E2C Remediation 1020 Winding Creek Rd., Suite 110 Roseville, CA 95678	Project: Project Mgr.	Lake Tahoe-Laundry Works VP Well Vapor Samples PHIL GOALWIN	Report Date: 10/7/2015 Analysis Type: **EPA Method TO-15**

LAB ID: 15091402-04 Sample ID: **VP-4** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	10	ppbV	10/2/2015	TO-15
Dichlorodifluoromethane (Freon 12)	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	10	ppbV	10/2/2015	TO-15
Chloromethane	ND	10	ppbV	10/2/2015	TO-15
Vinyl Cloride	ND	10	ppbV	10/2/2015	TO-15
1,3 Butadiene	ND	10	ppbV	10/2/2015	TO-15
Bromomethane	ND	10	ppbV	10/2/2015	TO-15
Chloroethane	ND	10	ppbV	10/2/2015	TO-15
Trichlorofluoromethane (F 11)	ND	10	ppbV	10/2/2015	TO-15
Isopropyl alcohol	ND	10	ppbV	10/2/2015	TO-15
Freon 113	ND	10	ppbV	10/2/2015	TO-15
1,1 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Acetone	ND	10	ppbV	10/2/2015	TO-15
Carbon Disulfide	ND	10	ppbV	10/2/2015	TO-15
Methylene Chloride	ND	10	ppbV	10/2/2015	TO-15
MTBE	ND	10	ppbV	10/2/2015	TO-15
trans-1,2 Dicloroethene	ND	10	ppbV	10/2/2015	TO-15
n-Hexane	ND	10	ppbV	10/2/2015	TO-15
Vinyl acetate	ND	10	ppbV	10/2/2015	TO-15
1,1-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15
Methyl Ethyl Ketone	ND	10	ppbV	10/2/2015	TO-15
cis-1,2 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Tetrahydrofuran	ND	10	ppbV	10/2/2015	TO-15
Chloroform	ND	10	ppbV	10/2/2015	TO-15
1,1,1-Tricloroethane	ND	10	ppbV	10/2/2015	TO-15
Cyclohexane	ND	10	ppbV	10/2/2015	TO-15
Carbon Tetrachloride	ND	10	ppbV	10/2/2015	TO-15
Ethyl Acetate	ND	10	ppbV	10/2/2015	TO-15
Benzene	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-04 Sample ID: **VP-4** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	10	ppbV	10/2/2015	TO-15
Trichloroethylene	0.78	0.10	ppbV	10/6/2015	TO-15
1,2-Dichloropropane	ND	10	ppbV	10/2/2015	TO-15
1,4 Dioxane	ND	10	ppbV	10/2/2015	TO-15
Bromodichloromethane	ND	10	ppbV	10/2/2015	TO-15
cis-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	10	ppbV	10/2/2015	TO-15
Toluene	ND	10	ppbV	10/2/2015	TO-15
trans-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
1,1,2-Trichloroethane	ND	10	ppbV	10/2/2015	TO-15
MBK	ND	10	ppbV	10/2/2015	TO-15
Tetrachloroethylene	33	0.10	ppbV	10/6/2015	TO-15
Dibromochloromethane	ND	10	ppbV	10/2/2015	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	10	ppbV	10/2/2015	TO-15
Chlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Ethylbenzene	ND	10	ppbV	10/2/2015	TO-15
m,p-Xylene	ND	10	ppbV	10/2/2015	TO-15
o-Xylene	ND	10	ppbV	10/2/2015	TO-15
Styrene	ND	10	ppbV	10/2/2015	TO-15
Bromoform	ND	10	ppbV	10/2/2015	TO-15
1,1,2,2-Tetrachloroethane	ND	10	ppbV	10/2/2015	TO-15
4-Ethyltoluene	ND	10	ppbV	10/2/2015	TO-15
1,3,5-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,3-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,4-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Benzyl chloride	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Hexachloro-1,3-butadiene	ND	10	ppbV	10/2/2015	TO-15
Naphthalene	ND	30	ppbV	10/2/2015	TO-15

Doug Selby

Senior Analytical Chemist: Doug Selby

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-05 Sample ID: **VP-5** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	10	ppbV	10/2/2015	TO-15
Dichlorodifluoromethane (Freon 12)	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	10	ppbV	10/2/2015	TO-15
Chloromethane	ND	10	ppbV	10/2/2015	TO-15
Vinyl Cloride	ND	10	ppbV	10/2/2015	TO-15
1,3 Butadiene	ND	10	ppbV	10/2/2015	TO-15
Bromomethane	ND	10	ppbV	10/2/2015	TO-15
Chloroethane	ND	10	ppbV	10/2/2015	TO-15
Trichlorofluoromethane (F 11)	ND	10	ppbV	10/2/2015	TO-15
Isopropyl alcohol	ND	10	ppbV	10/2/2015	TO-15
Freon 113	ND	10	ppbV	10/2/2015	TO-15
1,1 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Acetone	ND	10	ppbV	10/2/2015	TO-15
Carbon Disulfide	ND	10	ppbV	10/2/2015	TO-15
Methylene Chloride	ND	10	ppbV	10/2/2015	TO-15
MTBE	ND	10	ppbV	10/2/2015	TO-15
trans-1,2 Dicloroethene	22	10	ppbV	10/2/2015	TO-15
n-Hexane	ND	10	ppbV	10/2/2015	TO-15
Vinyl acetate	ND	10	ppbV	10/2/2015	TO-15
1,1-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15
Methyl Ethyl Ketone	ND	10	ppbV	10/2/2015	TO-15
cis-1,2 Dichloroethene	120	10	ppbV	10/2/2015	TO-15
Tetrahydrofuran	ND	10	ppbV	10/2/2015	TO-15
Chloroform	ND	10	ppbV	10/2/2015	TO-15
1,1,1-Tricloroethane	ND	10	ppbV	10/2/2015	TO-15
Cyclohexane	ND	10	ppbV	10/2/2015	TO-15
Carbon Tetrachloride	ND	10	ppbV	10/2/2015	TO-15
Ethyl Acetate	ND	10	ppbV	10/2/2015	TO-15
Benzene	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-05 Sample ID: **VP-5** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	10	ppbV	10/2/2015	TO-15
Trichloroethylene	19	10	ppbV	10/2/2015	TO-15
1,2-Dichloropropane	ND	10	ppbV	10/2/2015	TO-15
1,4 Dioxane	ND	10	ppbV	10/2/2015	TO-15
Bromodichloromethane	ND	10	ppbV	10/2/2015	TO-15
cis-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	10	ppbV	10/2/2015	TO-15
Toluene	ND	10	ppbV	10/2/2015	TO-15
trans-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
1,1,2-Trichloroethane	ND	10	ppbV	10/2/2015	TO-15
MBK	ND	10	ppbV	10/2/2015	TO-15
Tetrachloroethylene	150	10	ppbV	10/2/2015	TO-15
Dibromochloromethane	ND	10	ppbV	10/2/2015	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	10	ppbV	10/2/2015	TO-15
Chlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Ethylbenzene	ND	10	ppbV	10/2/2015	TO-15
m,p-Xylene	ND	10	ppbV	10/2/2015	TO-15
o-Xylene	ND	10	ppbV	10/2/2015	TO-15
Styrene	ND	10	ppbV	10/2/2015	TO-15
Bromoform	ND	10	ppbV	10/2/2015	TO-15
1,1,2,2-Tetrachloroethane	ND	10	ppbV	10/2/2015	TO-15
4-Ethyltoluene	ND	10	ppbV	10/2/2015	TO-15
1,3,5-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,3-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,4-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Benzyl chloride	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Hexachloro-1,3-butadiene	ND	10	ppbV	10/2/2015	TO-15
Naphthalene	ND	30	ppbV	10/2/2015	TO-15

Doug Selby

Senior Analytical Chemist: Doug Selby

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-06 Sample ID: **VP-6** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	10	ppbV	10/2/2015	TO-15
Dichlorodifluoromethane (Freon 12)	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	10	ppbV	10/2/2015	TO-15
Chloromethane	ND	10	ppbV	10/2/2015	TO-15
Vinyl Cloride	ND	10	ppbV	10/2/2015	TO-15
1,3 Butadiene	ND	10	ppbV	10/2/2015	TO-15
Bromomethane	ND	10	ppbV	10/2/2015	TO-15
Chloroethane	ND	10	ppbV	10/2/2015	TO-15
Trichlorofluoromethane (F 11)	ND	10	ppbV	10/2/2015	TO-15
Isopropyl alcohol	ND	10	ppbV	10/2/2015	TO-15
Freon 113	ND	10	ppbV	10/2/2015	TO-15
1,1 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Acetone	ND	10	ppbV	10/2/2015	TO-15
Carbon Disulfide	ND	10	ppbV	10/2/2015	TO-15
Methylene Chloride	ND	10	ppbV	10/2/2015	TO-15
MTBE	ND	10	ppbV	10/2/2015	TO-15
trans-1,2 Dicloroethene	ND	10	ppbV	10/2/2015	TO-15
n-Hexane	ND	10	ppbV	10/2/2015	TO-15
Vinyl acetate	ND	10	ppbV	10/2/2015	TO-15
1,1-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15
Methyl Ethyl Ketone	ND	10	ppbV	10/2/2015	TO-15
cis-1,2 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Tetrahydrofuran	ND	10	ppbV	10/2/2015	TO-15
Chloroform	ND	10	ppbV	10/2/2015	TO-15
1,1,1-Tricloroethane	ND	10	ppbV	10/2/2015	TO-15
Cyclohexane	ND	10	ppbV	10/2/2015	TO-15
Carbon Tetrachloride	ND	10	ppbV	10/2/2015	TO-15
Ethyl Acetate	ND	10	ppbV	10/2/2015	TO-15
Benzene	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-06 Sample ID: **VP-6** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	10	ppbV	10/2/2015	TO-15
Trichloroethylene	2.1	0.10	ppbV	10/6/2015	TO-15
1,2-Dichloropropane	ND	10	ppbV	10/2/2015	TO-15
1,4 Dioxane	ND	10	ppbV	10/2/2015	TO-15
Bromodichloromethane	ND	10	ppbV	10/2/2015	TO-15
cis-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	10	ppbV	10/2/2015	TO-15
Toluene	ND	10	ppbV	10/2/2015	TO-15
trans-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
1,1,2-Trichloroethane	ND	10	ppbV	10/2/2015	TO-15
MBK	ND	10	ppbV	10/2/2015	TO-15
Tetrachloroethylene	460	10	ppbV	10/2/2015	TO-15
Dibromochloromethane	ND	10	ppbV	10/2/2015	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	10	ppbV	10/2/2015	TO-15
Chlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Ethylbenzene	ND	10	ppbV	10/2/2015	TO-15
m,p-Xylene	ND	10	ppbV	10/2/2015	TO-15
o-Xylene	ND	10	ppbV	10/2/2015	TO-15
Styrene	ND	10	ppbV	10/2/2015	TO-15
Bromoform	ND	10	ppbV	10/2/2015	TO-15
1,1,2,2-Tetrachloroethane	ND	10	ppbV	10/2/2015	TO-15
4-Ethyltoluene	ND	10	ppbV	10/2/2015	TO-15
1,3,5-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,3-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,4-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Benzyl chloride	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Hexachloro-1,3-butadiene	ND	10	ppbV	10/2/2015	TO-15
Naphthalene	ND	30	ppbV	10/2/2015	TO-15

Doug Selby

Senior Analytical Chemist: Doug Selby

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-07 Sample ID: **VP-7** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	10	ppbV	10/2/2015	TO-15
Dichlorodifluoromethane (Freon 12)	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	10	ppbV	10/2/2015	TO-15
Chloromethane	ND	10	ppbV	10/2/2015	TO-15
Vinyl Cloride	ND	10	ppbV	10/2/2015	TO-15
1,3 Butadiene	ND	10	ppbV	10/2/2015	TO-15
Bromomethane	ND	10	ppbV	10/2/2015	TO-15
Chloroethane	ND	10	ppbV	10/2/2015	TO-15
Trichlorofluoromethane (F 11)	ND	10	ppbV	10/2/2015	TO-15
Isopropyl alcohol	ND	10	ppbV	10/2/2015	TO-15
Freon 113	ND	10	ppbV	10/2/2015	TO-15
1,1 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Acetone	ND	10	ppbV	10/2/2015	TO-15
Carbon Disulfide	ND	10	ppbV	10/2/2015	TO-15
Methylene Chloride	ND	10	ppbV	10/2/2015	TO-15
MTBE	ND	10	ppbV	10/2/2015	TO-15
trans-1,2 Dicloroethene	ND	10	ppbV	10/2/2015	TO-15
n-Hexane	ND	10	ppbV	10/2/2015	TO-15
Vinyl acetate	ND	10	ppbV	10/2/2015	TO-15
1,1-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15
Methyl Ethyl Ketone	ND	10	ppbV	10/2/2015	TO-15
cis-1,2 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Tetrahydrofuran	ND	10	ppbV	10/2/2015	TO-15
Chloroform	ND	10	ppbV	10/2/2015	TO-15
1,1,1-Tricloroethane	ND	10	ppbV	10/2/2015	TO-15
Cyclohexane	ND	10	ppbV	10/2/2015	TO-15
Carbon Tetrachloride	ND	10	ppbV	10/2/2015	TO-15
Ethyl Acetate	ND	10	ppbV	10/2/2015	TO-15
Benzene	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-07 Sample ID: **VP-7** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	10	ppbV	10/2/2015	TO-15
Trichloroethylene	ND	0.10	ppbV	10/6/2015	TO-15
1,2-Dichloropropane	ND	10	ppbV	10/2/2015	TO-15
1,4 Dioxane	ND	10	ppbV	10/2/2015	TO-15
Bromodichloromethane	ND	10	ppbV	10/2/2015	TO-15
cis-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	10	ppbV	10/2/2015	TO-15
Toluene	ND	10	ppbV	10/2/2015	TO-15
trans-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
1,1,2-Trichloroethane	ND	10	ppbV	10/2/2015	TO-15
MBK	ND	10	ppbV	10/2/2015	TO-15
Tetrachloroethylene	1.5	0.10	ppbV	10/6/2015	TO-15
Dibromochloromethane	ND	10	ppbV	10/2/2015	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	10	ppbV	10/2/2015	TO-15
Chlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Ethylbenzene	ND	10	ppbV	10/2/2015	TO-15
m,p-Xylene	ND	10	ppbV	10/2/2015	TO-15
o-Xylene	ND	10	ppbV	10/2/2015	TO-15
Styrene	ND	10	ppbV	10/2/2015	TO-15
Bromoform	ND	10	ppbV	10/2/2015	TO-15
1,1,2,2-Tetrachloroethane	ND	10	ppbV	10/2/2015	TO-15
4-Ethyltoluene	ND	10	ppbV	10/2/2015	TO-15
1,3,5-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,3-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,4-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Benzyl chloride	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Hexachloro-1,3-butadiene	ND	10	ppbV	10/2/2015	TO-15
Naphthalene	ND	30	ppbV	10/2/2015	TO-15

