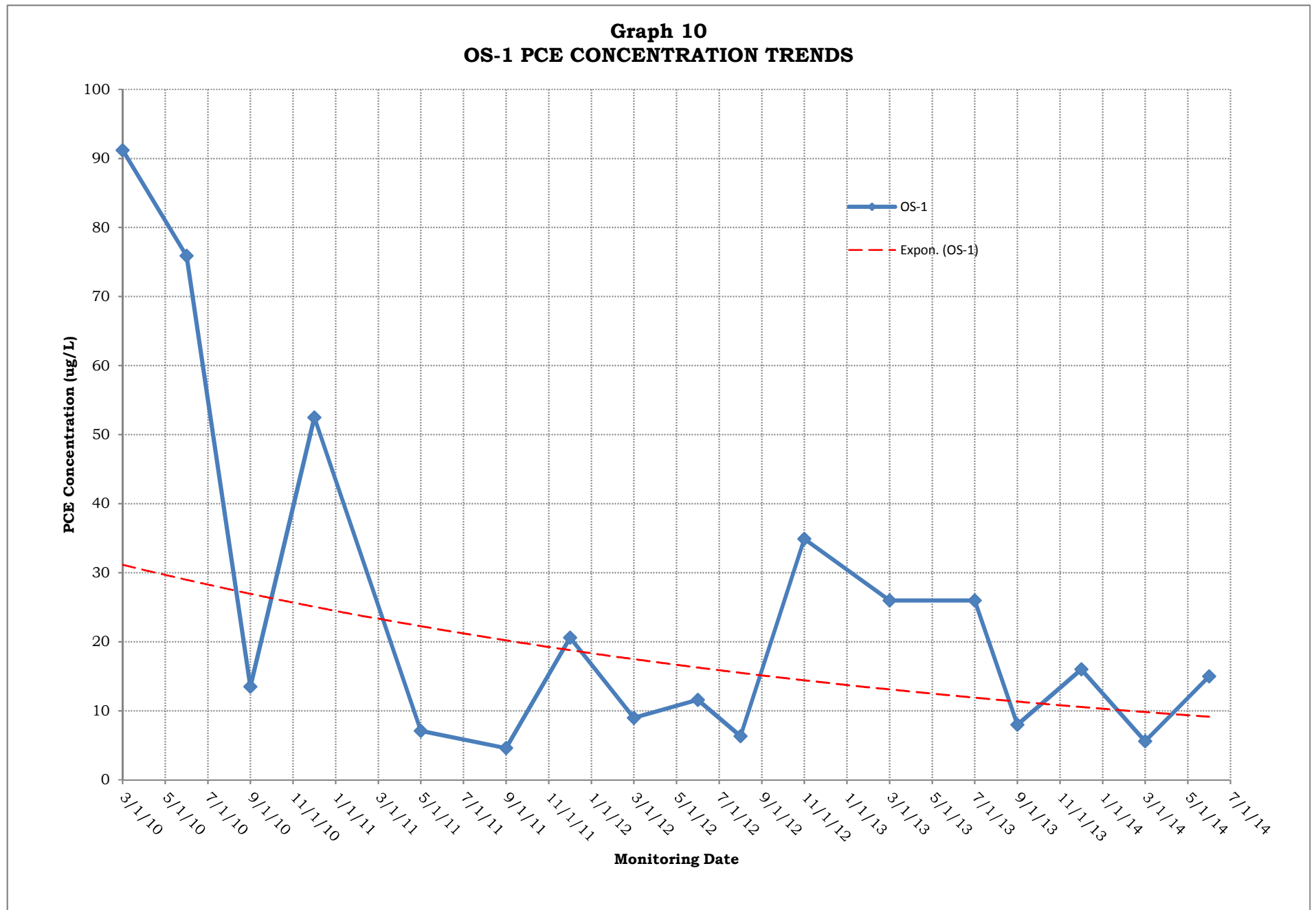


**Graph 8**  
**LW-MW-12S PCE CONCENTRATION TRENDS**



**Graph 9**  
**LW-MW-13S PCE CONCENTRATION TRENDS**





## **APPENDICES**

Appendix A	Groundwater Monitoring Field Data Sheets
Appendix B	Laboratory Groundwater Analytical Report
Appendix C	GeoTracker Upload Confirmation Reports
Appendix D	Shallow Soil Vapor Sampling Field Data Sheets
Appendix E	Soil-Gas Monitoring Procedures (From IRAWP)
Appendix F	Laboratory VP Well Vapor Analytical Report
Appendix G	SVE/GASS Influent and Effluent Vapor Analytical Laboratory Reports
Appendix H	SVE/GASS Field Data Sheets
Appendix I	CRWQCB Approval Letter for SVE/GASS Cyclic Operations
Appendix J	Hexavalent Chrome Data Summary Table
Appendix K	Request for EDCAQMD Permitting Exemption and EDCAQMD Approval Letter

# **APPENDIX A**

## Groundwater Monitoring Field Data Sheets



# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>LW-MW-95</u>	DEPTH TO WATER: <u>13.73</u>
E <sub>2</sub> C REM. PROJECT #: <u>1950 BV-15</u>	TOTAL DEPTH OF WELL: <u>24.25</u>
PROJECT NAME: <u>LTLW</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>6-26-14</u>	CASING VOLUME: <u>N/A</u>
SAMPLED BY: <u>G. BRANDIN / J. IRWIN</u>	PURGE METHOD: <u>Low Flow</u>

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
11:15		250 GPM			53.4	9.71	.33	-	Closing, No Obs
11:17		}			53.1	9.74	.29	-	4.32N, No Obs
11:19					52.8	9.73	.26	1.1	Closing, No Obs
11:24	Sample								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 242

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade      ORP measured after sample collected

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# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>LW-MW-13e</u>	DEPTH TO WATER: <u>12.46</u>
E <sub>2</sub> C REM. PROJECT #: <u>1950 RV-15</u>	TOTAL DEPTH OF WELL: <u>24.78</u>
PROJECT NAME: <u>LTLW</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>6-26-14</u>	CASING VOLUME: <u>N/A</u>
SAMPLED BY: <u>G. BRANDIN / J. IRWIN</u>	PURGE METHOD: <u>Low Flow</u>

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
11:40		250 GPM			53.1	7.49	.31	-	Clear, No Chlor
11:42		}			52.9	7.51	.31	-	Clear, No Chlor
11:44					52.6	7.53	.31	0.3	Clear, No Chlor
11:49	Sample								

Well Capacity:	2" - 0.1632 gallon/linear foot	_____	ORP = <u>262</u>
	4" - 0.6528 gallon/linear foot	_____	
	6" - 1.4688 gallon/linear foot	_____	

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade      ORP measured after sample collected

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# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>LW-MW-10SR</u>	DEPTH TO WATER: <u>11.99</u>
E <sub>2</sub> C REM. PROJECT #: <u>1950 RV-15</u>	TOTAL DEPTH OF WELL: <u>24.65</u>
PROJECT NAME: <u>LTLW</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>6-26-14</u>	CASING VOLUME: <u>N/A</u>
SAMPLED BY: <u>G. BRANDIN / J. IRWIN</u>	PURGE METHOD: <u>Low Flow</u>

TIME	PURGE CHARACTERISTICS				TEMP (F <sup>U</sup> )	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
12:00		250 gal min			54.2	7.46	.67	-	Clear, No Osm
12:02					54.0	7.48	.68	-	Clear, No Osm
12:04					53.7	7.44	.68	0.4	Clear, No Osm
12:10	Sample								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 237

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: LW-MW-12c DEPTH TO WATER: 11:32  
 E<sub>2</sub>C REM. PROJECT #: 1950 RV-15 TOTAL DEPTH OF WELL: 23.80  
 PROJECT NAME: LTLW WELL DIAMETER: 2"  
 DATE SAMPLED: 6-26-14 CASING VOLUME: N/A  
 SAMPLED BY: G. BRADWIN / J. IRWIN PURGE METHOD: Low Flow

TIME	PURGE CHARACTERISTICS				TEMP (F <sup>o</sup> )	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
12:35		250 gpm			54.6	6.11	.56	-	Clear, No Obs
12:37		}			54.3	6.08	.56	-	Clear, No Obs
12:39					53.8	6.05	.56	0.4	Clear, No Obs
12:44	SAMPLE								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_  
 ORP = 229

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>LW-MW-55</u>	DEPTH TO WATER: <u>11.27</u>
E <sub>2</sub> C REM. PROJECT #: <u>1950 RV-15</u>	TOTAL DEPTH OF WELL: <u>29.73</u>
PROJECT NAME: <u>LTLW</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>6-26-14</u>	CASING VOLUME: <u>N/A</u>
SAMPLED BY: <u>G. BRANDON / J. IRWIN</u>	PURGE METHOD: <u>Low Flow</u>