Doug Selby

Senior Analytical Chemist: Doug Selby

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-08 Sample ID: **VP-8** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	10	ppbV	10/2/2015	TO-15
Dichlorodifluoromethane (Freon 12)	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	10	ppbV	10/2/2015	TO-15
Chloromethane	ND	10	ppbV	10/2/2015	TO-15
Vinyl Cloride	ND	10	ppbV	10/2/2015	TO-15
1,3 Butadiene	ND	10	ppbV	10/2/2015	TO-15
Bromomethane	ND	10	ppbV	10/2/2015	TO-15
Chloroethane	ND	10	ppbV	10/2/2015	TO-15
Trichlorofluoromethane (F 11)	ND	10	ppbV	10/2/2015	TO-15
Isopropyl alcohol	ND	10	ppbV	10/2/2015	TO-15
Freon 113	ND	10	ppbV	10/2/2015	TO-15
1,1 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Acetone	11	10	ppbV	10/2/2015	TO-15
Carbon Disulfide	ND	10	ppbV	10/2/2015	TO-15
Methylene Chloride	ND	10	ppbV	10/2/2015	TO-15
MTBE	ND	10	ppbV	10/2/2015	TO-15
trans-1,2 Dicloroethene	ND	10	ppbV	10/2/2015	TO-15
n-Hexane	ND	10	ppbV	10/2/2015	TO-15
Vinyl acetate	ND	10	ppbV	10/2/2015	TO-15
1,1-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15
Methyl Ethyl Ketone	ND	10	ppbV	10/2/2015	TO-15
cis-1,2 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Tetrahydrofuran	ND	10	ppbV	10/2/2015	TO-15
Chloroform	ND	10	ppbV	10/2/2015	TO-15
1,1,1-Tricloroethane	ND	10	ppbV	10/2/2015	TO-15
Cyclohexane	ND	10	ppbV	10/2/2015	TO-15
Carbon Tetrachloride	ND	10	ppbV	10/2/2015	TO-15
Ethyl Acetate	ND	10	ppbV	10/2/2015	TO-15
Benzene	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-08 Sample ID: **VP-8** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	10	ppbV	10/2/2015	TO-15
Trichloroethylene	0.75	0.10	ppbV	10/6/2015	TO-15
1,2-Dichloropropane	ND	10	ppbV	10/2/2015	TO-15
1,4 Dioxane	ND	10	ppbV	10/2/2015	TO-15
Bromodichloromethane	ND	10	ppbV	10/2/2015	TO-15
cis-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	10	ppbV	10/2/2015	TO-15
Toluene	ND	10	ppbV	10/2/2015	TO-15
trans-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
1,1,2-Trichloroethane	ND	10	ppbV	10/2/2015	TO-15
MBK	ND	10	ppbV	10/2/2015	TO-15
Tetrachloroethylene	44	10	ppbV	10/2/2015	TO-15
Dibromochloromethane	ND	10	ppbV	10/2/2015	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	10	ppbV	10/2/2015	TO-15
Chlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Ethylbenzene	ND	10	ppbV	10/2/2015	TO-15
m,p-Xylene	ND	10	ppbV	10/2/2015	TO-15
o-Xylene	ND	10	ppbV	10/2/2015	TO-15
Styrene	ND	10	ppbV	10/2/2015	TO-15
Bromoform	ND	10	ppbV	10/2/2015	TO-15
1,1,2,2-Tetrachloroethane	ND	10	ppbV	10/2/2015	TO-15
4-Ethyltoluene	ND	10	ppbV	10/2/2015	TO-15
1,3,5-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,3-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,4-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Benzyl chloride	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Hexachloro-1,3-butadiene	ND	10	ppbV	10/2/2015	TO-15
Naphthalene	ND	30	ppbV	10/2/2015	TO-15

Doug Selby

Senior Analytical Chemist: Doug Selby

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-09 Sample ID: **VP-9** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	10	ppbV	10/2/2015	TO-15
Dichlorodifluoromethane (Freon 12)	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	10	ppbV	10/2/2015	TO-15
Chloromethane	ND	10	ppbV	10/2/2015	TO-15
Vinyl Cloride	ND	10	ppbV	10/2/2015	TO-15
1,3 Butadiene	ND	10	ppbV	10/2/2015	TO-15
Bromomethane	ND	10	ppbV	10/2/2015	TO-15
Chloroethane	ND	10	ppbV	10/2/2015	TO-15
Trichlorofluoromethane (F 11)	ND	10	ppbV	10/2/2015	TO-15
Isopropyl alcohol	ND	10	ppbV	10/2/2015	TO-15
Freon 113	ND	10	ppbV	10/2/2015	TO-15
1,1 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Acetone	ND	10	ppbV	10/2/2015	TO-15
Carbon Disulfide	ND	10	ppbV	10/2/2015	TO-15
Methylene Chloride	ND	10	ppbV	10/2/2015	TO-15
MTBE	ND	10	ppbV	10/2/2015	TO-15
trans-1,2 Dicloroethene	ND	10	ppbV	10/2/2015	TO-15
n-Hexane	ND	10	ppbV	10/2/2015	TO-15
Vinyl acetate	ND	10	ppbV	10/2/2015	TO-15
1,1-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15
Methyl Ethyl Ketone	ND	10	ppbV	10/2/2015	TO-15
cis-1,2 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Tetrahydrofuran	ND	10	ppbV	10/2/2015	TO-15
Chloroform	ND	10	ppbV	10/2/2015	TO-15
1,1,1-Tricloroethane	ND	10	ppbV	10/2/2015	TO-15
Cyclohexane	ND	10	ppbV	10/2/2015	TO-15
Carbon Tetrachloride	ND	10	ppbV	10/2/2015	TO-15
Ethyl Acetate	ND	10	ppbV	10/2/2015	TO-15
Benzene	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-09 Sample ID: **VP-9** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	10	ppbV	10/2/2015	TO-15
Trichloroethylene	0.37	0.10	ppbV	10/6/2015	TO-15
1,2-Dichloropropane	ND	10	ppbV	10/2/2015	TO-15
1,4 Dioxane	ND	10	ppbV	10/2/2015	TO-15
Bromodichloromethane	ND	10	ppbV	10/2/2015	TO-15
cis-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	10	ppbV	10/2/2015	TO-15
Toluene	ND	10	ppbV	10/2/2015	TO-15
trans-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
1,1,2-Trichloroethane	ND	10	ppbV	10/2/2015	TO-15
MBK	ND	10	ppbV	10/2/2015	TO-15
Tetrachloroethylene	450	10	ppbV	10/2/2015	TO-15
Dibromochloromethane	ND	10	ppbV	10/2/2015	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	10	ppbV	10/2/2015	TO-15
Chlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Ethylbenzene	ND	10	ppbV	10/2/2015	TO-15
m,p-Xylene	ND	10	ppbV	10/2/2015	TO-15
o-Xylene	ND	10	ppbV	10/2/2015	TO-15
Styrene	ND	10	ppbV	10/2/2015	TO-15
Bromoform	ND	10	ppbV	10/2/2015	TO-15
1,1,2,2-Tetrachloroethane	ND	10	ppbV	10/2/2015	TO-15
4-Ethyltoluene	ND	10	ppbV	10/2/2015	TO-15
1,3,5-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,3-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,4-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Benzyl chloride	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Hexachloro-1,3-butadiene	ND	10	ppbV	10/2/2015	TO-15
Naphthalene	ND	10	ppbV	10/2/2015	TO-15

Doug Selby

Senior Analytical Chemist: Doug Selby

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-10 Sample ID: **VP-10** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	10	ppbV	10/2/2015	TO-15
Dichlorodifluoromethane (Freon 12)	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorotetrafluoroethane(F-114)	ND	10	ppbV	10/2/2015	TO-15
Chloromethane	ND	10	ppbV	10/2/2015	TO-15
Vinyl Cloride	ND	10	ppbV	10/2/2015	TO-15
1,3 Butadiene	ND	10	ppbV	10/2/2015	TO-15
Bromomethane	ND	10	ppbV	10/2/2015	TO-15
Chloroethane	ND	10	ppbV	10/2/2015	TO-15
Trichlorofluoromethane (F 11)	ND	10	ppbV	10/2/2015	TO-15
Isopropyl alcohol	ND	10	ppbV	10/2/2015	TO-15
Freon 113	ND	10	ppbV	10/2/2015	TO-15
1,1 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Acetone	ND	10	ppbV	10/2/2015	TO-15
Carbon Disulfide	ND	10	ppbV	10/2/2015	TO-15
Methylene Chloride	ND	10	ppbV	10/2/2015	TO-15
MTBE	ND	10	ppbV	10/2/2015	TO-15
trans-1,2 Dicloroethene	ND	10	ppbV	10/2/2015	TO-15
n-Hexane	ND	10	ppbV	10/2/2015	TO-15
Vinyl acetate	ND	10	ppbV	10/2/2015	TO-15
1,1-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15
Methyl Ethyl Ketone	ND	10	ppbV	10/2/2015	TO-15
cis-1,2 Dichloroethene	ND	10	ppbV	10/2/2015	TO-15
Tetrahydrofuran	ND	10	ppbV	10/2/2015	TO-15
Chloroform	ND	10	ppbV	10/2/2015	TO-15
1,1,1-Tricloroethane	ND	10	ppbV	10/2/2015	TO-15
Cyclohexane	ND	10	ppbV	10/2/2015	TO-15
Carbon Tetrachloride	ND	10	ppbV	10/2/2015	TO-15
Ethyl Acetate	ND	10	ppbV	10/2/2015	TO-15
Benzene	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichloroethane	ND	10	ppbV	10/2/2015	TO-15

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LAB ID: 15091402-10 Sample ID: **VP-10** Date Sampled: 9/11/2015

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	10	ppbV	10/2/2015	TO-15
Trichloroethylene	ND	0.10	ppbV	10/6/2015	TO-15
1,2-Dichloropropane	ND	10	ppbV	10/2/2015	TO-15
1,4 Dioxane	ND	10	ppbV	10/2/2015	TO-15
Bromodichloromethane	ND	10	ppbV	10/2/2015	TO-15
cis-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
MIBK (Methyl Isobutyl Ketone)	ND	10	ppbV	10/2/2015	TO-15
Toluene	ND	10	ppbV	10/2/2015	TO-15
trans-1,3 Dichloropropene	ND	10	ppbV	10/2/2015	TO-15
1,1,2-Trichloroethane	ND	10	ppbV	10/2/2015	TO-15
MBK	ND	10	ppbV	10/2/2015	TO-15
Tetrachloroethylene	7.8	0.10	ppbV	10/6/2015	TO-15
Dibromochloromethane	ND	10	ppbV	10/2/2015	TO-15
1,2-Dibromoethane (1,2 EDB)	ND	10	ppbV	10/2/2015	TO-15
Chlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Ethylbenzene	ND	10	ppbV	10/2/2015	TO-15
m,p-Xylene	ND	10	ppbV	10/2/2015	TO-15
o-Xylene	ND	10	ppbV	10/2/2015	TO-15
Styrene	ND	10	ppbV	10/2/2015	TO-15
Bromoform	ND	10	ppbV	10/2/2015	TO-15
1,1,2,2-Tetrachloroethane	ND	10	ppbV	10/2/2015	TO-15
4-Ethyltoluene	ND	10	ppbV	10/2/2015	TO-15
1,3,5-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trimethylbenzene	ND	10	ppbV	10/2/2015	TO-15
1,3-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,4-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Benzyl chloride	ND	10	ppbV	10/2/2015	TO-15
1,2-Dichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
1,2,4-Trichlorobenzene	ND	10	ppbV	10/2/2015	TO-15
Hexachloro-1,3-butadiene	ND	10	ppbV	10/2/2015	TO-15
Naphthalene	ND	10	ppbV	10/2/2015	TO-15

Doug Selby

Senior Analytical Chemist: Doug Selby

E2C Remediation	Project:	**Lake Tahoe-Laundry Works**	Report Date:	10/7/2015
1020 Winding Creek Rd., Suite 110		VP Well Vapor Samples	Analysis Type:	**EPA Method TO-15**
Roseville, CA 95678	Project Mgr.	PHIL GOALWIN		

LABORATORY CONTROL STANDARD

Analyte	Result	Units	Spike level	Method	Analysis Date	Percent Recovery
1,1 Dichloroethene	24.5	ppbV	25.0	TO-15	10/1/2015	98%
Benzene	25.2	ppbV	25.0	TO-15	10/1/2015	101%
Trichloroethylene	24.8	ppbV	25.0	TO-15	10/1/2015	99%
Toluene	25.4	ppbV	25.0	TO-15	10/1/2015	102%
Chlorobenzene	24.7	ppbV	25.0	TO-15	10/1/2015	99%

Analyte	Result	Units	Spike level	Method	Analysis Date	Percent Recovery
1,1 Dichloroethene	21.6	ppbV	25.0	TO-15	10/2/2015	87%
Benzene	21.6	ppbV	25.0	TO-15	10/2/2015	86%
Trichloroethylene	21.7	ppbV	25.0	TO-15	10/2/2015	87%
Toluene	21.2	ppbV	25.0	TO-15	10/2/2015	85%
Chlorobenzene	21.1	ppbV	25.0	TO-15	10/2/2015	84%

Doug Selby

Senior Analytical Chemist: Doug Selby

EXHIBIT S

TABLE 1
SUMMARY OF FOURTH QUARTER 2015 GROUNDWATER MONITORING DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California
December 18, 2015

Well ID	TOC Elev.	Depth to GW	GW Elevation	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	BDCM	B	EB	MtBE
	(feet rel MSL)	(feet BTOC)	(feet MSL)	(µg/L)																	
LW-MW-1S	6,191.41	15.00	6,176.41	**35**	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
duplicate				**37**	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-2S	6,192.41	17.91	6,174.50	**1.1**	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	nd<0.50
LW-MW-5S	6,189.47	13.91	6,175.56	**34**	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-9S	6,192.98	Not Measured		**Not Sampled - Covered by Snow and Ice**																	
LW-MW-10SR	6,191.91	14.82	6,177.09	**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	nd<0.50
LW-MW-11S	6,191.67	15.69	6,175.98	**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	**2.3**	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-12S	6,190.71	Not Measured		**Not Sampled - Covered by Snow and Ice**																	
LW-MW-13S	6,190.82	Not Measured		**Not Sampled - Covered by Snow and Ice**																	
OS-1	6,188.12	15.30	6,172.82	**5.2**	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	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-Trichlorethane
1,1,1,2-Tetra = 1,1,1,2-Tetrachloroethane
B = Benzene
BDCM - Bromodichloromethane
BTOC = Below Top of Casing
CA = Chloroethane
CB = Chlorobenzene
CF = Chloroform
cis-1,2-DCE = cis-1,2-Dichloroethene
EB = Ethlybenzene
MC = Methylene Chloride
MtBE = Methyl tertiary-butyl ether
nd< = Not detected at or above the Method Detection Limit, which is indicated by the value
nm = Not monitored
PCE = Tetrachloroethene (a.k.a. perchloroethene)
TCE = Trichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
VC = Vinyl Chloride

LW-MW-14s is the duplicate of LW-MW-1S on Chain-of-Custody

EXHIBIT T

US Army Corps
of Engineers®

EM 200-1-19
31 December 2013

Environmental Quality

IN-SITU AIR SPARGING

ENGINEER MANUAL

(2) VOCs such as TCE, chloroform, cis- and trans-1,2-dichloroethene, and methylene chloride can be biologically co-oxidized during growth on a variety of substrates, including methane, propane, butane, and toluene (Norris 1994). Therefore, if the injected air can be conditioned with one or more of these of gases, chlorinated VOCs may be destroyed through both volatilization and biodegradation (Lombard et al. 1994).

5-3. Design Guidance—Subsurface. The mechanisms identified above provide a "general" basis for advancing the design. This chapter will provide more specific guidance for the subsurface design of IAS systems. There are many subsurface features that must be addressed during system design that are critical components of an effective IAS system. Systems should be designed to optimize volatilization and biodegradation processes and minimize adverse effects, such as uncontrolled migration of vapors or groundwater. Key features for design, along with typical ranges of values, are listed in Table 5-1. Each parameter has either been previously quantified or will be discussed in this chapter.

Table 5-1
Design Parameters for IAS Systems

Parameter	Typical Range[1]
Well diameter	2.5 to 10 cm (1 to 4 inches)
Well screen length	15 to 300 cm (0.5 to 10 ft)
Depth of top of well screen below water table	1.5 to 6 m (5 to 20 ft)
Air sparging flow rate	0.04 to 1.1 m^3/min (1.3 to 40 scfm)
Air sparging injection overpressure[2]	2 to 120 kPa (0.3 to 18 psig)
IAS ZOI	1.5 to 7.5 m (5 to 25 ft)

[1] Modified from Marley and Bruell (1995).
[2] Overpressure is injection pressure in excess of hydrostatic pressure, P_h.

a. Airflow Rates.

(1) The airflow rate should be as high as needed to achieve an adequate air channel density, but the injection pressure should not be excessive because of the risk of causing lateral mobilization of contaminants off-site or fugitive emissions to basements, buried utilities, or the surface (Brown 1994). There is debate over what range of airflow rates is appropriate to consider during IAS system design. Wisconsin DNR (1993) recommends airflow rates of 0.08 to 0.4 m^3/min (3 to 15 scfm) per IAS well, while the USEPA (1995a) recommends airflow rates from 0.08 to 0.67 m^3/min (3 to 25 scfm). An API-sponsored survey of 39 IAS systems (Marley and Bruell 1995), however, report airflow rates ranging from 0.04 to 1.1 m^3/min (1.3 to 40 scfm) per well, while another survey of 32 IAS systems (Bass and Brown 1996) reports airflow rates from 0.11 to 1.0 m^3/min (4 to 35 scfm) per well. The Air Sparging Design Paradigm developed by the ESTCP (Leeson et al. 2002) recommends that the "Standard" IAS design use 20 cfm per well, but "Site-Specific" designs can vary. The Navy's Air Sparging Design Guidance (Navy 2001) recommends IAS design flow rates from 6 to 20 scfm. Marley and Bruell (1995) say that higher flow rates result in increased air channel density and therefore more effective mass transfer. It is possible that more effective and rapid remediation is possible with higher per-well airflow rates

acceptable indicators of contaminant concentrations. These secondary indicators, which typically are included in IAS process monitoring, determine the timing of matrix sampling to demonstrate achievement of regulatory objectives. Confirmational sampling should be conducted in accordance with standard SW 846 soil and groundwater sampling and analysis methods, as summarized in the work plan (USEPA 1986).

d. Groundwater monitoring wells generally present an overly optimistic picture of VOC and DO concentrations during, and for a while following, IAS. This is because of the tendency of sparged air to flow preferentially through a well's filter pack and into the well itself (paragraph 3-3a(5)). Thus, concentrations in groundwater monitoring wells may not represent the groundwater in the formation. It is, therefore, very important that sufficient time be allowed to elapse between IAS system shutdown and confirmation monitoring using conventional groundwater monitoring wells. Johnson et al. (1995) recommend a waiting period of greater than 1 month at wells that have been directly affected by IAS. To adequately evaluate the success of IAS, a minimum of 2 to 3 months should elapse between shutdown and confirmation monitoring. The natural flow velocities in the aquifer should be considered in selecting the timing for confirmation sampling. Sites with slow natural flow velocities may require longer times between shutdown and sampling; higher velocities may allow a reduced waiting time.

e. Waiting for a suitable period between shutdown and confirmation monitoring provides an opportunity for groundwater concentrations to "rebound" and thus facilitates more accurate measurement of remediation success. Rebound can be ascribed to one of two processes: i) non-representativeness of conventional monitoring wells within the sparging area (as discussed above); and ii) re-equilibration of groundwater with sorbed or non-aqueous phase contaminants in the treatment zone. Bass and Brown (1996), summarizing their IAS database findings, concluded that "When rebound occurred, it sometimes happened many months after sparge system shutdown." They reported that some sites "showed only moderate rebound 2 to 4 months following shutdown, but in some source area wells concentrations jumped by another order of magnitude or more within 7.5 to 16 months after shutdown." In this cited IAS database, rebound was more frequently observed at sites contaminated with petroleum hydrocarbons than with chlorinated solvents (Bass et al. 2000). Rebound is most common at sites that initially appear to contain residual LNAPL or free-product. In some cases, rebound appeared to be related to a rising water table. If some degree of rebound is noted, sampling should be repeated subsequently. Applicable state or Federal closure requirements may dictate the duration and frequency of confirmation sampling.

f. Wisconsin DNR (1995) recommends that, when purging monitoring wells prior to sampling, the purge volume be increased to remove water in and near the filter pack that may have been affected by preferential flow along the well. They suggest that the purge volume required to draw in unaffected (i.e., more representative) groundwater may be considerable. Care must be taken to avoid aerating the well and stripping VOCs from the water in the process of purging it (paragraph 4-2).

EXHIBIT U

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

In the Matter of:	
FOX CAPITAL MANAGEMENT CORPORATION AND SEVEN SPRINGS LIMITED PARTNERSHIP	**STIPULATED AGREEMENT FOR REPLACEMENT WATER SUPPLY AT 883 AND 903 ELOISE AVENUE, SOUTH LAKE TAHOE**
FORMER LAKE TAHOE LAUNDRY WORKS	
1024 LAKE TAHOE BOULEVARD SOUTH LAKE TAHOE, EL DORADO COUNTY	

1. This Stipulation for Replacement Drinking Water (Stipulation) is entered into by and between the Assistant Executive Officer of the California Regional Water Quality Control Board, Lahontan Region (Water Board), on behalf of the Water Board Prosecution Team (Prosecution Team), Fox Capital Management Corporation (Fox Capital), and Seven Springs Limited Partnership (Seven Springs) (collectively known as the Parties).

2. The former Lake Tahoe Laundry Works (hereinafter referred to as the Facility) is located at 1024 Lake Tahoe Boulevard, South Lake Tahoe, El Dorado County (Assessor's Parcel Number 023-430-32-100). The Facility is located on the northwest corner of an "L" shaped shopping center.

3. Century Properties Equity Fund 73 (Fund 73), a limited partnership, was the owner of the Facility from September 1974 to December 1984. Fox Capital was the general partner of Fund 73. A self-service, coin-operated, dry cleaning machine existed in a laundromat operated at the Facility beginning in approximately 1972. Seven Springs became the owner of the Facility in or around 1995 according to El Dorado County property records.

4. Groundwater investigations at the Facility have identified the presence of tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethene (1,1-DCE) and cis 1,2 DCE (collectively, the Contaminants) in groundwater samples at the Facility in concentrations that exceed the primary drinking water standard for each Contaminant.

5. The Water Board has determined that the closest active domestic supply wells to the Facility are those located to the north of the Facility:

   - Schneeweis well, 903 Eloise Avenue (1,920 feet N8ºW) and
   - Stanford Alumni Association Sierra Camp well, 883 Eloise Avenue (1,970 feet N9ºW).

6. A September 9, 2014 laboratory report by E.S.B. Babcock Laboratories, Inc. (Babcock) showed a groundwater sample obtained from the domestic well at 883 Eloise Avenue with 52 µg/L PCE, 1.3 µg/L TCE, and 0.32 µg/L DCE. A follow-up groundwater sample collected by Water Board staff on September 11, 2014 showed 50 µg/L PCE, 1.2 µg/L TCE, and 0.2 µg/L cis 1,2-DCE according to a September 17, 2014 report by Babcock. The domestic well at 883 Eloise Avenue is located approximately 2,000 feet north from the Facility, in the general downgradient groundwater flow direction from the Facility, according to the Water Board.

7. A February 4, 2015 laboratory report by Babcock showed a groundwater sample obtained from a domestic well at 903 Eloise Avenue contained 8.4 µg/L PCE. TCE and cis 1,2-DCE were not detected in the sample at concentrations above their laboratory reporting limit of 0.5 µg/L, as listed in a February 4, 2015 laboratory report by E.S.B. Babcock. The domestic well at 903 Eloise is located approximately 2,000 feet north of the Facility, in the general downgradient groundwater flow direction from the Facility, according to the Water Board.

8. The Water Board contends that these two domestic supply wells on Eloise Avenue are located within the range of downgradient groundwater flow direction of the Facility. Based on these supply well's distance from the Facility, the Water Board estimates the migration time in groundwater to be 3 to 4 years. The Water Board believes that PCE concentrations in the supply wells are from the Facility where PCE concentrations in groundwater from 2010 to early-2012 (specifically in LW-MW-1S) were in the thousands of parts per billion. Thus, the Water Board contends that the presence of PCE in both supply wells at concentrations exceeding the primary drinking water standard justify an alternate water supply for indoor uses (i.e., whole-house replacement water).

9. Seven Springs and Fox Capital contend, however, that impacts to the domestic supply wells at 883 and 903 Eloise Avenue result from sources other than the Facility.

10. Despite the Parties' disagreement as to the source of the contamination detected in the Eloise Avenue domestic supply wells, Seven Springs and Fox Capital agree to provide a replacement water supply to the affected well-owners located at 883 and 903 Eloise Avenue. By so agreeing, neither Seven Springs nor Fox

Capital admits to any liability under or any violation of the Water Code or any other federal, state, or local law or ordinance. The Water Board agrees that nothing in this Stipulation shall constitute an admission of any violation of or liability under the Water Code or any other law in this or any other civil, criminal, or administrative proceeding.

ACTIONS

11. Seven Springs, Fox Capital, and the Water Board have reached an agreement to provide for and/or reimburse purchases of continuous interim replacement drinking water to representatives of 883 and 903 Eloise Avenue. "Continuous" is defined as providing interim drinking water for consumption and cooking to accommodate all parties residing and/or working at the property, every day, with a no more than twelve hour lapse in availability. The interim replacement drinking water supply may consist of bottled water purchased from Alhambra & Sierra Springs or a functionally equivalent alternate temporary drinking water supply, and shall continue until completion of installation of permanent alternative water supply.

    a. Within 7 days of the effective date of this Stipulation, Seven Springs shall provide documentation of reimbursement for interim replacement drinking water provided as of the date hereof, including receipts from the Parties' purchases from Alhambra & Sierra Springs or functionally equivalent alternate temporary drinking water supply. The "effective date of this Stipulation" is the date the last of the Parties to execute this Stipulation has done so.

12. Seven Springs and Fox Capital shall reimburse the property owners of 883 and 903 Eloise Avenue for installation of a permanent alternative water supply from Lukins Brothers Water Company, Inc. (Lukins) within 21 days of receiving an invoice for the same from the property owners. Seven Springs and Fox Capital shall submit proof of payment to the Water Board (i.e. a copy of the reimbursement check) at the time or reimbursement to the property owners.

13. Alternatively, Seven Springs and Fox Capital shall, within 21 days of the effective date of this Stipulation, either:

    a. Commence and diligently pursue negotiation of a contract directly with Lukins to provide permanent alternative water supply to 883 and 903 Eloise Avenue. The scope of work to provide permanent alternative water supply is anticipated to include excavation to install an approximate 200 foot long main water service pipeline to service 883 and 903 Eloise Avenue. If Seven Springs and Fox Capital select this option, Seven Springs and Fox Capital shall demonstrate diligent pursuit of a contract with Lukins by providing to the Water Board, within 21 days of the effective date of the Stipulation, a courtesy copy of correspondence with Lukins regarding the contract for installing the permanent alternative water supply; or

b. Submit to the Water Board, within 21 days of the effective date of this Stipulation, a statement of intent to reimburse the property owners of 883 and 903 Eloise Avenue for costs that such property owners pay to Lukins for installing the permanent alternative water supply to 883 and 903 Eloise Avenue.

14. Seven Springs and Fox Capital shall not be responsible for payment of invoices for the permanent alternative water supply that pertain to ongoing water consumption or the maintenance or repair of the water service pipelines, meters, or associated equipment.

15. If the Water Board determines that Contaminants from the Facility are impacting additional water supply wells, the Water Board shall bring that to the immediate attention of Seven Springs and Fox Capital for discussion of whether Seven Springs and Fox Capital shall provide replacement water service to users of those impacted additional water supply wells.

   a. "Impacted additional water supply wells" are defined as domestic or municipal supply wells containing any Contaminants in concentrations that are above the primary maximum contaminant level or, if no primary maximum contaminant level exist, the secondary drinking water standard, the contamination of which is the result from discharges from the Facility according to the Water Board.

16. Correspondence with the Water Board pursuant to Paragraphs 11, 12 and 13 should be directed to Ms. Mayumi Okamoto 1001 I Street, 16th Floor, Sacramento, California 95814 or mayumi.okamoto@waterboards.ca.gov.

IT IS SO STIPULATED.

California Regional Water Quality Control Board Prosecution Team
Lahontan Region

By: Lauri Kemper
Lauri Kemper
Assistant Executive Officer

Date: May 20, 2015

Seven Springs Limited Partnership,
A Missouri Limited Partnership

By: Real Estate Management Associates, LLC,
A Missouri Limited Liability Company, General Partner

By: The Commerce Trust Company,
A division of Commerce Bank, Trustee of the Jack R. Lyddon Trust Two Authorized Member

By: ______________________________
Christopher G. Blair
Vice President

Date: 5 June 2015

Fox Capital Management Corporation

By: ______________________________
[name]

Date: ______________________________

Seven Springs Limited Partnership,
A Missouri Limited Partnership

By: Real Estate Management Associates, LLC,
A Missouri Limited Liability Company, General Partner

By: The Commerce Trust Company,
A division of Commerce Bank, Trustee of the Jack R. Lyddon Trust Two Authorized Member

By: ______________________________
Christopher G. Blair
Vice President

Date: ______________________________

Fox Capital Management Corporation,
a California corporation

By: ______________________________
Nicholas M. Billings, Vice President and
Assistant General Counsel

Date: 5/27/15

EXHIBIT V

State of California

March Fong Eu
Secretary of State

Form LP

CERTIFICATE OF CANCELLATION—LIMITED PARTNERSHIP

IMPORTANT—Read instructions on back before completing this form

This Certificate is presented for filing pursuant to Section 15623, California Corporations Code.

1. SECRETARY OF STATE FILE NO. (ORIGINAL CERTIFICATE—FORM LP-1)
8418201439

2. NAME OF LIMITED PARTNERSHIP
Century Properties Equity Fund 73

3. ANY OTHER INFORMATION TO BE INCLUDED IN THE FILING OF THIS CERTIFICATE OF CANCELLATION. (COMMENT IN SPACE PROVIDED CONTINUE ON SEPARATE PAGES IF NECESSARY) NUMBER OF PAGES ATTACHED: ☐

4. IT IS HEREBY DECLARED THAT I AM (WE ARE) THE PERSON(S) WHO EXECUTED THIS CERTIFICATE OF CANCELLATION WHICH EXECUTION IS MY (OUR) ACT AND DEED. (SEE INSTRUCTIONS)

FOX CAPITAL MANAGEMENT CORPORATION,
a general partner

By: Linda E. Stein
Linda E. Stein
Assistant Secretary

Dtd. 6/25/90

THIS SPACE FOR FILING OFFICER US

84 18201439

FILED
In the office of the Secretary of State
of the State of California

JUN 29 1990

March Fong Eu
MARCH FONG EU
SECRETARY OF STATE

5. **RETURN ACKNOWLEDGEMENT TO:**

NAME
ADDRESS
CITY
STATE
ZIP CODE

Nancy E. MacArthur
c/o Metric Realty
950 Tower Lane
Foster City, CA 94404

SEC/STATE REV. 1/88

FORM LP-4—FILING FEE: NONE
Approved by Secretary of State

PRI

STATE OF CALIFORNIA
CERTIFICATE OF DISSOLUTION—LIMITED PARTNERSHIP—FORM LP-3
IMPORTANT—Read instructions on back before completing this form

This Certificate is presented for filing pursuant to Chapter 3, Article 2, Section 15623, California Corporations Code.

1. SECRETARY OF STATE FILE NO. (ORIGINAL CERTIFICATE) 8418201439	2. SECRETARY OF STATE FILE DATE (ORIGINAL CERTIFICATE) July 1, 1984

3. NAME OF LIMITED PARTNERSHIP
Century Properties Equity Fund 73

4. THIS LIMITED PARTNERSHIP IS DISSOLVED EFFECTIVE: MONTH 04 DAY 13 YEAR 90

5. THE EVENT(S) CAUSING THE DISSOLUTION OF THIS LIMITED PARTNERSHIP IS (ARE):

A. ☐ TERM EXPIRED AS STATED IN THE CERTIFICATE OF LIMITED PARTNERSHIP

B. ☒ WRITTEN CONSENT OF ALL GENERAL PARTNERS AND A MAJORITY IN INTEREST OF THE LIMITED PARTNERS

C. ☐ THERE ARE NO GENERAL PARTNERS TO CONTINUE THE BUSINESS OF THE LIMITED PARTNERSHIP

D. ☐ ENTRY OF A DECREE OF JUDICIAL DISSOLUTION UNDER SECTION 15682 OF THE CALIFORNIA CORPORATIONS CODE

E. ☐ OTHER EVENT(S) CAUSING THE DISSOLUTION OF THIS LIMITED PARTNERSHIP (DESCRIBE BELOW):
(CONTINUE ON SEPARATE PAGE, IF NECESSARY.) NUMBER OF ADDITIONAL PAGES ☐

6. IT IS HEREBY DECLARED THAT I AM (WE ARE) THE PERSON(S) WHO EXECUTED THIS CERTIFICATE OF DISSOLUTION WHICH EXECUTION IS MY (OUR) ACT AND DEED. (SEE INSTRUCTIONS)

FOX CAPITAL MANGEMENT CORPORATION,
a general partner

By: Linda E. Stein
Linda E. Stein, Assistant Secretary

Dtd. 4/16/90

7. THIS SPACE FOR FILING OFFICER USE (DATE OF FILING)

8418201439

FILED
In the office of the Secretary of State
of the State of California

APR 18 1990

March Fong Eu
MARCH FONG EU
SECRETARY OF STATE

8. RETURN ACKNOWLEDGMENT TO:

NAME
ADDRESS
CITY
STATE
ZIP CODE

Nancy E. MacArthur
c/o Metric Partners
950 Tower Lane
Foster City, CA 94404

EXHIBIT W

A Chronology of Historical Developments in Drycleaning

State Coalition for Remediation of Drycleaners

November 2007

1690 – First reference for the use of an organic solvent (spirits of turpentine) to spot clean fat and oil stains on clothing (Sigworth, 1981).