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
12:56		250 GPM			53.6	6.24	.20	-	Close, No O <sub>2</sub>
12:58					53.1	6.21	.21	-	Close, No O <sub>2</sub>
1:00					52.9	6.19	.21	1.2	Close, No O <sub>2</sub>
1:05	Sample								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 273

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

~~\* LW-MW-14 is a duplicate of 55 (1:28)~~

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #:	<u>LW-MW-15</u>	DEPTH TO WATER:	<u>12:30</u>
E <sub>2</sub> C REM. PROJECT #:	<u>1950 RV-15</u>	TOTAL DEPTH OF WELL:	<u>23.15</u>
PROJECT NAME:	<u>LTLW</u>	WELL DIAMETER:	<u>2"</u>
DATE SAMPLED:	<u>6-26-14</u>	CASING VOLUME:	<u>N/A</u>
SAMPLED BY:	<u>G. BRANDIN / J. IRWIN</u>	PURGE METHOD:	<u>LOW FLOW</u>

TIME	PURGE CHARACTERISTICS				TEMP (F <sup>o</sup> )	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
<u>1:38</u>		<u>250 gal</u>			<u>54.1</u>	<u>7.11</u>	<u>.35</u>	<u>-</u>	<u>Clear, No Odor</u>
<u>1:40</u>		}			<u>54.0</u>	<u>7.06</u>	<u>.34</u>	<u>-</u>	<u>Clear, No Odor</u>
<u>1:42</u>					<u>53.8</u>	<u>7.04</u>	<u>.34</u>	<u>1.3</u>	<u>Clear, No Odor</u>
<u>1:47</u>	<u>SAMPLE</u>								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 240

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade      ORP measured after sample collected

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: LW-MW-2s

DEPTH TO WATER: 15.40

E<sub>2</sub>C REM. PROJECT #: 1950 RV-15

TOTAL DEPTH OF WELL: 34.85

PROJECT NAME: LTLW

WELL DIAMETER: 2"

DATE SAMPLED: 6-26-14

CASING VOLUME: N/A

SAMPLED BY: G. BRANDIN / J. IRWIN

PURGE METHOD: Low Flow

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
2:00		250 gal/min			53.2	4.91	.20	-	Clear, No Chlor
2:02		}			52.9	4.89	.22	-	Clear, No Chlor
2:04					52.9	4.86	.23	1.0	Clear, No Chlor
2:09	Sample								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 293

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade ORP measured after sample collected

# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #: <u>LW-MW-11c</u>	DEPTH TO WATER: <u>12.80</u>
E <sub>2</sub> C REM. PROJECT #: <u>1950 RV-15</u>	TOTAL DEPTH OF WELL: <u>24.02</u>
PROJECT NAME: <u>LTLW</u>	WELL DIAMETER: <u>2"</u>
DATE SAMPLED: <u>6-26-14</u>	CASING VOLUME: <u>N/A</u>
SAMPLED BY: <u>G. BRADWIN / J. IRWIN</u>	PURGE METHOD: <u>Low Flow</u>

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
2:22		250 gpm			55.1	8.63	1.29	-	Clear, No Odor
2:24		}			54.6	8.54	1.30	-	Clear, No Odor
2:26					53.9	8.52	1.32	0.8	Clear, No Odor
2:31	Sample								

Well Capacity:	2" - 0.1632 gallon/linear foot	_____	ORP = <u>217</u>
	4" - 0.6528 gallon/linear foot	_____	
	6" - 1.4688 gallon/linear foot	_____	

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade      ORP measured after sample collected

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# E<sub>2</sub>C Remediation

Groundwater Scientists : Environmental Consultants  
 1020 Winding Creek Road, Suite 110; Roseville, California 95678  
 Telephone: (916) 782-8700 / Facsimile: (916) 782-8750

## Water Quality Sampling Record and Well Development Data

SAMPLE ID / WELL #:	<u>OS-1</u>	DEPTH TO WATER:	<u>12.71</u>
E <sub>2</sub> C REM. PROJECT #:	<u>1950 RV-15</u>	TOTAL DEPTH OF WELL:	<u>24.00</u>
PROJECT NAME:	<u>LTLW</u>	WELL DIAMETER:	<u>2"</u>
DATE SAMPLED:	<u>6-26-14</u>	CASING VOLUME:	<u>N/A</u>
SAMPLED BY:	<u>G. BRANDIN / J. IRWIN</u>	PURGE METHOD:	<u><del>Low Flow</del> Bailer</u>

TIME	PURGE CHARACTERISTICS				TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
	INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED					
<u>2:48</u>		<u>250 gal/min</u>			<u>66.4</u>	<u>6.80</u>	<u>1.36</u>	<u>-</u>	<u>Clarity, No Obs</u>
<u>2:50</u>		}			<u>66.0</u>	<u>6.76</u>	<u>1.33</u>	<u>-</u>	<u>Clarity, No Obs</u>
<u>2:52</u>					<u>55.7</u>	<u>6.73</u>	<u>1.33</u>	<u>0.3</u>	<u>Clarity, No Obs</u>
<u>2:57</u>	<u>Sample</u>								

Well Capacity: 2" - 0.1632 gallon/linear foot \_\_\_\_\_  
 4" - 0.6528 gallon/linear foot \_\_\_\_\_  
 6" - 1.4688 gallon/linear foot \_\_\_\_\_

ORP = 243

SAMPLED AT \_\_\_\_\_ FT. FINAL DEPTH TO WATER: \_\_\_\_\_ FT. 3 CASING VOLUMES = \_\_\_\_\_ GALS.

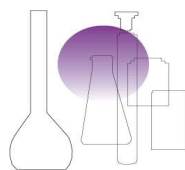
NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centigrade      ORP measured after sample collected

## **APPENDIX B**

### Laboratory Groundwater Analytical Report

ProVera

Analytical Laboratories, Inc.

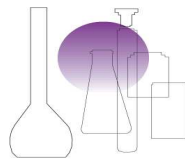


**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	Trip Blank	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-01
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	ND	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	ND	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

ProVera



Analytical Laboratories, Inc.

**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	Trip Blank	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-01
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

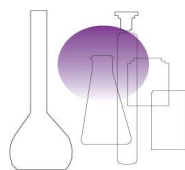
Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	93%	70.0%	130%
1,2-Dichloroethane-d4	95%	70.0%	130%
Toluene-d8	90%	70.0%	130%
4-Bromofluorobenzene	99%	70.0%	130%

RD

Report Date: 7/9/2014

ProVera



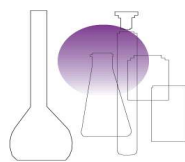
Analytical Laboratories, Inc.

**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-9s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-02
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	ND	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	ND	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

ProVera



Analytical Laboratories, Inc.

**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-9s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-02
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

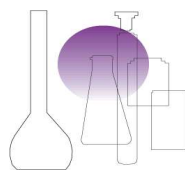
Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	91%	70.0%	130%
1,2-Dichloroethane-d4	94%	70.0%	130%
Toluene-d8	92%	70.0%	130%
4-Bromofluorobenzene	101%	70.0%	130%

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Report Date: 7/9/2014

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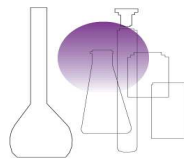


**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-13s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-03
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	0.63	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	1.8	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-13s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-03
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	92%	70.0%	130%
1,2-Dichloroethane-d4	100%	70.0%	130%
Toluene-d8	99%	70.0%	130%
4-Bromofluorobenzene	96%	70.0%	130%

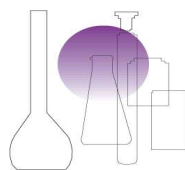
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Report Date: 7/9/2014



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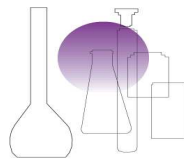


**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-10SR	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-04
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	1.9	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	0.84	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-10SR	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-04
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

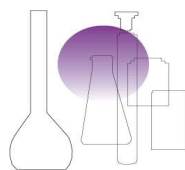
Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	87%	70.0%	130%
1,2-Dichloroethane-d4	95%	70.0%	130%
Toluene-d8	103%	70.0%	130%
4-Bromofluorobenzene	98%	70.0%	130%

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Report Date: 7/9/2014

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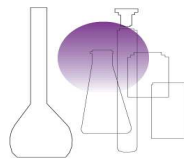
**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-12s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-05
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	ND	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	6.1	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-12s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-05
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

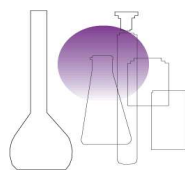
Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	87%	70.0%	130%
1,2-Dichloroethane-d4	95%	70.0%	130%
Toluene-d8	95%	70.0%	130%
4-Bromofluorobenzene	94%	70.0%	130%