1821 - Perchloroethylene (PCE) synthesized by Michael Faraday (Partington, 1964)

1840s – The firm of Jolly-Belin opens a commercial drycleaning operation in Paris using spirits of turpentine as a drycleaning solvent (IFI).

1869 – Pullars of Perth Scotland introduces the first power machinery for drycleaning (Johnson, 1971).

1879 – At least one drycleaning plant was operating in the U.S. (Sigworth, 1981).

Late 19th Century – Turpentine spirits, camphor oil, benzene, naphtha, kerosene and white gasoline used as drycleaning solvents. Clothing was washed and rinsed in tubs of solvent and then hung in a warm room to dry.

1898 – Carbon tetrachloride imported from Germany by Ernest C. Klipstein. Carbon tetrachloride was sold as a drycleaning and spot-removing agent under the trade name of Carbona (Doherty, 2000).

Early 1900s

- Raw white gasoline is the primary drycleaning solvent used in the United States.

- Due to fire and explosion hazards associated with gasoline, drycleaning plants are considered such a poor risk that most insurance companies would not issue a policy for a drycleaning facility (Michelsen, 1957).

- First use of distillation to purify spent solvent (Lohman, 2002).

1903 - Steam presses introduced to drycleaning operations (Martin, 1958).

1905 - Clarifying systems (settling tanks) used to purify dirty solvent (Lohman, 2002).

1915 – The average U.S. drycleaning operation uses 12,000 gallons of gasoline a year (Michelsen, 1957).

1920s

- Bag filters first utilized to purify spent solvent, replacing clarifiers (Lohman, 2002).

- First use of powder filtration systems (Lohman, 2002).

- First dryers (tumblers) utilized in drycleaning plants. They replace drying cabinets or steam cabinets (Lohman, 2002).

1924 – Lloyd E. Jackson of the Mellon Institute of Industrial Research, working with W.J. Stoddard, an Atlanta drycleaner and president of the National Institute of Drycleaning, develops specifications for a higher flash point petroleum drycleaning solvent which became known as Stoddard solvent (Martin, 1958).

March 1, 1928 – U.S. Department of Commerce requires a minimum flash point of 100° F for petroleum drycleaning solvents. Drycleaners begin using Stoddard solvent (Martin, 1958).

1930 – Trichloethylene (TCE) is introduced as a drycleaning solvent in U.S. Problems with dye bleeding and equipment corrosion limit the use of TCE (Martin, 1958).

1934 – Perchloroethylene is introduced as a drycleaning solvent in U.S. (Martin, 1958).

1940 – Chlorinated solvent use by the U.S. drycleaning industry was estimated to be 45 million pounds of carbon tetrachloride, 12 million pounds of perchloroethylene and 5 million pounds of trichloroethylene (Michelsen, 1957).

1940s

- Combination washer/extractor drycleaning machines marketed (Lohman, 2002).

- Perc reclaimers (solvent recovery tumblers or dryers) introduced (Lohman, 2002).

- Flat screen filters introduced (Lohman, 2002).

World War II – Shortages of chlorinated solvents result in most drycleaning being conducted with petroleum drycleaning solvents in the U.S. (Michelsen, 1957).

1948 – Perchloroethylene replaces carbon tetrachloride as the leading chlorinated solvent used in drycleaning (Chemical Week, 1957).

1950

- The National Institute of Cleaning and Dyeing worked with the U.S. Bureau of Standards to develop standards for a higher flash point petroleum drycleaning solvent known as 140-F solvent (Michelsen, 1957).

- A study by the National Institute of Cleaning and Dyeing determines that chlorinated solvent use by the U.S. drycleaning industry was 67,500,000 pounds of PCE and 15,000,000 pounds of carbon tetrachloride (Michelsen, 1957).

1950s – The use of carbon tetrachloride as a drycleaning solvent is discontinued due to toxicity and corrosion problems with equipment. (Kirk-Othmer, 1965).

1955 – The U.S. drycleaning industry used an estimated 145,000,000 gallons of Stoddard solvent, 4,000,000 gallons of 140-F solvent and 8,500,000 gallons of PCE (Michelsen, 1957).

Late 1950s

- Petroleum solvents still the predominant solvents used in drycleaning in the U.S.

- Rigid and flexible tube (tubular) screen filters introduced (Lohman, 2002).

1959 – It is estimated that the average neighborhood PCE drycleaning operation uses 50 to 100 gallons of PCE per month and that a one 55-gallon drum of PCE cleans about 500 pounds of clothing (Doherty, 2000).

1960 – Whirlpool Corporation introduces the first coin-operated drycleaning machine (Kirk-Othmer, 1965).

Early 1960s - Cartridge filters are introduced (Caplan, 2003).

1962 – PCE becomes the drycleaning solvent of choice in the U.S., and the drycleaning industry accounts for approximately 90% of PCE consumption (Chemical Engineering News, 1963).

1964 - E.I. du Pont de Nemours & Co. introduces a fluorinated-chlorinated hydrocarbon drycleaning solvent (1,1,2-trichloro-1,2,2-trifluoroethane, or Freon 113) under the trade name Valclene® (Johnson, 1971).

1966 – Drycleaning machines for fluorocarbon solvents developed by Böhler & Weber in Germany (Böwe, 2002).

1968 – Böhler &Weber develops first dry-to-dry machines in Germany (Böwe, 2002).

1970s

- Petroleum reclaimers (recovery tumblers) are developed (Lohman, 2002).

- Third generation drycleaning machines (closed loop dry-to-dry machines) are developed (Miller, 1998).

December 16, 1974 – The Safe Drinking Water Act signed into law. The act requires the states to regulate all direct injections of wastes to the subsurface (Pankow & Cherry, 1996).

1975 - The average PCE drycleaning machine can clean approximately 8,000 pounds of clothing with one 55-gallon drum of PCE (Kirschner, 1994).

1980s

- Spin disc filters are introduced (Caplan, 2003).

- 1,1,1-Trichloroethane (methyl chloroform or TCA) marketed as a drycleaning solvent (Dowclene LS®). There was limited use of this solvent in drycleaning because of corrosion problems.

1980 – PCE use peaks in the U.S. (Dougherty, 2000).

November 1980 – Resource Conservation Recovery Act (RCRA) promulgated. This legislation regulates the generation, transportation, treatment and disposal of hazardous wastes in the U.S.

December 26, 1985 – E.P.A. published a Notice of Intent to list PCE as a potentially toxic air pollutant to be regulated under Section 112 of the Clean Air Act (Office of Air Quality, 1991).

1986 – According to the U.S. Department of Commerce, there are approximately 21,787 drycleaning plants in the United States. Of these there are 4,300 coin-operated drycleaning facilities (19.7%), 1,182 are industrial laundry and drycleaning facilities (5.4%) and 16,305 are commercial drycleaning facilities (74.8%). Of these facilities, 18,899 (86.7%) use PCE, 489 facilities (2.2% use Valclene), 50 (0.2%) use TCA and 2,349 (10.8%) use petroleum solvent (U.S.D.C., 1986).

September 1986 – Notification deadline for small quantity generators of hazardous waste under the Hazardous and Solid Waste Amendments (HSWA) to RCRA. Most PCE drycleaners in U.S. began shipping wastes offsite as hazardous wastes.

September 1987 – Twenty-seven countries sign the Montreal Protocol on Substances that Deplete the Ozone Layer, committing every signatory state to reduce its use of chlorinated fluorocarbons by 50% of their level of use in 1986 by 1999. The drycleaning solvents that would be affected are 1,1,2 trichloro-1,2,2-trifluoroethane (Valclene) and 1,1,1-trichloroethane (Rowland, 1993).

1988 – A survey of drycleaning equipment and plant operations in the U.S. conducted by the International Fabricare Institute finds that approximately 70.7% of the 909 respondents discharged separator water to either the sanitary sewer or to a septic system (IFI, 1989).

April 1989 – The City of Lodi, California detects PCE in groundwater samples collected from two of its Municipal wells at concentrations exceeding the California Maximum Contaminant Level for drinking water. This discovery lead to extensive investigations that identified over 50 potential contaminant sources, including a number of dry cleaning facilities (Groundwater Resources Association, 2004).

June 1989 - Amendments to the Clean Water Act identify 83 compounds found in drinking water which may have an adverse effect on people's health. PCE and its degradation products are among these compounds. Drinking water Maximum Contaminant Levels are set for these compounds (Arbuckle, 1991).

1990 – Drycleaning/textile processing account for approximately 50% of PCE use in the U.S. (HSIA, 1998).

December 9, 1990 – Clean Air Act Amendments: EPA proposes national emission standards to limit PCE emissions from drycleaning plants (EPA, 2006).

March 1992 – A study by the Central Valley Region, California Regional Water Quality Control Board, identifies sanitary sewer lines as "the main discharge point for dry cleaners" of wastewater containing "dissolved PCE … pure cleaning solvent and solids containing PCE" (Izzo, 1992).

1993

- First commercial use of a closed-loop/direct-couple solvent delivery system (Dawson, 2007).

- It is estimated that a typical PCE drycleaning machine can clean 16,000 pounds of clothing using one 55-gallon drum of PCE (Kirshner, 1994).

September 22, 1993 – EPA promulgated technology-based emission standards to control emissions of PCE from drycleaning facilities. No PCE transfer machines can be installed after this date (EPA, 2006).

1994

- Exxon Chemical begins marketing DF-2000™ a high flashpoint synthetic paraffin (petroleum) drycleaning solvent (Dawson, 2007).

- Connecticut and Florida create the first drycleaning solvent cleanup programs in the United States.

December 1994 – Dade County, Florida files a law suit against defendants and owners and operators of several dry cleaning facilities in the Suniland area. Drycleaning solvent contaminants were detected in groundwater samples collected from 556 private water wells located hydraulically downgradient of drycleaning facilities in 4 shopping centers. The Dade County Water and Sewer Authority installed public water mains in the area at a cost of over $5 million (Service, 1994).

1995 – Kansas, Minnesota, Oregon, South Carolina, create drycleaning solvent cleanup programs.

1996

- Drycleaning is still the highest volume use of PCE in U.S. (Leder, 1999).

- First home drycleaning kits marketed.

January 1, 1996 – Beginning of phase out of the production of 1,1,1-trichloroethane (methyl chloroform) and 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113) in the U.S. (ICF, 2004)

September 21, 1996 - National Emission Standard Hazardous Air Pollutants (NESHAP) Requirements issued. Requirements include drycleaning machinery maintenance, record keeping and monitoring.

1997

- Illinois, North Carolina, Tennessee and Wisconsin create drycleaning solvent cleanup programs.

- The primary use of PCE in the U.S. is no longer as drycleaning solvent but as a chemical intermediary (HSIA, 1998).

- Pilgrim Enterprises sues drycleaning equipment manufacturers and suppliers for $12 million for cleanup costs associated with 17 contaminated drycleaning sites in Houston and San Antonio (National Clothesline, 2003).

1998 – Drycleaning/textile processing accounts for 36% of PCE usage in the U.S. (HSIA, 1999).

1999

- Rynex™ (dipropylene glycol tertiary-butyl ether) first marketed as a drycleaning solvent (Hayday, 2007).

- GreenEarth® (Decamethylcyclcopentasiloxane) a silicon-based solvent is first marketed as a drycleaning solvent (Maxwell, 2007).

February 5, 1999 – The first commercial liquid carbon dioxide (CO_2) drycleaning plant opens in Wilmington, North Carolina (Wentz, 2001).

April 13, 1999 - The State Coalition for Remediation of Drycleaners is formed in Washington D.C. This organization is composed of representatives from the states with drycleaning solvent cleanup programs and is sponsored by the U.S. E.P.A.'s Technology Innovation Office.

2000

- Alabama and Missouri create drycleaning solvent cleanup programs.

- PureDry™, a mixture of isoparaffinic hydrocarbons, hydrofluoroethers and perfluoroisobutylethers was first marketed as a drycleaning solvent (Eastern Research, 2005).

- The City of Lodi, California filed a suit in Federal Court against 15 Lodi businesses, including a number of drycleaning businesses, for PCE contamination of some of its water supply wells (Groundwater Resources, 2004).

December 6, 2002: The South Coast Air Quality Management District's governing board voted unanimously to require the region's estimated 2,200 dry cleaners to switch from PCE to a non-toxic alternative. The proposed phase-out of PCE would begin on January 1, 2003 and end with total phase-out of PCE by 2020. This is the nation's first proposed ban on PCE (Wides, 2002).

2003 – Texas creates a drycleaning solvent cleanup program.

April 2004 – Impress™ (propylene glycol-ether based drycleaning solvent) first marketed (Liotta, 2007).

January 25, 2006 – California Air Resources Board votes to phase out PCE drycleaning by 2023 (California EPA, 2007).

June 2006 – A San Francisco Superior Court jury awards the City of Modesto, California over $178 million dollars in compensatory and punitive damages for PCE contamination of its water wells and other city properties. The defendants were drycleaning chemical manufacturers and drycleaning companies (National Clothesline, 2006).

July 27, 2006 – Effective date for final rule for National Perchloroethylene Air Emissions Standards for Dry Cleaning Facilities (40 CFR Part 63). This is a revision of standards promulgated on September 22, 1993. New drycleaning machines installed in residential buildings are not allowed to use PCE (EPA 2006).

October 2006: DrySolv™ (n-propyl bromide) first marketed as a drycleaning solvent (Roccon, 2007).

July 27, 2008 – Deadline for phase-out of PCE transfer machines (EPA, 2006).

December 21, 2020 – All existing PCE drycleaning machines in co-residential facilities are prohibited in the U.S. (EPA, 2006).

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EXHIBIT X

EPA
United States
Environmental Protection
Agency

Ground Water Issue

Assessment and Delineation of DNAPL Source Zones at Hazardous Waste Sites

Bernard H. Kueper* and Kathryn L. Davies**

1.0 - Introduction

Groundwater contamination from classes of chemicals such as chlorinated solvents, polychlorinated biphenyls (PCBs), creosote, and coal tar is frequently encountered at hazardous waste sites (40, 43). These types of contaminants have low solubilities in water and have densities greater than that of water. Therefore, they can exist in the subsurface as Dense, Non-Aqueous Phase Liquids (DNAPLs) and have the potential to migrate as a separate liquid phase to significant distances below the water table in both unconsolidated materials and fractured bedrock. Because of the physicochemical properties associated with DNAPLs, they migrate through the subsurface in a very selective and tortuous manner (13, 27, 29). Thus, the majority of DNAPL present in the subsurface may not be found immediately below the entry location and directly encountering DNAPLs with conventional drilling techniques may be difficult.

Determining the presence or absence of a DNAPL is an important component of the conceptual site model and is critical to the proper selection of the remediation approach. Subsurface DNAPL acts as a long-term source for dissolved-phase contamination and determines the spatial distribution and persistence of contaminant concentrations within the dissolved-phase plume. Once it has been determined that DNAPL exists within the subsurface, subsequent characterization activities are typically conducted to better delineate the boundaries of the DNAPL source zone. The DNAPL source zone is the overall volume of the subsurface containing residual and/or pooled DNAPL. It should be recognized that there will be uncertainty associated with the delineation of the DNAPL source zone. In addition to the DNAPL, there may be significant amounts of contaminant mass that have diffused into low permeability zones. Back diffusion of contaminant mass from these zones may sustain dissolved-phase plumes for significant periods of time, even after DNAPL has been removed. Establishing the presence and locations of such non-DNAPL sources is beyond the scope of this document.