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Report Date: 7/9/2014

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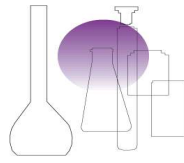
**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-5s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-06
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	ND	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	13	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-5s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-06
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

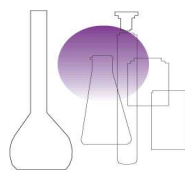
Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	94%	70.0%	130%
1,2-Dichloroethane-d4	104%	70.0%	130%
Toluene-d8	94%	70.0%	130%
4-Bromofluorobenzene	105%	70.0%	130%

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Report Date: 7/9/2014

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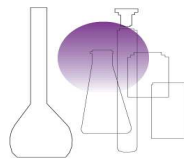
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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-14	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-07
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	ND	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	13	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-14	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-07
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	92%	70.0%	130%
1,2-Dichloroethane-d4	99%	70.0%	130%
Toluene-d8	93%	70.0%	130%
4-Bromofluorobenzene	94%	70.0%	130%

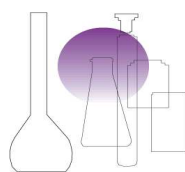
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Report Date: 7/9/2014



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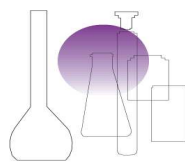


**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-1s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-08
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	ND	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	130	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-1s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-08
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

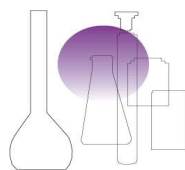
Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	94%	70.0%	130%
1,2-Dichloroethane-d4	100%	70.0%	130%
Toluene-d8	93%	70.0%	130%
4-Bromofluorobenzene	98%	70.0%	130%

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Report Date: 7/9/2014

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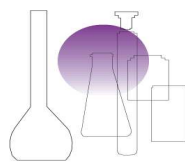


**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-2s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-09
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	ND	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	0.57	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	5.2	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-2s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-09
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

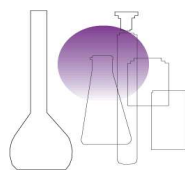
Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	90%	70.0%	130%
1,2-Dichloroethane-d4	97%	70.0%	130%
Toluene-d8	95%	70.0%	130%
4-Bromofluorobenzene	104%	70.0%	130%

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Report Date: 7/9/2014

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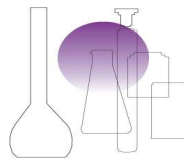


**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-11s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-10
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	1.1	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	3.8	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	LW-MW-11s	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-10
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

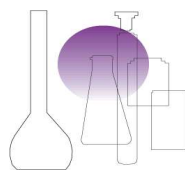
Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	99%	70.0%	130%
1,2-Dichloroethane-d4	108%	70.0%	130%
Toluene-d8	97%	70.0%	130%
4-Bromofluorobenzene	94%	70.0%	130%

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Report Date: 7/9/2014

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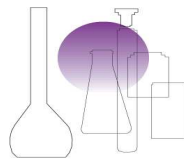
**Analysis For Volatile Compounds by EPA Method 8260B**

Client Sample ID:	OS-1	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-11
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

<b>Compounds:</b>	<b>Concentration ug/L (ppb)</b>	<b>Reporting Limit ug/L (ppb)</b>	<b>Dilution Factor</b>
Dichlorodifluoromethane	ND	0.50	1
Chloromethane	ND	0.50	1
Vinyl Chloride	ND	0.50	1
Bromomethane	ND	0.50	1
Chloroethane	ND	0.50	1
Trichlorofluoromethane	ND	0.50	1
Trans-1,2-Dichloroethene	ND	0.50	1
1,1-Dichloroethene	ND	0.50	1
Methyl Tert-Butyl Ether (MTBE)	ND	0.50	1
Methylene Chloride	ND	0.50	1
Diisopropyl Ether (DIPE)	ND	0.50	1
1,1-Dichloroethane	ND	0.50	1
Ethyl Tert-Butyl Ether (ETBE)	ND	0.50	1
Tert-Butyl Alcohol (TBA)	ND	5.0	1
1,1,1-Trichloroethane	ND	0.50	1
1,3-Dichloropropene	ND	0.50	1
1,1-Dichloropropene	ND	0.50	1
Carbon Tetrachloride	ND	0.50	1
Tert-Amyl Methyl Ether (TAME)	ND	0.50	1
Chloroform	ND	0.50	1
Benzene	ND	0.50	1
Bromochloromethane	ND	0.50	1
1,2-Dichloroethane	ND	0.50	1
Trichloroethene	ND	0.50	1
1,2-Dichloropropane	ND	0.50	1
Dibromomethane	ND	0.50	1
Bromodichloromethane	ND	0.50	1
Toluene	ND	0.50	1
Trans-1,3-Dichloropropene	ND	0.50	1
Tetrachloroethene	15	0.50	1
1,3-Dichloropropane	ND	0.50	1
1,1,2-Trichloroethane	ND	0.50	1
Ethylbenzene	ND	0.50	1
1,2-Dibromoethane	ND	0.50	1
Total Xylenes	ND	0.50	1
Dibromochloromethane	ND	0.50	1
Chlorobenzene	ND	0.50	1
2,2 Dichloropropane	ND	0.50	1
Cis-1,3-Dichloropropane	ND	0.50	1

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## Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID:	OS-1	Client:	E2C Remediation
Matrix:	Aqueous	Project:	Lake Tahoe-LW 2Q14 GWM
Date Sampled:	06/26/14	Lab ID:	14063001-11
		Instrument:	GCMS#1
Date Analyzed:	07/01/14	Operator:	Roy Diaz

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
1,1,1,2-Tetrachloroethane	ND	0.50	1
Styrene	ND	0.50	1
Isopropylbenzene	ND	0.50	1
Propylbenzene	ND	0.50	1
1,3,5-Trimethylbenzene	ND	0.50	1
2-Chlorotoluene	ND	0.50	1
Bromobenzene	ND	0.50	1
Bromoform	ND	0.50	1
4-Chlorotoluene	ND	0.50	1
Tert-Butylbenzene	ND	0.50	1
1,2,4-Trimethylbenzene	ND	0.50	1
1,2,3-Trichloropropane	ND	0.50	1
Sec-Butylbenzene	ND	0.50	1
1,1,2,2-Tetrachloroethane	ND	0.50	1
4-Isopopyltoluene	ND	0.50	1
1,3-Dichlorobenzene	ND	0.50	1
Butylbenzene	ND	0.50	1
1,4-Dichlorobenzene	ND	0.50	1
1,2-Dichlorobenzene	ND	0.50	1
1,2-dibromo-3-chloropropane	ND	0.50	1
1,1,2,3,4,4-hexachloro-1,3-butadiene	ND	0.50	1
1,2,4-Trichlorobenzene	ND	0.50	1
Napthalene	ND	0.50	1
1,2,3-Trichlorobenzene	ND	0.50	1
Cis-1,2-Dichloroethene	ND	0.50	1

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	87%	70.0%	130%
1,2-Dichloroethane-d4	91%	70.0%	130%
Toluene-d8	91%	70.0%	130%
4-Bromofluorobenzene	100%	70.0%	130%

RD

Report Date: 7/9/2014





EPA 8260B QA-QC Report  
EPA 8015M QA-QC Report

ELAP Certification # 2606

**CLIENT: E2C Remediation**  
**1020 Winding Creek Rd., Suite 110**  
**Roseville, CA 95678**

Projects Covered by this QA-QC: 1024 Lake Tahoe Blvd., Laundry Works 2Q14 GWM 6-26-2014  
Analysis Date: 7/1/2014  
Matrix: AQ

**BFB:**

Internal Standards	Results	% Recovery
Benzene, fluoro	50.0	100%
Benzene-d5, chloro-	50.0	100%
1,4-Dichlorobenzene-d4	50.0	100%

**Surrogate Standards**

Methane, dibromofluoro-	45.5	91%
1,2-Dichloroethane-d4	50.0	100%
Toluene-d8	49.4	99%
p-Bromofluorobenzene (BFB)	44.1	88%

**IB:**

Internal Standards	Results	% Recovery
Benzene, fluoro	50.0	100%
Benzene-d5, chloro-	50.0	100%
1,4-Dichlorobenzene-d4	50.0	100%

**Surrogate Standards**

Methane, dibromofluoro-	45.8	92%
1,2-Dichloroethane-d4	47.2	94%
Toluene-d8	49.9	100%
p-Bromofluorobenzene (BFB)	46.6	93%

**LCS: (&)**

Results	% Recovery	
1,1-Dichloroethene	24.1	96%
Trichloroethene	24.4	98%
Chlorobenzene	26.4	105%
Toluene	27.0	108%
Benzene	27.2	109%
p-Bromofluorobenzene (BFB)	49.1	98%

**LCSD: (&)**

Results	% Recovery	
1,1-Dichloroethene	25.9	104%
Trichloroethene	24.5	98%
Chlorobenzene	25.4	102%
Toluene	25.6	102%
Benzene	24.3	97%
p-Bromofluorobenzene (BFB)	48.6	97%

Client Name: E2C REMEDIATION		Project Name: 1024 LAKE TATTOE Blvd.	
Client Address: 1020 Winding Creek Road Ste. 110 Roseville, CA		Project Manager: Phil Goalwin	
Sampler Name: G. Bandoin / S. Fenin		Sample Date	
Sample Date	Sample Time	Sample Description and Container Type	Sample Matrix
6-26-14	7:30	TRIP BLANK 1-NVA	<input checked="" type="checkbox"/> Aqueous <input type="checkbox"/> Soil <input checked="" type="checkbox"/> Acidified
	11:24	LW-MW-9S 3-NVA	Analysis Requested BTEX (EPA 802lb) <input type="checkbox"/> MTBE (EPA 802lb) <input type="checkbox"/> TPH Gasoline (8015M) <input type="checkbox"/> TPH Diesel (8015M) <input type="checkbox"/> Volatiles (EPA 8260b) <input checked="" type="checkbox"/> 5 Oxygenates (EPA 8260b) <input type="checkbox"/> 7 Oxygenates (EPA 8260b) <input type="checkbox"/> MTBE (EPA 8260b) <input type="checkbox"/> Lead scavengers (8260b) <input type="checkbox"/> BTEX (8260b) <input type="checkbox"/>
	11:49	LW-MW-13S	
	12:10	LW-MW-10SR	
	12:44	LW-MW-12S	
	1:05	LW-MW-5S	
	1:28	LW-MW-14	
	1:47	LW-MW-15	
	2:09	LW-MW-2S	
	2:31	LW-MW-11S	
	2:57	OS-1 3-NVA	
Comments			1406301 -01
			-02
			-03
			-04
			-05
			-06
			-07
			-08
			-09
			-10
			-11

Sampling Event: 2nd Qtr GWM EDF Type: GW Monitoring Other 3C

Turnaround Time Requested: 24 Hour 48 Hour 5-Day Standard X

Relinquished By: [Signature] Date: 6-26-14

Received By: [Signature] Date: 6-30-14

## **APPENDIX C**

### GeoTracker Upload Confirmation Reports

## SUCCESS

Processing is complete. No errors were found!  
Your file has been successfully submitted!

<b><u>Submittal Type:</u></b>	EDF
<b><u>Report Title:</u></b>	1Q 2014 Groundwater Monitoring Report and Current Site Remediation Status Report
<b><u>Report Type:</u></b>	Monitoring Report - Quarterly
<b><u>Facility Global ID:</u></b>	SL0601754315
<b><u>Facility Name:</u></b>	LAKE TAHOE LAUNDRY WORKS
<b><u>File Name:</u></b>	EDFCL.zip
<b><u>Organization Name:</u></b>	E2C Remediation, LLC
<b><u>Username:</u></b>	E2C REMEDIATION, LLC
<b><u>IP Address:</u></b>	66.60.184.162
<b><u>Submittal Date/Time:</u></b>	8/4/2014 4:08:52 PM
<b><u>Confirmation Number:</u></b>	<b>5039582729</b>

[VIEW QC REPORT](#)

[VIEW DETECTIONS REPORT](#)

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## SUCCESS

Your GEO\_REPORT file has been successfully submitted!

<b><u>Submittal Type:</u></b>	GEO_REPORT
<b><u>Report Title:</u></b>	1Q 2014 Groundwater Monitoring Report and Current Site Remediation Status Report
<b><u>Report Type:</u></b>	Monitoring Report - Quarterly
<b><u>Report Date:</u></b>	7/30/2014
<b><u>Facility Global ID:</u></b>	SL0601754315
<b><u>Facility Name:</u></b>	LAKE TAHOE LAUNDRY WORKS
<b><u>File Name:</u></b>	LTLW 1Q14 QMR_RSR (7-30-14).pdf
<b><u>Organization Name:</u></b>	E2C Remediation, LLC
<b><u>Username:</u></b>	E2C REMEDIATION, LLC
<b><u>IP Address:</u></b>	66.60.184.162
<b><u>Submittal Date/Time:</u></b>	8/4/2014 2:08:41 PM
<b><u>Confirmation Number:</u></b>	<b>9612810254</b>

## SUCCESS

Processing is complete. No errors were found!  
Your file has been successfully submitted!

<b><u>Submittal Type:</u></b>	GEO_WELL
<b><u>Report Title:</u></b>	GEO_WELL 3-6-14
<b><u>Facility Global ID:</u></b>	SL0601754315
<b><u>Facility Name:</u></b>	LAKE TAHOE LAUNDRY WORKS
<b><u>File Name:</u></b>	GEO_WELL.zip
<b><u>Organization Name:</u></b>	E2C Remediation, LLC
<b><u>Username:</u></b>	E2C REMEDIATION, LLC
<b><u>IP Address:</u></b>	66.60.184.162
<b><u>Submittal Date/Time:</u></b>	8/4/2014 2:13:17 PM
<b><u>Confirmation Number:</u></b>	<b>2480042934</b>

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## **APPENDIX D**

### Shallow Soil Vapor Sampling Field Data Sheets

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW

ADDRESS: 1024 LAKE TAHOE BLVD.  
SOUTH LAKE TAHOE, CA

DATE: 6-26-14

SAMPLE ID: VP-1 @ 3:00pm

FIELD CREW: C. BANDIN  
S. JEWIN

**PURGE DATA**

Purge Method SYRINGE (60ml)

Purge Duration 3 min

Purge Volume 600 ml

**SAMPLING**

Summa Canister Serial # 9313

Initial Vacuum in Canister 19" Hg

Leak Check Constituent tetrafluoroethane

Was sampling tented  Yes  No

Sampling Duration 5 MIN

Final Vacuum in Canister 1" Hg



# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 LAKE TARTOE BLVD.  
SOUTH LAKE TARTOE, VA  
DATE: 6-26-14  
SAMPLE ID: VP-2 @ 3:12 pm  
FIELD CREW: C. BRADWIN  
S. IRWIN

### PURGE DATA

Purge Method: SYRINGE (60ml)  
Purge Duration: 3 min  
Purge Volume: 600 ml

### SAMPLING

Summa Canister Serial #: 837354  
Initial Vacuum in Canister: 21.5" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE:

LTLW

ADDRESS:

1024 LAKE TAHOE BLVD.  
SOUTH LAKE TAHOE, CA

DATE:

6-26-14

SAMPLE ID:

VP-3 @ 3:24 pm

FIELD CREW:

CO. BRANDIN  
S. JEWIN

### PURGE DATA

Purge Method

SPRINGE (60m)

Purge Duration

3 min

Purge Volume

600 m

### SAMPLING

Summa Canister Serial #

251

Initial Vacuum in Canister

20.5" Hg

Leak Check Constituent

tetrafluoroethane

Was sampling tented

Yes  No

Sampling Duration

5 MIN

Final Vacuum in Canister

1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 LAKE TAHOE BLVD.  
SOUTH LAKE TAHOE, CA  
DATE: 6-26-14  
SAMPLE ID: VP-4 @ 3:45pm  
FIELD CREW: C. BARNON  
S. JEWIN

### PURGE DATA

Purge Method: SYRINGE (60ml)  
Purge Duration: 3 min  
Purge Volume: 600 ml

### SAMPLING

Summa Canister Serial #: 83794  
Initial Vacuum in Canister: 21" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 MW  
Final Vacuum in Canister: 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 LAKE TAHOE BLVD.  
SOUTH LAKE TAHOE, CA  
DATE: 6-26-14  
SAMPLE ID: VP-5 @ 3:58 pm  
FIELD CREW: C. BRADWIN  
S. JEWIN

### PURGE DATA

Purge Method: SPRINGE (60m)  
Purge Duration: 3 min  
Purge Volume: 600 m

### SAMPLING

Summa Canister Serial #: 83796  
Initial Vacuum in Canister: 22" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 MIN  
Final Vacuum in Canister: 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW

ADDRESS: 1024 LAKE TADDE BLVD.  
SOUTH LAKE TADDE, GA

DATE: 6-26-14

SAMPLE ID: VP-6

FIELD CREW: C. BRONNIN  
S. IRWIN

### PURGE DATA

Purge Method SYRINGE

Purge Duration \_\_\_\_\_ min

Purge Volume \* SAMPLE NOT COLLECTED

**SAMPLING** ONLY ABLE TO COLLECT A PARTIAL SAMPLE  
DUE TO VAC in WELL +/- 13" Hg

Summa Canister Serial # 83798

Initial Vacuum in Canister 20.5" Hg

Leak Check Constituent tetrafluoroethane

Was sampling tented Yes No

Sampling Duration NOT SAMPLED

Final Vacuum in Canister \_\_\_\_\_

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW  
ADDRESS: 1024 LAKE TARTAR BLVD.  
SOUTH LAKE TARTAR, GA  
DATE: 6-26-14  
SAMPLE ID: VP-7 @ 4:32 pm  
FIELD CREW: Cs. BRADWIN  
S. JEWIN

### PURGE DATA

Purge Method: SUCKING (60m)  
Purge Duration: 3 min  
Purge Volume: 600 mL

### SAMPLING

Summa Canister Serial #: 83756  
Initial Vacuum in Canister: 24" Hg  
Leak Check Constituent: tetrafluoroethane  
Was sampling tented:  Yes  No  
Sampling Duration: 5 min  
Final Vacuum in Canister: 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW

ADDRESS: 1024 LAKE TARTAR BLVD.  
SOUTH LAKE TARTAR, CA

DATE: 6-26-14

SAMPLE ID: VP-8 @ 4:48pm

FIELD CREW: C. BANDIN  
S. JEWIN

**PURGE DATA**

Purge Method SYRINGE (60ml)

Purge Duration 3 min

Purge Volume 600 ml

**SAMPLING**

Summa Canister Serial # 83624

Initial Vacuum in Canister 20.5" Hg

Leak Check Constituent tetrafluoroethane

Was sampling tented  Yes  No

Sampling Duration 5 min

Final Vacuum in Canister 1" Hg

# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE: LTLW

ADDRESS: 1024 LAKE TAHOE BLVD.  
SOUTH LAKE TAHOE, CA

DATE: 6-26-14

SAMPLE ID: VP-9 @ 5:00pm

FIELD CREW: C. BRANDIN  
S. JEWIN

**PURGE DATA**

Purge Method SYRINGE (60m)

Purge Duration 3 min

Purge Volume 600 m

**SAMPLING**

Summa Canister Serial # 83790

Initial Vacuum in Canister 21" Hg

Leak Check Constituent tetrafluoroethane

Was sampling tented  Yes  No

Sampling Duration 5 min

Final Vacuum in Canister 1" Hg



# E<sub>2</sub>C REMEDIATION

## SOIL GAS ASSESSMENT FIELD SHEET

SITE:

LTLW

ADDRESS:

1024 LAKE TAHOE BLVD.  
SOUTH LAKE TAHOE, CA

DATE:

6-26-14

SAMPLE ID:

UP-10 @ 5:20 pm

FIELD CREW:

C. BRANDIN

S. JEWIN

### PURGE DATA

Purge Method

SUCKING (60m)

Purge Duration

3 min

Purge Volume

600 m

### SAMPLING

Summa Canister Serial #

83797

Initial Vacuum in Canister

19.5" Hg

Leak Check Constituent

tetrafluoroethane

Was sampling tented

Yes  No

Sampling Duration

5 min

Final Vacuum in Canister

1" Hg

## **APPENDIX E**

### Soil-Gas Monitoring Procedures (From IRAWP)

## APPENDIX E

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## **E. SOIL GAS MONITORING PROCEDURES**

The following sections detail the methods and procedures that will be followed to monitor soil gas during the site remediation period.

### **E.1 Field Activities**

Prior to installation of soil-gas probe points, all necessary permits and utility clearance(s) will be obtained. All work will be performed or supervised by a California Professional Geologist, in accordance with the Business and Professions Code, Chapters 7 and 12.5, and the California Code of Regulations, Title 16, Chapters 5 and 29. E<sub>2</sub>C will make raw data available to California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) staff, as requested. E<sub>2</sub>C will accommodate adjustments, or modifications to the sampling program, mandated by evaluation of the data set or unforeseen site conditions, if required by the Regional Water Quality Control Board (CRWQCB) staff. Investigative-derived wastes (IDWs) will be handled and disposed in accordance with federal, state and local requirements.

To expedite the completion of field activities and to avoid potential project delays, contingencies have been proposed in the Interim Remedial Action Workplan (IRAWP) (e.g., soil matrix samples will also be collected if clayey soils [as defined in the Unified Soil Classification System (USCS)] are encountered during the proposed soil-gas investigation). The CRWQCB field staff will be informed of any problems, unforeseen site conditions, or deviations from the approved IRAWP. When it becomes necessary to implement modifications to the approved IRAWP, the CRWQCB will be notified and a verbal approval will be obtained before implementing changes.

### **E.2 Soil-Gas Investigation Reports**

Soil-gas monitoring data, including a discussion of field operations, deviations from the approved Workplan, data inconsistencies, and other significant operational details will be documented in the status reports. Each status report will contain soil-gas isoconcentration plots for constituents of concern (COCs) at a scale of 1 inch = 30 feet and summary tables for analytical data [in micrograms per liter ( $\mu\text{g/L}$ )], in accordance with the Active Soil Gas Investigation (ASGI) guidance (LARWQCB, 1997). E<sub>2</sub>C will also provide legible copies of field and laboratory notes or logs, all analytical results and Quality Assurance/Quality Control (QA/QC) information, including tables and explanations of procedures, results, corrective actions and effect on the data.

### **E.3 Soil-Gas Vapor Monitoring Well Installation**

#### **E.3.a Additional Soil and Lithologic Investigations**

Site soil and lithologic information will be obtained by collecting undisturbed soil samples from soil-gas sampling point VP-5. The soil samples will be collected with a slide-hammer in two (2) inch diameter brass liners from depths of two (2) and four (4) feet bgs. The samples will be submitted for physical parameter testing, which includes gradation, effective permeability, porosity, soil moisture, total organic carbon, and soil density. The results of the parameter testing will provide accurate soil input parameters to be used in an indoor air intrusion risk model. The results of the indoor air intrusion risk modeling will be presented in status reports under soil gas sections.

Low-flow or no-flow conditions (e.g., fine-grained soil, clay, soil with vacuum readings that exceed approximately ten (10) inches of mercury or 136 inches of water) are not expected to be encountered; however, if low-flow or no-flow conditions are encountered, soil matrix sampling using EPA Method 5035A will be conducted in those specific areas.

### **E.3.b Soil-Gas Vapor Monitoring Well Spacing**

Refer to Figure 5 for a scaled site plan depicting proposed VP well locations. VP well spacing has been selected to provide soil vapor monitoring biased to optimize detecting and delineating volatile organic compounds (VOCs) in areas of occupied by humans (e.g., buildings) and monitor and assess the effectiveness of the soil vapor extraction (SVE) system on VOC-affected vadose zone soils. Based on these criteria E<sub>2</sub>C will install five (5) VP wells (VP-1 through VP-5).

### **E.3.c VP Well Depth**

All VP wells will be installed to a depth of approximately five (5) feet below ground surface (bgs).

### **E.3.d VP Well Installation Procedure**

E<sub>2</sub>C personnel will use a Bobcat with a four (4) inch diameter auger attachment to advance a boring to the design depth of approximately 5.0 feet below ground surface (bgs). If an asphalt or concrete surface is present, E<sub>2</sub>C will utilize a coring machine to penetrate the surface material.

At the bottom of the boring, E<sub>2</sub>C will emplace a one and one-half (1.5) inch vapor sampling screen in the center of a one-foot sand pack (#3 Lonestar sand or equivalent). 1/8 inch inside diameter Teflon® tubing will extend from the sampling screen to the surface. One (1) foot of dry granular bentonite will be emplaced on top of the sand pack to preclude the infiltration of hydrated bentonite grout. The borehole will then be grouted to approximately six (6) inches below the surface with hydrated bentonite. The surface completion will consist of a five (5) inch diameter, traffic-rated monitoring well box, set in concrete (See Figure 15).

E<sub>2</sub>C field personnel will prepare detailed VP well installation boring logs, which will document the date and time of the installation activity, the depth of each VP well, the screen type and interval; material utilized, and surface completion details. VP well logs will be included in the subsequent status report.

## **E.4 Soil-Gas Monitoring Parameters**

### **E.4.a Equilibration Time**

Following the installation of the VP well, subsurface conditions will be disturbed. As delineated in the DTSC document, *Advisory – Active Soil Gas Investigations*, to allow subsurface conditions to equilibrate, the purge volume test, leak test, and soil-gas sampling will not be conducted for at least 48 hours following installation.