In January 1992, EPA published a Fact Sheet entitled ‘Estimating Potential for Occurrence of DNAPL at Superfund Sites’ (42) with the goal to help site personnel determine if DNAPL-based characterization strategies should be employed at a particular site. In September 1994, EPA issued a subsequent Fact Sheet entitled ‘DNAPL Site Characterization’ (39) discussing direct and indirect methods to assess the presence of DNAPL in the subsurface. Since the publication of the initial fact sheets, there have been advancements in characterization tools, site investigation approaches (14) and knowledge of DNAPL source zone architecture within the subsurface. This document builds on information from the previous fact sheets to provide a framework for not only assessing the presence of DNAPL, but also for delineating the spatial extent of the DNAPL source zone, a priority at many sites due to the more prevalent use of *in-situ* remediation technologies (38). The strategy described in the present document utilizes converging lines of evidence that incorporate the scientific advancements in the field and expands the applicability of the document to include both unconsolidated deposits and fractured bedrock. An iterative, flexible site investigation approach (7) is encouraged.

2.0 - Nature of the DNAPL Source Zone

Upon release to the subsurface, DNAPL will distribute itself in the form of disconnected blobs and ganglia of organic liquid referred to as residual DNAPL, and in connected distributions referred to as pooled DNAPL (Figure 1). Residual DNAPL is found both above and below the water table within the pathways of DNAPL migration, and typically occupies between 5% and 30% of pore space in porous media (6, 27, 44) and in rock fractures (21). Residual DNAPL is trapped by capillary forces, and typically will not enter an adjacent monitoring well, even under the influence of aggressive groundwater pumping (6, 27).

Pooling of DNAPL can occur above capillary barriers, which are typically layers and lenses of slightly less permeable material (Figure 1). Pooling can therefore occur at any elevation in the subsurface, and not just at the base of permeable zones. Absence of pooling above clay aquitards and bedrock may be due to the presence of dipping fractures, bedding planes, joints and faults which may allow the continued downward migration of the DNAPL. Pools represent a continuous distribution of DNAPL, and typically correspond to DNAPL saturations of between 30% and 80% of pore space in both porous media and fractures. The frequency of pool occurrence and the thickness of pools are increased by the presence of horizontal capillary barriers, lower DNAPL density, higher interfacial tension, and an upward component to groundwater flow (17, 22). The thickness of pools typically ranges from fractions of an inch to a few feet, depending on fluid and media properties (36) as well as the volume released. Because pools represent a connected distribution of DNAPL, the pooled DNAPL is susceptible to mobilization through drilling activities and can short-circuit along existing monitoring wells and piezometers. In addition, pools may also be mobilized in response to changes in hydraulic gradient. The gradient required to mobilize a pool is a function of the DNAPL-water interfacial

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* Queen’s University, Kingston, Ontario CANADA

** U.S. EPA, Region 3

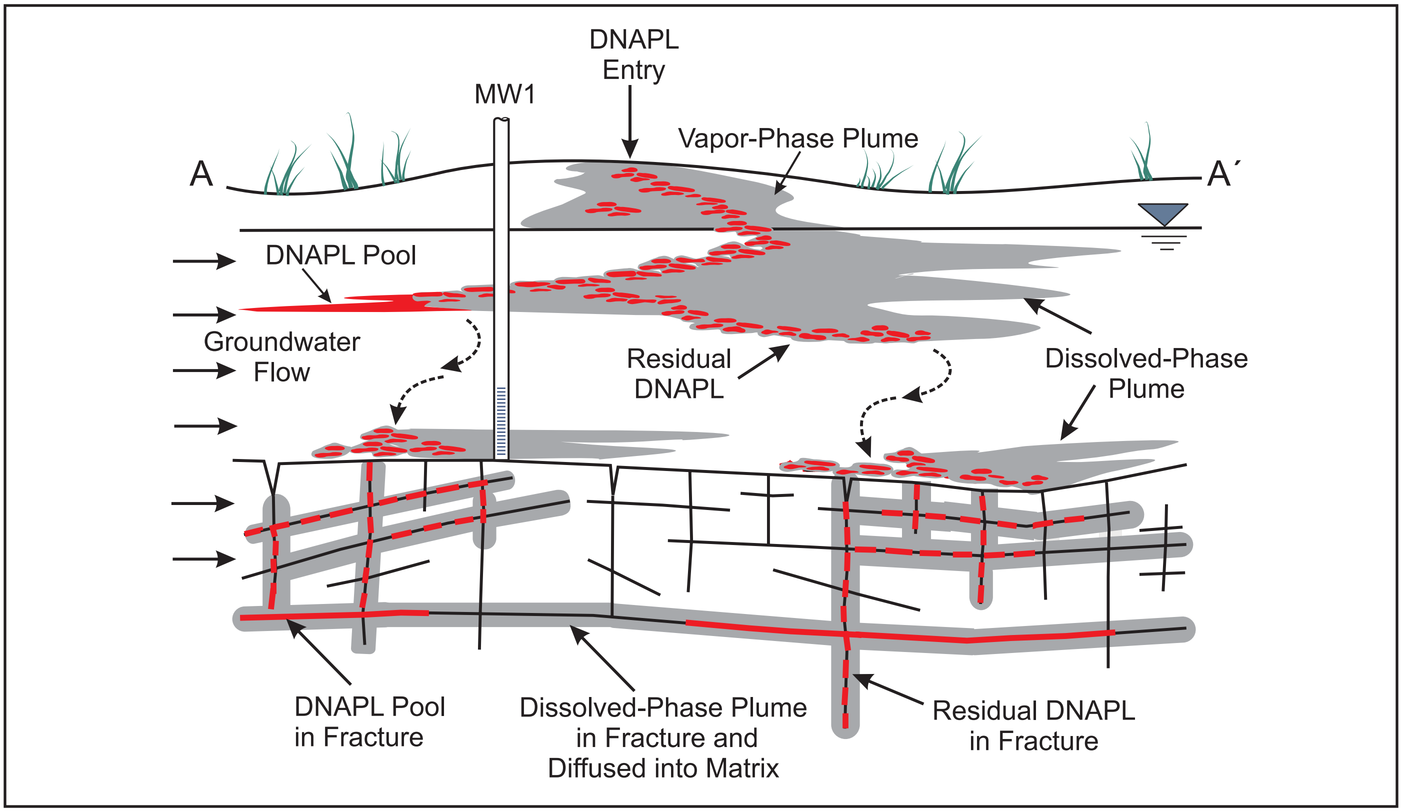

Figure 1 – Schematic illustration of contamination associated with a DNAPL release. Note that DNAPL migrates in three dimensions, and that residual DNAPL accumulated above bedrock is the result of the release at ground surface. The reader is referred to Figure 2 for a depiction of matrix diffusion. Figure is not to scale.

tension, the pool length, and the permeability of the surrounding material (6, 27). Pumping groundwater from beneath DNAPL pools, for example, can lead to an increase in capillary pressure and subsequent downward DNAPL mobilization.

The spatial distribution of residual and pooled DNAPL is strongly influenced by geology, and also by DNAPL properties and release history (frequency, intensity, duration, volume and location). DNAPL migration can occur through lenses and laminations of porous media at the scale of inches or less (17, 29). For DNAPLs that are non-wetting (see wettability in glossary) with respect to water (which is usually the case), migration below the water table is typically through the larger pores (and hence higher permeability regions) in unconsolidated media and larger aperture fractures in bedrock. The orientation of stratigraphic and structural features will largely determine the degree of lateral and vertical DNAPL spreading. DNAPL migration from the release location can occur in any direction, and is typically not greatly influenced by low ambient hydraulic gradients except for creosotes and coal tars which have densities close to that of water.

The overall region of the subsurface containing residual and pooled DNAPL is referred to as the DNAPL source zone. For high density and low viscosity DNAPLs (such as chlorinated solvents), migration in relatively permeable media can cease as soon as a few months to a few years following the time of release (3, 17, 27, 29). Some geological conditions, such as horizontal to sub-horizontal fractures, gently dipping strata and sand seams in low permeability media can give rise to longer time scales for migration of chlorinated solvent DNAPLs, particularly for large volume DNAPL sources. For low density and high viscosity DNAPLs (such as creosote and coal tar), migration has the potential to continue for many decades (12). The overall depth of DNAPL migration is dependent not only on the presence or absence of capillary barriers, but also on the volume released, the interfacial tension, the degree of lateral spreading, and the bulk retention capacity (see glossary) of the medium. Because fractured rock has very low bulk retention capacity, small volumes of DNAPL can migrate greater distances in bedrock in comparison to the same volume released into unconsolidated deposits (18).

Groundwater flowing past residual and pooled DNAPL will result in dissolved-phase plumes of contamination. Complete dissolution of all DNAPL as a result of natural groundwater flow is expected to take from several decades to hundreds of years for most DNAPLs. For multi-component DNAPLs, the presence of more than one component typically suppresses the aqueous solubility of the other components in the DNAPL (6, 27). Exceptions to this can occur, however, when co-solvents such as alcohols are present in the DNAPL. In the absence of co-solvents, the concentration of any particular component dissolving into groundwater can often be approximated using Raoult's Law (2, 6, 27). Early in the dissolution process, the plume chemistry will be dominated by the higher effective solubility components which tend to be those present in the largest mass fraction within the DNAPL, and those with the highest single-component (handbook) solubility values (24). The concentration of any or all components in groundwater downgradient of a multi-component-DNAPL source zone will typically be lower than expected using a single component solubility limit. With time, both the DNAPL composition and the plume composition will change in response to the dissolution process. The dissolved components that comprise the plume will migrate in groundwater subject to advection, dispersion, sorption, volatilization, and degradation processes.

Both residual and pooled DNAPL, and dissolved-phase plumes that are in direct contact with clays, silts, or a porous bedrock matrix, can diffuse into the low permeability media (forward diffusion). If concentrations outside of the low permeability zone become lower than those inside, diffusion will occur back into the higher permeability zone (back diffusion) and can result in plume persistence (5, 33). The forward and back diffusion processes are collectively referred to as matrix diffusion (Figure 2). The persistence of DNAPL in fractures in bedrock, saprolite and clay can be shortened by the matrix diffusion process (19, 28). In addition, the rate of advance of a dissolved-phase plume in fractured rock with a porous matrix can be strongly attenuated by the matrix diffusion process (20, 35). The influence of matrix diffusion on dissolved-phase plume migration in fractured rock and clay relative to other processes such as advection, dispersion, sorption, and possible degradation processes will vary depending on site specific geological conditions and contaminant properties. In general, matrix diffusion has a greater influence on dissolved-phase plume migration in the case of wider fracture spacing, smaller fracture aperture, lower hydraulic gradient, higher matrix porosity, and higher matrix organic carbon.

Above the water table, volatile DNAPL can vaporize into air filled pore spaces (Figure 1). For DNAPLs with significant vapor pressure, this can lead to expanded vapor-phase plumes in the unsaturated zone. The concentration of contaminants in the vapor phase will be governed by the vapor pressure, and for a multi-component DNAPL can often be approximated using Raoult's Law. In relatively warm and dry environments, the persistence of some DNAPLs (e.g., chlorinated solvents) can be relatively short (on the order of months to a few years) in unsaturated media. The absence of residual and pooled DNAPL in the unsaturated zone may not, therefore, be sufficient evidence to conclude that DNAPL has not migrated below the water table at the site of interest.

3.0 - Types of DNAPLs

Coal Tar is a complex mixture of hydrocarbons produced through the gasification of coal that was produced as a by-product of manufactured gas operations as early as 1816 in the United States. It is still produced as a by-product of blast furnace coke production. Coal tar contains hundreds of hydrocarbons, including light oil fractions, middle oil fractions, heavy oil fractions, anthracene oil, and pitch. The low density (typically 1.01 g/cc to 1.10 g/cc

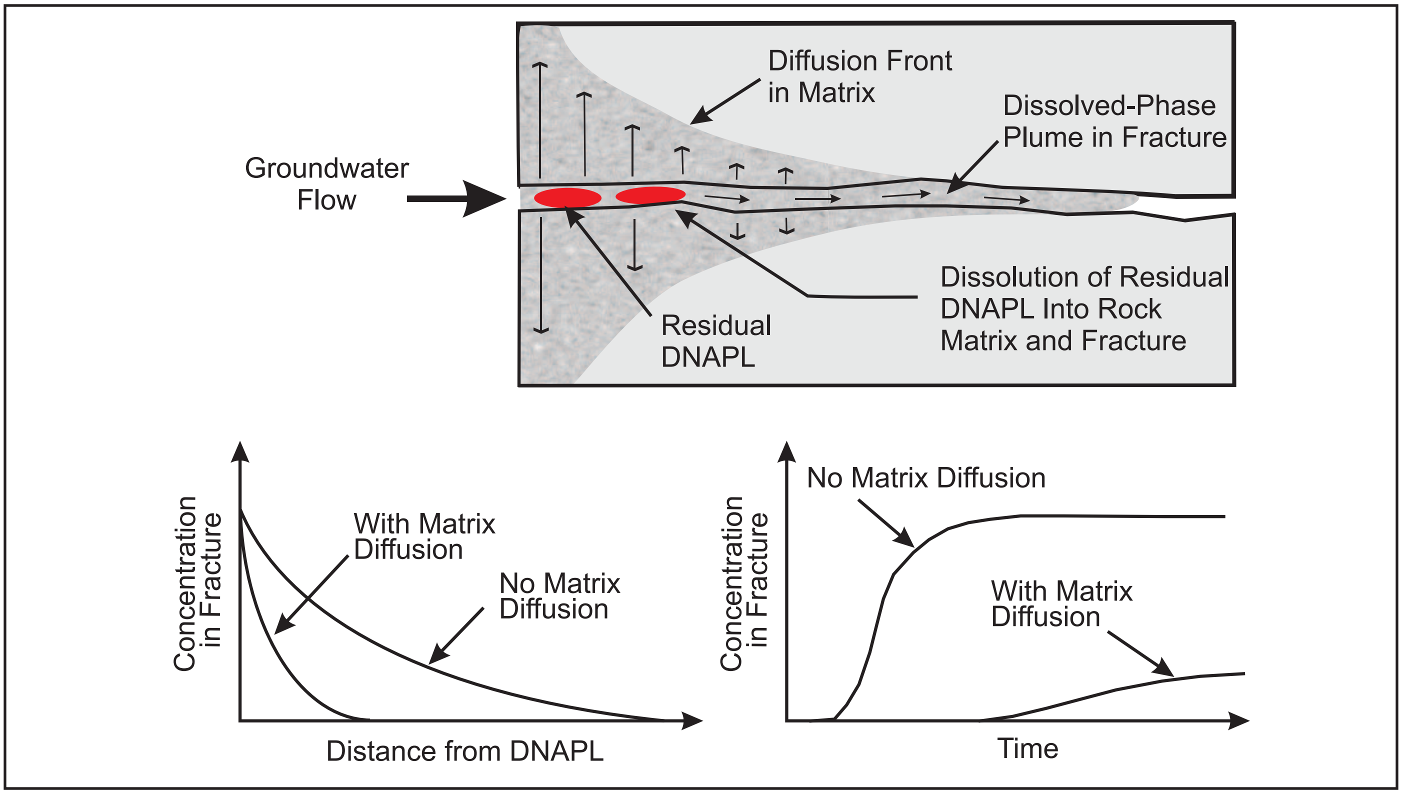

Figure 2 – Matrix diffusion of dissolved-phase contaminants adjacent to DNAPL and along length of plume in fracture. Matrix diffusion can attenuate the rate of plume advance in fractured rock (bottom left concentration vs distance plot), and can result in delayed breakthrough curves (bottom right concentration vs time figure). These factors need to be considered when relying upon groundwater concentration data to assess DNAPL presence.

compared to 1.00 g/cc of water [at 4°C]) and high viscosity (up to 200 to 300 times, or more, than that of water) facilitate long time-scales of migration, with the possibility of movement continuing for many decades following initial release. Due to the lengthy list of compounds present in coal tar, many investigators select a sub-set of coal tar compounds based on mobility and toxicity to assess water quality. These compounds may include benzene, toluene, ethylbenzene, xylenes (BTEX), benzo[a]pyrene, naphthalene, and phenanthrene. Depending on the age of the DNAPL and groundwater velocity, some of the lower molecular weight and more soluble compounds of the coal tar may have been leached out of the DNAPL by the time a site investigation is initiated. Naphthalene is often the dominant compound in present day coal tar (9). In addition, the various components in the plume will migrate at different velocities because of varying degrees of sorption and degradation (often aerobic conditions). The lower molecular weight, less sorbing compounds (e.g., BTEX) can migrate significantly further in groundwater than the higher molecular weight, more sorbing compounds (e.g., PAHs).