### **E.4.b Purge Volume**

To ensure that stagnant or ambient air is removed from the sampling system and to assure samples collected are representative of subsurface conditions, E<sub>2</sub>C will purge three (3) casing volumes from each VP well. Based on a well diameter of four (4) inches, a filter pack twelve (12) inches in height, and a porosity of 30%, E<sub>2</sub>C estimates

that one (1) casing volume will be approximately 200 milliliters. Therefore, three (3) casing volumes would equate to approximately 600 milliliters. At a purge rate of 200 ml/min, purging will be accomplished in approximately three (3) minutes. E<sub>2</sub>C will use a purge pump, calibrated to pump 200 milliliters per minute. The purge pump will not be used for sampling purposes.

### **E.5 Leak Test**

Leakage during soil gas sampling may dilute samples with ambient air and may produce results that underestimate actual site concentrations or contaminate the sample with external contaminants. Leak tests will be conducted to determine whether leakage is present (e.g., the leak check compound is detected and confirmed in the test sample after its application).

#### **E.5.a Leak Test Frequency**

Leak tests will be conducted at every SGA well location.

#### **E.5.b Leak Check Compounds**

The tracer compound tetrafluoroethane will be used as leak check compounds, if a detection limit (DL) of 10 µg/L or less can be achieved.

#### **E.5.c Leak Test Protocol**

The leak check compound (tetrafluoroethane) will be enclosed within a tent-type structure at each potential leak point to keep the potential leak areas at saturated concentrations throughout the test.

#### **E.5.d Leak Test Analytical**

The chemical analysis of the soil-gas sample will include an analysis for the leak check compound. If a leak check compound is detected in the sample, the cause of the leak will be evaluated, determined and corrected through confirmation sampling. If the leak check compound is suspected or detected as a site-specific contaminant, a new leak check compound will be used.

### **E.6 Purge/Sample Flow Rate**

The sampling and purging flow rate of 100 ml/min to 200 ml/min was selected to minimize compound partitioning during soil-gas sampling. Samples will not be collected if field conditions, such as rainfall, irrigation, fine grained sediments, or drilling conditions affect the ability to collect soil-gas samples. If no-flow or low-flow conditions are caused by wet soils, the soil gas sampling will cease. In addition, the soil-gas sampling will not be conducted during or immediately after a significant rain event (e.g., 1/2 inch or greater), or onsite watering.

If low flow conditions are determined to be from a specific lithology, a new SGA well will be installed at a new lateral location selected after evaluation of the site lithologic logs and/or in consultation with the CRWQCB. If moisture or unknown material is observed, installation of the VP well will cease until the cause of the problem is identified and corrected. If refusal occurs during drilling, an alternate, nearby VP well location will be selected.

#### **E.6.a No-Flow/Low-Flow Rates**

The purging or sampling flow rate of 100 ml/min to 200 ml/min is expected to be

attainable in the lithology adjacent to the VP well. To evaluate lithologic conditions adjacent to the VP well where no-flow or low-flow conditions are encountered, a vacuum gauge or similar device will be used between the soil-gas sample tubing and the soil-gas extraction devices. A gas tight syringe may also be used to qualitatively determine if a high vacuum soil condition exists, which is based on whether suction is felt while the plunger is being withdrawn.

#### **E.6.b Purging/Sampling Rates**

E<sub>2</sub>C will conduct purging/sampling at rates between 100 to 200 ml/min to limit stripping, prevent ambient air from diluting the soil-gas samples, and to reduce the variability of purging rates. The low flow purge rate increases the likelihood that representative samples may be collected. The purge/sample rate may be modified based on conditions encountered in individual VP wells. Modified rates will be documented in the report of findings.

#### **E.7 Soil Gas Sampling Protocol**

After the VP well is adequately purged, a soil-gas sample will be collected. A Summa canister equipped with a flow restrictor will be used at each location. A flow regulator will be placed between the probe and the Summa canister to ensure the canister is filled at the proper flow rate. Summa canisters will be stored in such a way as to avoid exposure to sunlight, and the samples will be analyzed within the prescribed hold time.

##### **E.7.a Sample Container Cleanliness and Decontamination**

Prior to its use at a site, each sample container will be assured clean by the analytical laboratory. New containers will be determined to be free of contaminants (e.g., lubricants) by either the supplier or the analytical laboratory; and the effectiveness of decontamination (and to detect any possible interference from ambient air) of reused/recycled containers will be verified with method blanks. After each use, reusable sample containers will be properly decontaminated. Glass syringes or bulbs will be disassembled and baked at 240° C for a minimum of 15 minutes or at 120° C for a minimum of 30 minutes, or be decontaminated by an equivalent method. Plastic syringes, if used, will be used only once and then properly discarded.

E<sub>2</sub>C personnel will connect new Teflon® tubing to the top of the existing VP well tubing, and will utilize a 60 cubic centimeter (cc) syringe and a 3-way valve to purge the previously determined purge volume. The purge volume will be calculated based on one (1) cc/ft for 1/8" outside diameter (OD) tubing and five (5) cc/ft for 1/4" OD tubing.

The leak compound will be placed in tent-type structures at the connections on the sampling train, using a paper towel moistened with the leak compound wrapped with plastic sheeting taped tightly at each end to seal the structure. The sampling procedure will then commence as detailed above.

##### **E.7.b Documentation of VP Well Sampling Protocol**

E<sub>2</sub>C personnel will document the VP well sampling, and will include the sample identification, the probe location, date and time of sample collection, sampling depth, identity of on-Site personnel, weather conditions, sampling methods and devices, soil-gas purge volumes, volume of soil gas extracted, vacuum of canisters before and after samples are collected, chain of custody protocols.

**E.7.c Chain of Custody Records**

A chain of custody form will be completed to maintain the custodial integrity of samples. Probe installation times and sample collection times will be included on the chain of custody form, and in the report of findings.

**E.8 Analysis of Soil-Gas Samples****E.8.a Quality Assurance/Quality Control (QA/QC)**

The soil-gas analytical laboratory will comply with the project Quality Assurance Project Plan (QAPP) and will follow the QA/QC requirements of the most current ASGI and the employed EPA Method. If there is any inconsistency between the ASGI and the EPA Method, the most restrictive and specific requirements will prevail. The analytical data will be consistent with the Data Quality Objectives (DQOs) established for the project. Field QC samples will be collected, stored, transported and analyzed in a manner consistent with site samples.

QA/QC samples will be collected to support the sampling activity. Method blanks will be used to verify the effectiveness of decontamination procedures, as specified above, and to detect any possible interference from ambient air. For off-site shipments, a minimum of one (1) trip blank per day will be collected and analyzed for the target compounds. Trip blanks will contain laboratory grade ultra pure air. The trip blanks will be prepared to evaluate if the shipping and handling procedures are introducing contaminants into the samples, and to determine if cross contamination in the form of VOC migration has occurred between the collected VOC samples. Trip blank containers and media will be the same as site samples. At least one (1) duplicate sample per laboratory per day will be collected. Duplicate samples will be collected from areas of concern in separate sample containers, at the same location and depth. Duplicate samples will be collected immediately after the original sample. Laboratory control samples (LCS) and dilution procedure duplicates (DPD) will be handled and analyzed in accordance with the most recent ASGI. E<sub>2</sub>C will be prepared to collect split samples (for analysis by another laboratory) with the CRWQCB, if requested.

**E.8.b Laboratory Certification and Analysis**

E<sub>2</sub>C will have the samples analyzed by EPA Method 8260b at a certified analytical laboratory.



**E.8.c Detection Limits for Target Compounds**

Analytical equipment calibration will be in accordance with the most current ASGI. Detection limits will be such that the Environmental Screening Levels (Soil Gas Screening Levels) (CCRWQCB, 2008) for evaluation of potential vapor intrusion into indoor air allow will be met, as follows:

CHEMICAL	Vapor Screening ESL's		
	Micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )	Parts per billion – volume (ppbV)	Micrograms per liter ( $\mu\text{g}/\text{L}$ )
PCE	1.4E+03	206.54	1.400
TCE	4.1E+03	0.74481	0.0040
Cis-1,2-DCE	1.2E+05	3.0285+04	120.00
VC	1.0E+02	39.144	0.1000

The DL for leak check compounds will be 10  $\mu\text{g}/\text{L}$  or less. For results with a high DL reported (e.g., due to matrix interference or dilution), the laboratory will provide a written explanation. Re-sampling and analyses will be conducted at the appropriate DL for a specific compound if requested by CRWQCB staff.

**E.8.d Sample Handling**

Exposure to light and changes in temperature and pressure will accelerate sample degradation. To protect sample integrity soil-gas samples will not be chilled, will not be subjected to changes in ambient pressure, and shipping of sample containers by air will be avoided, if possible. If condensation is observed in the sample container, the sample will be discarded and a new sample will be collected.

**E.8.e Holding Time**

All soil gas samples will be collected in Summa canisters and will be analyzed at ProVera Analytical Laboratories, Inc. (State Certification #2606) in Bakersfield, California within 48 hours after collection.

**E.8.f Analytical Methods**

All VOC samples will be analyzed using only a Gas Chromatograph/Mass Spectrometer (GC/MS) by EPA Method 8260b, or equivalent.

**E.8.g Target Compounds**

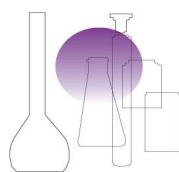
The ASGI (dated February 25, 1997) includes twenty-three (23) primary and four (4) other target VOCs. All quantifiable results will be reported. The estimated results of all Tentatively Identified Compounds (TICs), or non-ASGI-targeted compounds detected, will be included in the status reports. If TICs, or non-ASGI targeted compounds are identified, E<sub>2</sub>C will consult with the CRWQCB to determine whether additional action is required (e.g., running additional standards to quantify TICs, or non-ASGI compounds) and whether the use of these estimated data for risk evaluation is appropriate. All quantifiable results of Leak Check Compounds will be reported as specified in above.

## **APPENDIX F**

### Laboratory VP Well Vapor Analytical Report

# ProVera

Analytical Laboratories, Inc.



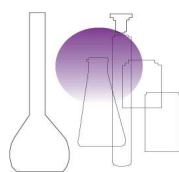
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-01      Sample ID: **VP-1**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	ND	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Diclroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Tricloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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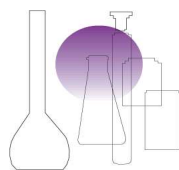
LAB ID: 14063002-01      Sample ID: **VP-1**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	0.61	0.010	ppmV	7/8/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	0.012	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz

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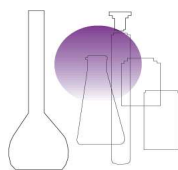
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-02      Sample ID: **VP-2**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	ND	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	0.25	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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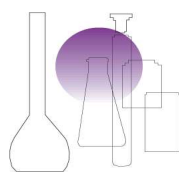
LAB ID: 14063002-02      Sample ID: **VP-2**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	0.24	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	85	0.80	ppmV	7/9/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	0.011	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz

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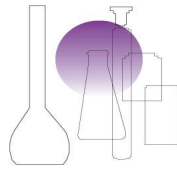
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-03      Sample ID: **VP-3**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	ND	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Diclroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Tricloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-03      Sample ID: **VP-3**      Date Sampled: 6/26/2014

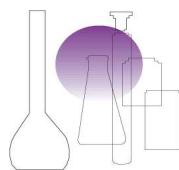
Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	0.33	0.010	ppmV	7/8/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	ND	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz



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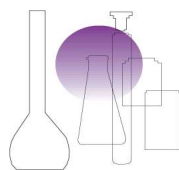
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-04      Sample ID: **VP-4**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	0.012	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Diclroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Tricloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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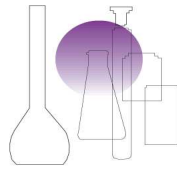
LAB ID: 14063002-04      Sample ID: **VP-4**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	0.34	0.010	ppmV	7/8/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	ND	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz

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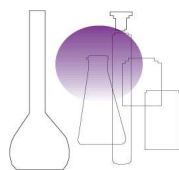
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-05      Sample ID: **VP-5**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	ND	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	0.27	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

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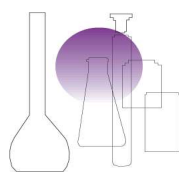
LAB ID: 14063002-05      Sample ID: **VP-5**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	0.052	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	0.54	0.010	ppmV	7/8/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	ND	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz

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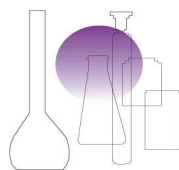
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-06      Sample ID: **VP-7**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	ND	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

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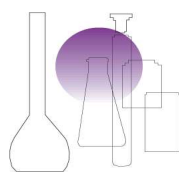
LAB ID: 14063002-06      Sample ID: **VP-7**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	ND	0.010	ppmV	7/8/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	ND	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz

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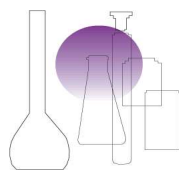
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-07      Sample ID: **VP-8**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	ND	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Diclroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Tricloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

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E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-07      Sample ID: **VP-8**      Date Sampled: 6/26/2014

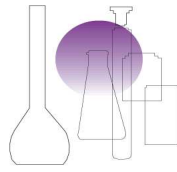
Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	0.10	0.010	ppmV	7/8/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	ND	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz



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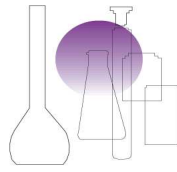
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-08      Sample ID: **VP-9**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	ND	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

# ProVera

Analytical Laboratories, Inc.



E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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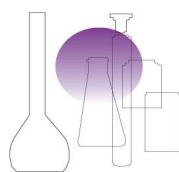
LAB ID: 14063002-08      Sample ID: **VP-9**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	1.3	0.010	ppmV	7/8/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	0.010	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz

# ProVera

Analytical Laboratories, Inc.



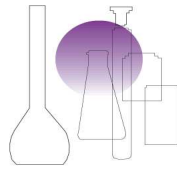
E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-09      Sample ID: **VP-10**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	7/8/2014	TO-15
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	7/8/2014	TO-15
Chloromethane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl Chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,3 Butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Bromomethane	ND	0.010	ppmV	7/8/2014	TO-15
Chloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	7/8/2014	TO-15
Isopropyl alcohol	ND	0.010	ppmV	7/8/2014	TO-15
Freon 113	ND	0.010	ppmV	7/8/2014	TO-15
1,1 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Acetone	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Disulfide	ND	0.010	ppmV	7/8/2014	TO-15
Methylene Chloride	ND	0.010	ppmV	7/8/2014	TO-15
MTBE	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
n-Hexane	ND	0.010	ppmV	7/8/2014	TO-15
Vinyl acetate	ND	0.010	ppmV	7/8/2014	TO-15
1,1-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Methyl Ethyl Ketone	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,2 Dichloroethene	ND	0.010	ppmV	7/8/2014	TO-15
Tetrahydrofuran	ND	0.010	ppmV	7/8/2014	TO-15
Chloroform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,1-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
Cyclohexane	ND	0.010	ppmV	7/8/2014	TO-15
Carbon Tetrachloride	ND	0.010	ppmV	7/8/2014	TO-15
Ethyl Acetate	ND	0.010	ppmV	7/8/2014	TO-15
Benzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloroethane	ND	0.010	ppmV	7/8/2014	TO-15

# ProVera

Analytical Laboratories, Inc.



E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly System Samples PHIL GOALWIN	Report Date: Analysis Type:	7/11/2014 <b>EPA Method TO-15</b>
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LAB ID: 14063002-09      Sample ID: **VP-10**      Date Sampled: 6/26/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	7/8/2014	TO-15
Trichloroethylene	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichloropropane	ND	0.010	ppmV	7/8/2014	TO-15
1,4 Dioxane	ND	0.010	ppmV	7/8/2014	TO-15
Bromodichloromethane	ND	0.010	ppmV	7/8/2014	TO-15
cis-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	7/8/2014	TO-15
Toluene	ND	0.010	ppmV	7/8/2014	TO-15
trans-1,3 Dichloropropene	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2-Trichloroethane	ND	0.010	ppmV	7/8/2014	TO-15
MBK	ND	0.010	ppmV	7/8/2014	TO-15
Tetrachloroethylene	0.21	0.010	ppmV	7/8/2014	TO-15
Dibromochloromethane	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	7/8/2014	TO-15
Chlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Ethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
m,p-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
o-Xylene	ND	0.010	ppmV	7/8/2014	TO-15
Styrene	ND	0.010	ppmV	7/8/2014	TO-15
Bromoform	ND	0.010	ppmV	7/8/2014	TO-15
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	7/8/2014	TO-15
4-Ethyltoluene	ND	0.010	ppmV	7/8/2014	TO-15
1,3,5-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trimethylbenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,3-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,4-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Benzyl chloride	ND	0.010	ppmV	7/8/2014	TO-15
1,2-Dichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
1,2,4-Trichlorobenzene	ND	0.010	ppmV	7/8/2014	TO-15
Hexachloro-1,3-butadiene	ND	0.010	ppmV	7/8/2014	TO-15
Naphthalene	ND	0.010	ppmV	7/8/2014	TO-15

Senior Analytical Chemist: Roy Diaz



E2C Remediation	Project:	<b>Lake Tahoe-Laundry Works</b>	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Soil Vapor Samples	Analysis	<b>EPA Method TO-15</b>
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN	Type:	