Creosote is composed of various coal tar fractions and was commonly used to treat wood products. It is still used today in certain wood treating operations and as a component of roofing and road tars. Creosote is a multi-component DNAPL that contains many hydrocarbons, primarily polycyclic aromatic hydrocarbons (PAHs), phenolic compounds, and carrier fluids such as diesel. The low density (typically 1.01 g/cc to 1.13 g/cc) and high viscosity (typically 20 to 50 times that of water) of creosote facilitate long time-scales of migration, with the possibility of movement continuing for many decades following initial release. Most investigators select a sub-set of creosote compounds, based on mobility and toxicity to characterize water quality, such as naphthalene, benzo(a)pyrene, and phenanthrene.

Polychlorinated Biphenyls (PCBs) are a class of 209 chemical compounds referred to as congeners, in which between one and ten chlorine atoms are attached to a biphenyl molecule. The majority of PCBs were manufactured between 1930 and 1977 under the trade-name Aroclor for use in capacitors, transformers, printing inks, paints, pesticides, and other applications. Aroclors differ based on the amount and types of congeners present. PCBs by themselves are DNAPLs, and were often blended with carrier fluids such as chlorobenzenes and mineral oil prior to distribution. The density of most PCB oils ranges from 1.10 g/cc to 1.50 g/cc, while the viscosity ranges from 10 to 50 times that of water. Most congeners are very hydrophobic and their transport can be retarded strongly relative to the rate of groundwater migration. In some cases, however, PCB transport in groundwater can be facilitated through the formation of emulsions or the presence of colloids.

Chlorinated Solvents such as trichloroethene (TCE), tetrachloroethene (PCE) and carbon tetrachloride (CT) have been produced in large quantities since the mid 1900's. Some chlorinated solvents contain trace amounts of stabilizers, preservatives and impurities. Typical uses vary widely and include dry cleaning, metal degreasing, pharmaceutical production, pesticide formulation, and chemical intermediates. Chlorinated solvents can be encountered as single component DNAPLs (e.g., as primarily PCE at a dry cleaning facility, or as primarily TCE at a vapor degreasing facility), or as part of a multi-component DNAPL containing other organic compounds. The relatively high density (typically 1.10 g/cc to 2.20 g/cc) and low viscosity (typically ranging from half to twice that of water) of chlorinated solvents can result in a relatively short time-scale of migration following release compared to coal tar and creosote. In a dissolved-phase plume, most chlorinated solvents are not retarded strongly relative to the rate of groundwater flow.

Mixed DNAPLs A DNAPL that contains two or more compounds is referred to as a multi-component DNAPL (e.g., creosote). A mixed DNAPL is a multi-component DNAPL that contains a wide variety of organic compounds as a result of blending and mixing prior to disposal operations, or as a result of cotemporaneous disposal. Examples include DNAPLs encountered at former solvent recycling facilities and industrial disposal sites. Such DNAPLs can contain aromatic compounds normally associated with LNAPLs (e.g., toluene) along with chlorinated solvents, PCBs, alcohols, ketones, and tetrahydrofuran. The density of mixed DNAPLs typically ranges from 1.01 g/cc to 1.60 g/cc, and the dissolved-phase plumes associated with mixed DNAPLs usually contain a wide variety of compounds with varying mobility.

4.0 – DNAPL Source Zone Investigation Methods

This section presents various site investigation methods and related interpretation techniques that can be useful when characterizing a DNAPL source zone. These methods and techniques will be relied upon in Sections 5 (Assessing DNAPL Presence) and 6 (Delineation of the DNAPL Source Zone). Additional information is provided in (6, 26, 37).

A Visual Observation

DNAPL obtained from the bottom of a monitoring well or as an emulsion from a pumped water sample is conclusive evidence of DNAPL presence (pooled DNAPL). Monitoring wells can be sampled for DNAPL using bottom loading bailers lowered to the bottom of the well or pumping from the bottom of the well. If an interface probe indicates DNAPL presence, then the sample should be retrieved and it should be confirmed (visually, or through laboratory analysis) that the substance is DNAPL. If DNAPL is visually observed in drill cuttings or in a soil sample for the first time, then a sample should be sent to the laboratory for confirmatory evidence. This line of evidence is applicable in both unconsolidated deposits and fractured rock, but it should be noted that visual observation of DNAPL in rock core is rare because of the aggressive flushing nature of the drilling process. Because of the typically sparse and tortuous nature of DNAPL distribution in the subsurface, DNAPL is not encountered and visually observed within many DNAPL source zones.

B Chemical Concentrations in Soil Above Threshold DNAPL Saturation

Chemical concentrations in soil exceeding the value corresponding to a threshold DNAPL saturation are conclusive evidence of DNAPL presence (see Calculation 1). The threshold DNAPL saturation for use in Calculation 1 should be set to be between 5% and 10% of pore space for all DNAPL types. The particular threshold saturation chosen should result in a chemical concentration in soil that is an order of magnitude higher than that determined in line of evidence C. It follows that high organic carbon content soils and highly hydrophobic chemicals may require the use of threshold saturations toward the higher end of the above range. This method is applicable to unconsolidated media both above and below the water table, but is not applicable in fractured rock. The calculation requires knowledge of site-specific parameters and a quantitative chemical analysis of the soil. Care should be taken to sample soil horizons in core exhibiting the highest headspace readings and the strongest visual indication of DNAPL presence. The use of fixed depth intervals or compositing from several depth intervals is discouraged when collecting soil samples to evaluate the presence of DNAPL. Methanol preservation or a similar technique to reduce VOC losses during handling and transport of soil samples should be employed.

C Chemical Concentrations in Soil Above Partitioning Threshold

Chemical concentrations in soil exceeding the value corresponding to equilibrium partitioning relationships (see Calculation 2) are consistent with DNAPL presence (11). The composition of the DNAPL need not be known (see Calculation 4). The calculation is applicable to unconsolidated media both above and below the water table, but is not applicable in fractured rock. The calculation requires knowledge of site-specific parameters and a quantitative chemical analysis of the soil. Measured concentrations that only marginally exceed the calculated partitioning threshold may be false positives primarily because of uncertainty associated with estimating the soil-water partition coefficient.

D Site Use/Site History

Investigations during the past 30 years have shown that the subsurface occurrence of DNAPL is often associated with the industries, practices, and processes outlined in Table 1. Site Use/Site History can be ascertained using methods such as employee interviews, company purchase and sale records, aerial photographs, and building plans. Former lagoons, underground tanks, floor drains and leach fields are sometimes coincident with the location of DNAPL source areas.

E Vapor Concentrations

The location of a vapor-phase plume may be coincident with the current or former presence of DNAPL in the vadose zone. Mapping the vapor-phase plume may be useful in deciding where to collect additional data. Because some DNAPLs can completely vaporize in relatively short time periods (yet the vapors will persist much longer), the presence of vapors and the mapping of a vapor-phase plume should generally not be used in isolation to conclude that DNAPL is present in the vadose zone, or to delineate the spatial extent of the DNAPL source. Care should also be taken to avoid mistaking vapors derived from off-gassing of a groundwater plume with vapors derived from DNAPL sources. In-situ vapor concentrations can be sampled using invasive techniques (soil vapor surveys), and can be monitored during drilling. This line of evidence is not applicable to DNAPLs lacking a significant vapor pressure (e.g., coal tar, creosote, PCBs).

F Hydrophobic Dye Testing

Hydrophobic dyes such as Oil Red O will partition into DNAPL, imparting a red color to the organic liquid. Dye techniques are particularly useful when encountering a colorless DNAPL. Hydrophobic dye techniques include the jar shake test in which a soil or water sample is placed into a jar with a small amount of dye (6), and down-hole samplers that force a dye-impregnated absorbent ribbon against the borehole wall in either fractured rock or a direct push borehole (30). It should also be noted that the absence of staining on a down-hole ribbon sampler is not evidence of the absence of DNAPL, since only pooled DNAPL can migrate towards the sampler (residual DNAPL may be present in the formation adjacent to the sampling interval, and remain undetected).

Table 1 – Industries and Industrial Processes Historically Associated With DNAPL Presence (modified after USEPA, 1992).

Industry	*Industrial Process*
Manufactured gas plant, Wood preservation (creosote), Electronics manufacturing, Solvent production/recycling, Pesticide/Herbicide manufacturing, Dry cleaning, Instrument manufacturing, Metal product manufacturing, Engine manufacturing, Steel industry coking operations (coal tar), Chemical production, Airplane maintenance, Transformer oil production	Storage of solvents in uncontained drum storage areas, Metal cleaning/degreasing, Metal machining, Tool and die operations, Paint stripping, Use of vapor and liquid degreasers, Storage and transfer of solvents in above and below ground tanks and piping, Burning waste liquids, Storage and treatment of waste liquids in lagoons, Use of on-site disposal wells, Loading and unloading of solvents, Transformer reprocessing, Disposal of solvents in unlined pits.

The following lines of evidence G1 through G6 all make use of groundwater quality data and can be evaluated every sampling round.

G1 Magnitude of Groundwater Concentrations

Sampled groundwater concentrations in excess of 1% effective solubility (see Calculation 3) indicate that the sampled groundwater may have come in contact with DNAPL. If the composition of the DNAPL is not known, Calculation 6 can be used. The distance to the possible DNAPL locations cannot be determined from the magnitude of the concentration alone. Sampled groundwater concentrations downgradient of a DNAPL source zone can be significantly less than the effective solubility because of hydrodynamic dispersion, wellbore dilution, non-optimal monitoring well placement, and degradation processes. In cases where significant degradation is occurring in the dissolved-phase plume, daughter product concentrations can be converted to equivalent parent product concentrations before comparing to the 1% effective solubility threshold (see Calculation 8). However, it should be noted that daughter product compounds may also be part of a multi-component DNAPL. Monitoring well points where groundwater concentrations exceed 1% effective solubility can also be useful in locating additional sampling points potentially nearer to the possible DNAPL source zones. The interpretation of groundwater concentrations exceeding 1% effective solubility is discussed further in (27).

G2 Persistent Plume

The presence of a contiguous and persistent plume extending from suspected release locations in the downgradient direction is evidence of a continuing source (e.g., DNAPL). If 'sufficient time' has passed since the last possible introduction of contaminant to the subsurface and the plume has not 'detached' itself from the suspected release locations, a DNAPL source may be present. The 'sufficient time' is dependent on site-specific conditions such as groundwater velocity and the amount of sorption occurring (see Calculation 7). This line of evidence is applicable to both unconsolidated deposits and fractured rock, but can be inconclusive in environments subject to significant amounts of back diffusion (e.g., fractured bedrock with a porous matrix, fractured clay). Significant amounts of back diffusion can be the source of a persistent plume even if DNAPL is not present. This line of evidence is therefore most applicable to high permeability settings.

G3 Presence of Contamination in Apparently Anomalous Locations

The presence of contaminated groundwater in locations that are not downgradient of known or suspected sources may be evidence of DNAPL presence hydraulically upgradient of the monitoring point in question. An example includes the presence of dissolved-phase contamination in groundwater that is older than the potential contaminant release (using age dating) or in groundwater on the other side of a flow divide located between the monitoring location and suspected release locations. In Figure 1, for example, the presence of contamination in the illustrated monitoring well cannot be explained without the upgradient presence of DNAPL. This line of evidence is not contingent on any concentration threshold. Temporal changes in hydraulic heads and groundwater flow directions, as well as changes in historic pumping patterns should be considered at sites where groundwater extraction has, or is, occurring. Consideration should also be given to the presence of unknown or off-site sources that may account for the observed contamination.

G4 Groundwater Concentration Trends with Depth

Abrupt reversals of groundwater contaminant concentration levels with depth or increasing concentrations with depth can be associated with DNAPL presence. Concentration trends can be best detected using small interval sampling techniques [e.g., direct push sampling devices; short well screens; multilevel completions; cone penetrometer equipped with measurement probes (16, 26)]. Multilevel monitoring completions can be incorporated into open holes in bedrock to provide concentration as a function of depth. Other methods in bedrock include the use of temporary straddle-packer assemblies to sample specific depth intervals, and the use of diffusion bag samplers placed at specific depths. Use of these latter methodologies should be made only when intraborehole flow conditions have been adequately characterized.

G5 Groundwater Concentration Trends with Time

Groundwater downgradient of a multi-component DNAPL may exhibit a temporal decline in the concentration of the higher effective solubility compounds and a stable or increasing trend in time of the lower effective solubility compounds. Highly soluble and mobile compounds, such as low molecular weight alcohols, furans, ketones and some solvents such as methylene chloride may show a decreasing concentration versus time signature downgradient of a DNAPL source zone while at the same time higher molecular weight alcohols and semi-volatile compounds may show a stable concentration trend. This line of evidence is primarily applicable to mixed DNAPLs. Consideration should be given to compound specific biodegradation, which may result in the concentration of certain compounds decreasing and others (such as low molecular weight daughter products) increasing within the plume. Dissolved-phase concentrations downgradient of a single component DNAPL may decline due to removal of some of the source mass during dissolution; a declining concentration versus time signature does not preclude the presence of DNAPL.

G6 Detection of Highly Sorbing Compounds in Groundwater

The detection of highly sorbing and low solubility compounds which have low mobility in groundwater may be associated with a nearby DNAPL source. This line of evidence can be useful in delineating the extent of the DNAPL in the downgradient direction. Examples of compounds that have very low mobility in groundwater (absent transport facilitated by colloids, cosolvents, or emulsions) include PCBs and high molecular weight PAHs.

H

Other Types of Methods

Partitioning interwell tracer tests (PITTs) [1, 4, 15] involve the injection and withdrawal of a tracer that has the ability to partition into the DNAPL. While the method can be used to detect the presence of DNAPL, given the significant effort involved in conducting tracer tests, PITTs are typically employed after some level of source zone characterization has been completed. Literature sources suggest (for certain sites with appropriate geologic conditions and contaminant properties) measuring a depletion of Radon-222 in groundwater (34). Direct push platforms can be used to deploy a variety of probes to vertically profile contaminant concentrations. These probes include laser induced fluorescence (LIF) measurement devices (6, 31, 32) such as ROST (rapid optical screening tool) and TarGOST (tar-specific green optical screening tool), which is specifically designed for detecting the presence of coal tar and creosote (32); and probes employing Raman methods (31). LIF techniques respond well to the presence of NAPLs containing aromatic hydrocarbons, but may not be suitable for many chlorinated solvent DNAPLs. Direct push platforms can also be used to deploy a membrane interface probe (MIP) or a hydrosparge probe (8), both of which transfer contaminants to a flowing gas stream for analysis at the surface. Another measurement probe is the precision injection/extraction (PIX) device (23). The use of measurement probes with direct push platforms is becoming increasingly popular, but care should be taken in interpreting results with respect to DNAPL presence given that most of these devices provide a relative measure of total concentration. Consideration of the potential for, and consequences of, false positives should be given to each of these methods.

5.0 - Assessing DNAPL Presence

Determining the presence or absence of DNAPL is an important component of the site characterization process and subsequent development of a conceptual site model. The length of time and degree of effort required to determine the presence or absence of DNAPL will vary from site to site. Once it has been determined that DNAPL resides in the subsurface, the objectives for further investigation and potential remediation strategies can be established. This section focuses on methods to assess the presence of DNAPL; Section 6 of this document focuses on methods to delineate the DNAPL source zone.

Converging lines of evidence can be used to determine whether or not DNAPL is present in the subsurface. Figure 3 presents a graphical summary of the converging lines of evidence approach. Example calculation procedures are contained in Appendix A. All lines of evidence are discussed in Section 4, and are applicable to both unconsolidated deposits and fractured rock, unless noted otherwise. As indicated in Figure 3, either line of evidence A or B will lead to the conclusion that DNAPL is present. If A and B are both found to be negative, then the determination of whether DNAPL is present must be made on the basis of a weight of evidence approach, with multiple converging lines of evidence

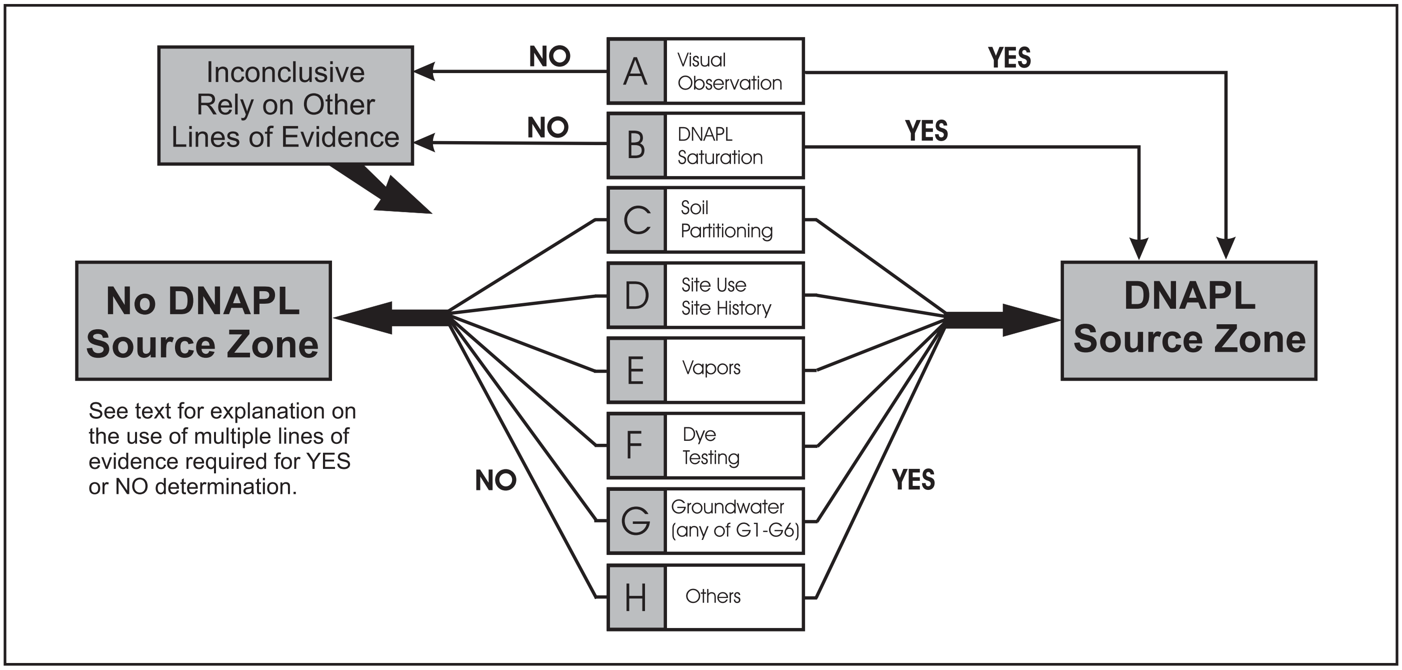

Figure 3 – Converging lines of evidence approach to assessing DNAPL presence. Methods B and C are not applicable to fractured rock.

combining to form either a positive or negative determination. Note that it is not likely that all of C through H will be satisfied at any one particular site, and that neither A nor B are necessary requirements to conclude that DNAPL is present. Most confirmed DNAPL source zones will have some of A through H determined to be negative. Because conditions vary from site to site, this document does not prescribe a specific number of lines of evidence that must be satisfied to arrive at either a positive or negative determination.

If the various lines of evidence contradict each other, it may be necessary to collect more data. It is possible that a minority of positive determinations can outweigh a majority of negative determinations if the positive lines of evidence cannot be explained without the presence of DNAPL. It should also be noted that not all sites lend themselves to collecting all of the types of data outlined here. In fractured rock, for example, soil vapor data and partitioning calculations would not be relied upon.

Evaluating the presence of DNAPL is an iterative process that incorporates new data as they are obtained. It is recognized here that certain types of data are more likely to be collected in the early stages of site investigation, while others (e.g., groundwater concentrations) can be collected on a routine basis throughout the investigation process. The fact that a number of lines of evidence are outlined in Figure 3 does not suggest that they should all be pursued at any one particular site. Site specific conditions will dictate what lines of evidence should be pursued. Care should be taken, however, to ensure that a negative response to the various lines of evidence is not simply attributable to inadequate characterization and an insufficient amount of data.

6.0 - Delineation of the DNAPL Source Zone

Depending on the spatial density of sampling points installed during initial investigation efforts, the general area within which the DNAPL resides may have been identified. Once it has been determined that DNAPL is present in the subsurface, the objectives for delineation of the source zone can be established. These objectives can vary from site to site, but typically involve one or more of the following:

- Delineation of the DNAPL source zone to ensure that the flow paths and quality of the groundwater downgradient of the source zone are monitored for the presence of dissolved-phase contaminants to assess protection of current and potential receptors.
- Delineation of the DNAPL source zone to facilitate proper design of containment systems involving groundwater extraction and/or physical barriers.
- Delineation of the DNAPL source zone to facilitate implementation of DNAPL mass removal technologies.
- Delineation of the DNAPL source zone as part of establishing boundaries for institutional controls.
- Delineation of the DNAPL source zone as part of Technical Impracticability assessments (41).

Given the selective nature of DNAPL migration, it is not feasible to determine the exact location and extent of individual DNAPL migration pathways within the overall confines of the source zone in either unconsolidated deposits, or fractured bedrock. Because data collection efforts typically involve a finite number of local-scale measurements taken at discrete locations (e.g., water quality samples, soil samples, etc.), some uncertainty will exist regarding the delineated spatial extent of the source zone.

To address the issue of uncertainty, it is recommended that both a ‘Confirmed/Probable’ DNAPL source zone be delineated, as well as a ‘Potential’ DNAPL source zone (see Figure 4). The Confirmed/Probable source zone is the volume within which compelling and multiple lines of evidence indicate that DNAPL is present. Note that what may be a compelling line of evidence at one site may not be so at another site (e.g., G2 Persistent Plume, is a stronger line of evidence in a high permeability setting than at a site where back-diffusion may dominate). The Potential source zone is of larger spatial extent, and is defined as that volume of the subsurface within which some lines of evidence indicate that DNAPL may be present, but the lines of evidence are not as numerous, consistent, or compelling as within the Confirmed/Probable source zone. Defining a Potential source zone outside of the Confirmed/Probable source zone addresses the uncertainty associated with finite amounts of data. This can be particularly useful in the hydraulically downgradient direction where it is often difficult to determine the distance to the edge of the DNAPL source zone based on groundwater quality data (e.g., using lines of evidence G1 through G6).

With respect to the various criteria for assessing DNAPL presence outlined in Section 4, lines of evidence A and B will both fall within the Confirmed/Probable source zone. All other lines of evidence (C through H) could fall within either the Confirmed/Probable source zone, or the Potential source zone. Note also that positive determinations for lines of evidence A and B are not necessary to define a Confirmed/Probable source zone. The defining feature of the Confirmed/Probable source zone is that multiple lines of evidence indicate that DNAPL is present. In practice, this will manifest itself as various lines of evidence all plotting within the same general spatial area on plan view and cross-section figures (see Figure 4 for plan view example). Within the Potential source zone, there will be fewer lines of evidence, and their occurrence may not be as contiguous as within the Confirmed/Probable source zone. Consideration should be given to known DNAPL release locations and structural aspects of the geology (e.g., dipping beds, dipping fractures) when delineating both the Confirmed/Probable and Potential source zones.

There is no prescriptive number of lines of evidence that separate the two source zone delineations. The individual lines of evidence cannot be weighted either, as the strength of the uncertainty/certainty determination is dependent on how often more than one line of evidence occurs at a particular location and how many contiguous locations have multiple lines of evidence; assigning a weighting factor to each line would negate this objectivity. Furthermore, many factors influence the transport of the DNAPL and the associated concentration of the dissolved-phase constituents such that a weighting factor could not be fairly assigned for all types of hydrogeologic environments and types of DNAPL contaminants.

The amount of acceptable uncertainty in delineating the source zone boundaries is likely to be dependent on the remedial actions considered. If hydraulic or physical containment of the DNAPL source zone were a component of the remedial actions, for example, an accurate delineation of the Potential source zone would be war-

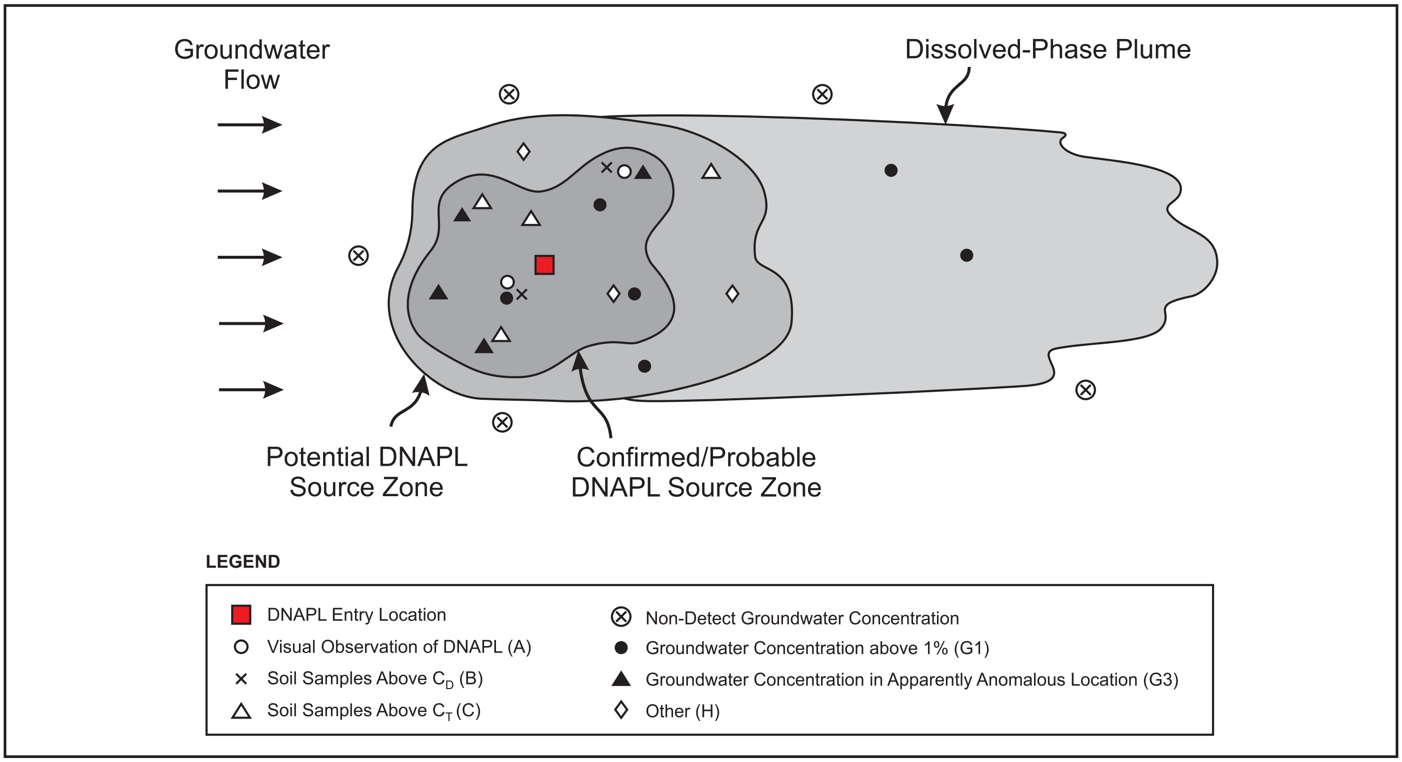

Figure 4 – Example of plan view schematic illustrating confirmed/probable and potential DNAPL source zones. Note that not all lines of evidence are depicted. Types and distribution of lines of evidence will vary from site to site.

ranted (the likely target for hydraulic containment) and accurate delineation of the Confirmed/Probable source zone may not be necessary. If the remedial actions included implementation of a DNAPL mass removal technology, however, then an accurate delineation of the Confirmed/Probable DNAPL source zone (the likely target for mass removal) would be warranted. A similar approach may be appropriate for designating a zone of technical impracticability (TI). Overestimating the size of the Confirmed/Probable source zone could overstate costs for technology application and may result in a particular technology being screened out. Underestimating the size of the Confirmed/Probable source zone, on the other hand, could lead to underestimation of costs and the perception of poor performance following completion of technology application. Monitoring points outside of an underestimated source zone may provide data showing little, if any, benefit resulting from source zone removal or treatment.

Typically, to refine the locations of the boundaries, additional drilling and sampling may be required between the Confirmed/Probable and Potential DNAPL areas. Figure 5 depicts an iterative process of data collection. Usually the degree of uncertainty in delineating these two zones will be greater in a more complex hydrogeologic environment. Although additional sampling points may be easily installed in shallow, unconsolidated materials, the same level of effort may not be feasible or may be cost prohibitive in deep fractured rock. Care must also be taken to ensure that drilling and sampling activities do not mobilize DNAPL deeper in to the subsurface. Strategies in place of extensive drilling to depth within the source zone include drilling adjacent to the suspected source zone and using lines of evidence such as G1 through G6 to infer DNAPL presence in the upgradient direction.

In all environments, the risks of potentially mobilizing the DNAPL and the associated incremental costs of additional sampling points should be compared to the benefits of increased ability to evaluate the spatial extent of the DNAPL. Additionally, site investigators should have a DNAPL Contingency Plan on hand in the field to address actions to be taken if pooled DNAPL is encountered during drilling. At some sites, it may be desirable to adopt an ‘outside in’ approach to reduce the number of invasive borings that need to be placed within the DNAPL source zone.

In addition to delineating the spatial extent of the source zone, investigators may need to assess whether or not DNAPL is still migrating within the subsurface. The assessment of mobility can be carried out using screening calculations (27) and observations such as an expanding area of lines of evidence indicating DNAPL presence. Other features of the source zone that may be of interest include the mass of DNAPL present, the mass flux downgradient of the source zone, and the relative proportions of residual versus pooled DNAPL. Calculation 1 can be used to distinguish between residual and pooled DNAPL in soil samples by selecting a saturated threshold above which DNAPL is considered pooled. Also of note is the fact that residual DNAPL will not enter monitoring wells, implying that the accumulation of DNAPL in a well indicates the presence of pooled DNAPL in the formation. Details regarding how to estimate the mass of DNAPL present in a source zone or the distribution of mass flux downgradient of the source zone, however, are beyond the scope of this document.

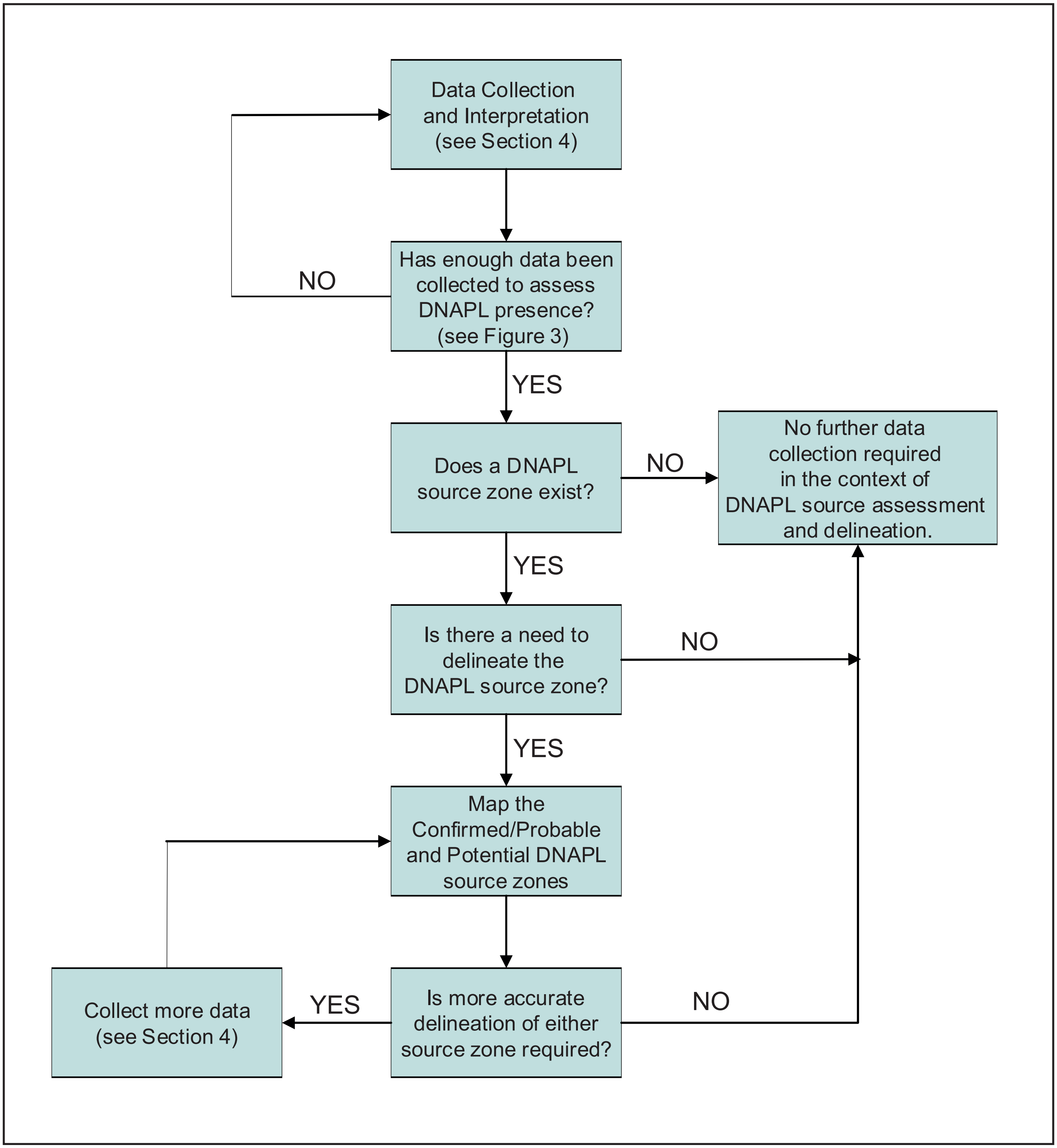

Figure 5 - Flowchart depicting iterative data collection process used in refining the DNAPL source zone boundaries.