**LABORATORY CONTROL STANDARD**

Analyte	Result	Units	Spike level	Method	Analysis Date	Percent Recovery
1,1 Dichloroethene	12.7	ppbV	12.5	TO-15	7/8/2014	101%
Benzene	12.2	ppbV	12.5	TO-15	7/8/2014	97%
Trichloroethylene	12.4	ppbV	12.5	TO-15	7/8/2014	99%
Toluene	12.3	ppbV	12.5	TO-15	7/8/2014	99%
Chlorobenzene	12.2	ppbV	12.5	TO-15	7/8/2014	98%

Senior Analytical Chemist: Roy Diaz

# PROVERA ANALYTICAL LABORATORIES

# Chain of Custody Form

Client Name: E2C Remediation		Analysis Requested		Sample Matrix							
Project Name: 1024 LAUREL CREEK BLVD.		1,1-Difluoroethane		<input checked="" type="checkbox"/> Air							
Client Address: 1020 Winding Creek Road Ste. 110 Roseville CA		Naphthalene		<input type="checkbox"/>							
Project Manager: Phil Goalwin		EDB		<input type="checkbox"/>							
Sampler Name: G. BANDINI / J. IRWIN		8010 VOLATILE LIST (EPA TO-15)		Comments							
Sample Date	Sample Time	Sample Description and Container Type	BTEX (EPA TO-15)	TPH Gasoline (TO-3)	MTBE (EPA TO-15)	METHANE (EPA TO-3)	FULL VOC (EPA TO-15)	8010 VOLATILE LIST (EPA TO-15)	EDB	Naphthalene	1,1-Difluoroethane
6/26/14	3:00	VP-1 1-Samo					X				
	3:12	VP-2									
	3:24	VP-3									
	3:45	VP-4									
	3:58	VP-5									
	NOT SAMPLED	VP-6									
	4:32	VP-7									
	4:48	VP-8									
	5:06	VP-9									
	5:20	VP-10					X				

Sampling Event: 2nd Gr Sub Samples EDF Type: Other

Turnaround Time Requested: 24 Hour 48 Hour 5-Day Standard X

Relinquished By: [Signature] Date: 6/26/14

Received By: [Signature] Date: 6-30-14

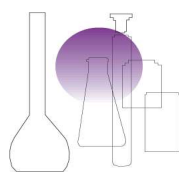
-01  
-02  
-03  
-04  
-05  
-06  
-07  
-08  
-09

## **APPENDIX G**

### SVE/GASS Influent and Effluent Vapor Analytical Laboratory Reports

# ProVera

Analytical Laboratories, Inc.



E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly O&M PHIL GOALWIN	Report Date: Analysis Type:	8/18/2014 <b>EPA Method TO-15</b>
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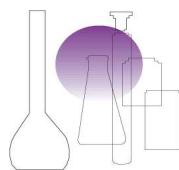
LAB ID: 14080502-01      Sample ID: **Effluent**      Date Sampled: 8/4/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	8/13/2014	
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	8/13/2014	
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	8/13/2014	
Chloromethane	ND	0.010	ppmV	8/13/2014	
Vinyl Chloride	ND	0.010	ppmV	8/13/2014	
1,3 Butadiene	ND	0.010	ppmV	8/13/2014	
Bromomethane	ND	0.010	ppmV	8/13/2014	
Chloroethane	ND	0.010	ppmV	8/13/2014	
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	8/13/2014	
Isopropyl alcohol	ND	0.010	ppmV	8/13/2014	
Freon 113	ND	0.010	ppmV	8/13/2014	
1,1 Dichloroethene	ND	0.010	ppmV	8/13/2014	
Acetone	ND	0.010	ppmV	8/13/2014	
Carbon Disulfide	ND	0.010	ppmV	8/13/2014	
Methylene Chloride	ND	0.010	ppmV	8/13/2014	
MTBE	ND	0.010	ppmV	8/13/2014	
trans-1,2 Dichloroethene	ND	0.010	ppmV	8/13/2014	
n-Hexane	ND	0.010	ppmV	8/13/2014	
Vinyl acetate	ND	0.010	ppmV	8/13/2014	
1,1-Dichloroethane	ND	0.010	ppmV	8/13/2014	
Methyl Ethyl Ketone	ND	0.010	ppmV	8/13/2014	
cis-1,2 Dichloroethene	0.028	0.010	ppmV	8/13/2014	
Tetrahydrofuran	0.017	0.010	ppmV	8/13/2014	
Chloroform	ND	0.010	ppmV	8/13/2014	
1,1,1-Trichloroethane	ND	0.010	ppmV	8/13/2014	
Cyclohexane	ND	0.010	ppmV	8/13/2014	
Carbon Tetrachloride	ND	0.010	ppmV	8/13/2014	
Ethyl Acetate	ND	0.010	ppmV	8/13/2014	
Benzene	ND	0.010	ppmV	8/13/2014	
1,2-Dichloroethane	ND	0.010	ppmV	8/13/2014	



# ProVera

Analytical Laboratories, Inc.

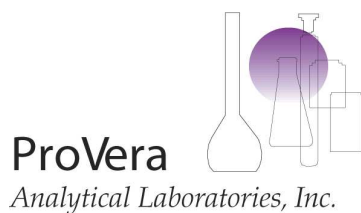


E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly O&M PHIL GOALWIN	Report Date: Analysis Type:	8/18/2014 <b>EPA Method TO-15</b>
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LAB ID: 14080502-01      Sample ID: **Effluent**      Date Sampled: 8/4/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	8/13/2014	
Trichloroethylene	0.095	0.010	ppmV	8/13/2014	
1,2-Dichloropropane	ND	0.010	ppmV	8/13/2014	
1,4 Dioxane	ND	0.010	ppmV	8/13/2014	
Bromodichloromethane	ND	0.010	ppmV	8/13/2014	
cis-1,3 Dichloropropene	ND	0.010	ppmV	8/13/2014	
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	8/13/2014	
Toluene	ND	0.010	ppmV	8/13/2014	
trans-1,3 Dichloropropene	ND	0.010	ppmV	8/13/2014	
1,1,2-Trichloroethane	ND	0.010	ppmV	8/13/2014	
MBK	ND	0.010	ppmV	8/13/2014	
Tetrachloroethylene	3.5	0.010	ppmV	8/13/2014	
Dibromochloromethane	ND	0.010	ppmV	8/13/2014	
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	8/13/2014	
Chlorobenzene	ND	0.010	ppmV	8/13/2014	
Ethylbenzene	ND	0.010	ppmV	8/13/2014	
m,p-Xylene	ND	0.010	ppmV	8/13/2014	
o-Xylene	ND	0.010	ppmV	8/13/2014	
Styrene	ND	0.010	ppmV	8/13/2014	
Bromoform	ND	0.010	ppmV	8/13/2014	
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	8/13/2014	
4-Ethyltoluene	ND	0.010	ppmV	8/13/2014	
1,3,5-Trimethylbenzene	ND	0.010	ppmV	8/13/2014	
1,2,4-Trimethylbenzene	ND	0.010	ppmV	8/13/2014	
1,3-Dichlorobenzene	ND	0.010	ppmV	8/13/2014	
1,4-Dichlorobenzene	ND	0.010	ppmV	8/13/2014	
Benzyl chloride	ND	0.010	ppmV	8/13/2014	
1,2-Dichlorobenzene	ND	0.010	ppmV	8/13/2014	
1,2,4-Trichlorobenzene	ND	0.010	ppmV	8/13/2014	
Hexachloro-1,3-butadiene	ND	0.010	ppmV	8/13/2014	
Naphthalene	ND	0.010	ppmV	8/13/2014	

Senior Analytical Chemist: Roy Diaz



E2C Remediation 5300 Woodmere Dr. Suite 105 Bakersfield CA 93313	Project: Project Mgr.	Lake Tahoe-Laundry Works Monthly O&M PHIL GOALWIN	Report Date: Analysis Type:	8/18/2014 <b>EPA Method TO-15</b>
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**LABORATORY CONTROL STANDARD**

Analyte	Result	Units	Spike level	Method	Analysis Date	Percent Recovery
1,1 Dichloroethene	13.5	ppbV	12.5	TO-15	8/13/2014	108%
Benzene	13.5	ppbV	12.5	TO-15	8/13/2014	108%
Trichloroethylene	13.3	ppbV	12.5	TO-15	8/13/2014	106%
Toluene	13.1	ppbV	12.5	TO-15	8/13/2014	105%
Chlorobenzene	13.1	ppbV	12.5	TO-15	8/13/2014	105%

Senior Analytical Chemist: Roy Diaz