7.0 - Glossary

Bulk Retention Capacity is defined as the total volume of DNAPL that has been retained as residual and pooled DNAPL in a unit volume of the subsurface. The bulk retention capacity accounts for the fact that not all lenses, laminations and geological units within a source zone contain DNAPL (27), and it is a function of the release history, geology and DNAPL properties. In unconsolidated media, the bulk retention capacity can be in the range from 0.005 to 0.03 (36). In fractured media, the bulk retention capacity can be in the range of 0.0002 to 0.002 (36). Fractured rock and clay cannot retain as much DNAPL per unit volume as unconsolidated deposits.

Capillary Barriers are fine grained lenses, layers and laminations upon which lateral spreading and pooling of DNAPL can occur. Even if the capillary barrier is penetrated by the DNAPL, it is likely that lateral spreading will have occurred along the top surface of the barrier prior to the capillary pressure having exceeded the entry pressure of the barrier. The finer grained the capillary barrier, the higher the pool height of DNAPL that it can support (17).

Capillary Pressure is the pressure difference between two immiscible liquids and arises because of interfacial tension. It is calculated as the non-wetting phase pressure minus the wetting phase pressure. If the DNAPL is the non-wetting phase and water is the wetting phase, for example, the capillary pressure would be the DNAPL pressure minus the water pressure.

DNAPL (Dense, Non-Aqueous Phase Liquid) is an organic liquid that is more dense than water and does not mix freely with water. A ***single-component DNAPL*** is composed of only one chemical. A ***multi-component DNAPL*** is composed of two or more chemical components.

DNAPL Source Zone The DNAPL source zone is the overall volume of the subsurface containing residual and/or pooled DNAPL. Not all portions (e.g., lenses, laminations, or fractures) of the source zone will contain residual and/or pooled DNAPL. The ***Confirmed/Probable DNAPL Source Zone*** is the part of the source zone within which it is known or highly likely that DNAPL exists. The ***Potential DNAPL Source Zone*** is the part of the source zone within which it is possible that DNAPL exists, but the lines of evidence indicating DNAPL presence are either fewer or are not as strong as those associated with the Confirmed/Probable DNAPL Source Zone.

Dissolved-phase Plume The zone of contamination containing dissolved-phase constituents resulting from groundwater flowing past residual and pooled DNAPL. The contaminants present in the plume are subject to advection, dispersion, and possibly sorption, decay, and matrix diffusion. Dissolved-phase plumes can be sustained by back diffusion from low permeability regions in the absence of DNAPL.

Effective Solubility For a multi-component DNAPL, the equilibrium solubility in water of any component of the DNAPL is referred to as the component's effective solubility. In general, the various components of a DNAPL suppress each other's aqueous solubility implying that effective solubilities are typically less than single-component (handbook) solubilities. For structurally similar compounds, the effective solubility can be estimated using Raoult's Law (2).

Interfacial Tension (IFT) is a tensile force that exists in the interface separating DNAPL and water. Because of interfacial tension, DNAPLs do not mix freely with water and exist in the subsurface as a separate liquid phase. IFT is a site-specific value that can be assessed with a simple laboratory test if a sample of DNAPL can be obtained. Literature values tend to overestimate the IFT encountered at sites. In general, higher IFT leads to more lateral spreading of DNAPL in horizontally bedded deposits, stronger capillary trapping forces, and a greater tendency for DNAPL pooling.

Mole Fraction refers to the proportion of a component, on the basis of moles, in a multi-component DNAPL. The sum of all the mole fractions is unity. Mass fractions, as provided by laboratory analysis, can be converted to mole fractions using the molecular weight of each component (see calculation 5).

1% Rule of Thumb is a generality that sampled groundwater concentrations in excess of 1% effective solubility (see Calculation 3) indicate that DNAPL may be present in the vicinity of (any direction) the monitoring point of interest. The distance between the monitoring point in question and the DNAPL source zone varies from site to site and is generally difficult to quantify with a high degree of accuracy.

Pooled DNAPL refers to local, continuous distributions of DNAPL that accumulate above capillary barriers. The capillary barriers are typically lower permeability horizons, and they can occur at any elevation in the subsurface. Within the pool, the DNAPL saturation is typically between 30% and 80% of pore space in both porous media and fractures (27). Because pools are contiguous through the pore structure they are potentially mobile and can migrate into monitoring wells, and can be mobilized by increases in the hydraulic gradient or lowering of IFT.

Raoult's Law is given by $C_i = m_i S_i$ where C_i is the effective solubility (mg/l) of component *i*, m_i is the mole fraction (unitless) of component *i* in the DNAPL, and S_i is the single-component (handbook) solubility of component *i* (2). This expression assumes ideal partitioning behavior and is used to estimate the maximum concentrations in groundwater immediately adjacent to residual and pooled DNAPL.

Residual DNAPL refers to disconnected blobs and ganglia of the DNAPL, trapped by capillary forces in the pore space of both porous media and fractures (21, 27, 44). The blobs and ganglia are typically from 1 to 10 grain diameters in size in unconsolidated deposits (44), and are left behind in the pathways that DNAPL has migrated through.

Residual Saturation refers to the volume of residual DNAPL present in a unit volume of pore space. Residual DNAPL saturations typically vary between 5% and 30% of pore space in both porous media and fractures (21, 27, 44).

Source Zone Architecture refers to (i) the overall shape and dimensions of the source zone, (ii) the ratio of residual to pooled DNAPL (also referred to as the ganglia to pool ratio), (iii) the lateral continuity of zones of residual DNAPL and DNAPL pools, (iv) the thickness of zones of residual DNAPL and DNAPL pools, and (v) the portion of lenses and layers containing DNAPL versus those void of DNAPL. The source zone architecture influences the downgradient dissolved-phase plume concentrations and mass flux distribution.

Wettability refers to the affinity of the DNAPL for a solid surface in the presence of water (6, 27). Many DNAPLs are non-wetting, implying that they will preferentially occupy the pore spaces within coarser grained lenses and laminations, and larger aperture fractures. Some DNAPLs are wetting with respect to water, however, implying that they will preferentially coat the aquifer materials and thereby occupy the pore spaces of the finer grained media. Coarser grained horizons and larger aperture fractures represent capillary barriers to DNAPLs that are wetting with respect to water.

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Notice

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Appendix A - Example Calculations

Note that the following calculations are generally subject to uncertainty because of input parameter variability. This variability may stem from spatial or temporal variation in site-specific conditions, or variation in textbook parameters such as contaminant chemical properties. The investigator is advised to make conservative choices with respect to input parameters and consider using a range of either measured or estimated values when performing calculations.

Calculation 1 – Chemical Concentration in Soil Corresponding to Threshold DNAPL Saturation

$$\boxed{C_D = \frac{S_r \phi \rho_N 10^6}{\rho_b} + C^T}$$

C_D = soil concentration (mg/kg) corresponding to threshold DNAPL saturation [calculated],

S_r = threshold DNAPL saturation [set between 0.05 and 0.10],

ϕ = effective porosity (unitless) [site specific measurement],

ρ_N = DNAPL density (g/cc) [site specific measurement],

ρ_b = dry soil bulk density (g/cc) [site specific measurement],

C^T = amount of contaminant (mg/kg) present in the soil sample in the aqueous, vapor, and sorbed phases [see Calculation 2 to evaluate C^T].

Example Calculation

PCE DNAPL (ρ_N = 1.62 g/cc) in a soil sample with S_r = 0.05, ϕ = 0.25 and ρ_b = 2.0 g/cc corresponds to (ignoring the C^T fraction) C_D = 10,125 mg/kg. Note that the quantity C^T is typically negligible compared to the DNAPL saturation term. The above equation is applicable to single-component DNAPLs in unconsolidated porous media. See reference (25) for the relationship between C_D and DNAPL saturation for a multi-component DNAPL. It should be noted that $0.05 \leq S_r \leq 0.10$ is suitable for geologic deposits having typical ranges of f_{oc} values (i.e., less than 2%). In general, the value of S_r should be chosen such that the resulting C_D is at least an order of magnitude higher than the C^T in calculation 2 arrived at using the highest f_{oc} value measured at the site.

Calculation 2 – Threshold Chemical Concentration in Soil Based on Partitioning Relationships (see Ref. 11)

$$\boxed{C_i^T = \frac{C_i}{\rho_b}\left(K_d \rho_b + \theta_w + H' \theta_a\right)}$$

C_i^T = soil concentration (mg/kg) threshold for component *i* [calculated],

C_i = effective solubility (mg/l) [see Calculation 3] of component *i* [calculated],

ρ_b = dry soil bulk density (g/cc) [site specific measurement],

K_d = soil-water partition coefficient (ml/g) [calculated using $K_d = K_{oc} f_{oc}$],

θ_w = water-filled porosity (unitless) [calculated from site specific measurement of moisture content],

H' = unitless Henry's constant [handbook],

θ_a = air-filled porosity (unitless) [site specific measurement],

K_{oc} = organic carbon - water partition coefficient (ml/g),

f_{oc} = fraction organic carbon (unitless) [site specific measurement].

C_i^T represents the maximum amount of contaminant *i* that can be present in a porous media sample in the sorbed, aqueous, and vapor phases without a DNAPL phase present. The calculation can be applied below the water table by setting $\theta_a = 0$. Note that the water-filled porosity and the air-filled porosity sum to the total porosity. Note also that the calculation of C_i^T is typically more sensitive to f_{oc} than it is to the porosity values.

Example Calculation

Consider a single-component DNAPL composed of TCE (C_i = 1100 mg/l, K_{oc} = 126 ml/g, H' = 0.31) in a soil sample having θ_w = 0.15, θ_a = 0.10, ρ_b = 2.0 g/cc, and f_{oc} = 0.003. The corresponding value of C^T is 515 mg/kg. For a multi-component DNAPL, a separate value of C_i^T would be calculated using the above equation for each component detected in the soil sample.

Calculation 3 – Effective Solubility Calculated Using Raoult's Law (see Ref. 2)

$$\boxed{C_i = m_i S_i}$$

C_i = effective solubility (mg/l) of component *i* [calculated],

m_i = mole fraction (unitless) of component *i* in the DNAPL [site specific measurement],

S_i = single-component solubility (mg/l) of component *i* [handbook].

Example Calculation

Consider a 3-component DNAPL composed (by mass) of 25% TCE (S_i = 1100 mg/l), 35% PCE (S_i = 200 mg/l), and 40% toluene (S_i = 500 mg/l); the corresponding mole fractions (see Calculation 5) are 0.23, 0.25, and 0.52 respectively, and the corresponding effective solubilities are 250 mg/l, 50 mg/l, and 260 mg/l respectively. Sampled groundwater concentrations in excess of 1% of any of these effective solubilities are evidence of possible DNAPL presence in the vicinity of the monitoring point. The distance to the DNAPL cannot be determined on the basis of the magnitude of the groundwater concentration alone. In cases where some of the components of the DNAPL are not known, the unknown mass fraction can be assigned an estimated molecular weight, or the average of the molecular weights of the known components.

Calculation 4 – Threshold Chemical Concentration in Soil Based on Partitioning Relationships Where Composition of DNAPL is Not Known

$$\boxed{\sum_{i=1}^{n} \frac{C_{obs,\,i}^T}{C_{S,\,i}^T} \geq 1}$$

$C_{obs,\,i}^T$ = reported concentration (mg/kg) of component *i* [site specific measurement],

$C_{S,\,i}^T$ = single component soil partitioning concentration (mg/kg) of component *i* (see C_i^T in Calculation 2),

n = number of components observed in the soil sample [site specific measurement].

For a multi-component DNAPL of unknown composition, the sum of the mole fractions must equal unity. DNAPL will therefore be present in a soil sample if sum of $\frac{C_{obs,i}^T}{C_{S,i}^T}$ exceeds unity.

Note that $C_{S,\,i}^T$ is calculated for each component in the summation using Calculation 2 with the single-component solubility as input. The presented technique can be prone to false negatives in cases where the soil sample was not analyzed for some of the components of the DNAPL. Because of this, it may be prudent in some cases to only use the calculation for demonstrating that DNAPL was present in a soil sample and not rely upon it to demonstrate that DNAPL was absent from a soil sample.

Example Calculation

The table below provides an example calculation for a soil sample in which 5 components have been detected. The sample is characterized by a porosity of 25%, a fraction organic carbon of 0.003, and a dry bulk density of 1.99 g/cc. The last column of the table sums to greater than 1.0, indicating that DNAPL was present in the soil sample.

Compound	$C^{T}_{obs,\,i}$ (mg/kg)	K_{OC} (l/kg)	Handbook Solubility (mg/l)	$C^{T}_{S,\,i}$ (mg/kg)	$\frac{C^{T}_{obs,i}}{C^{T}_{S,i}}$
Trichloroethylene	145	126	1100	554	0.262
Tetrachloroethylene	155	364	200	244	0.636
Carbon Tetrachloride	200	439	790	1140	0.175
Chlorobenzene	177	330	500	558	0.317
1,1,1-Trichloroethane	213	152	1320	768	0.277
				SUM =	**1.668**

Calculation 5 – Mole Fraction (n-component DNAPL)

$$\boxed{m_i = \frac{\dfrac{ms_i}{mw_i}}{\dfrac{ms_i}{mw_i} + \dfrac{ms_{i+1}}{mw_{i+1}} + \dots \dfrac{ms_n}{mw_n}}}$$

m_i = mole fraction of component i (unitless) in the DNAPL [calculated],

ms_i = mass fraction of component i (unitless) in the DNAPL [measured],

mw_i = molecular weight (g/mol) of component i [handbook].

Example Calculation

Consider a 3-component DNAPL composed by mass of 25% TCE (*mw* = 131.5 g/mol), 35% PCE (*mw* = 165.8 g/mol), and 40% toluene (*mw* = 92.1 g/mol). The corresponding mole fractions are 0.23, 0.25, and 0.52 respectively. In cases where some of the components of the DNAPL are not known, the unknown mass fraction can be assigned an estimated molecular weight, or the average of the molecular weights of the known components.

Calculation 6 – 1% Effective Solubility Threshold Not Knowing DNAPL Composition

$$\boxed{\sum_{i=1}^{n} \frac{C_i^{obs}}{S_i} = \alpha}$$

C_i^{obs} = sampled groundwater concentration (mg/l) of component i [site specific measurement],

S_i = single-component solubility (mg/l) of component i [handbook],

α = cumulative mole fraction of the sample [set],

n = number of components in groundwater sample.

Calculation assumes that the degree of borehole dilution, dispersion, and degradation is identical for each component of interest in an obtained groundwater sample. If the 1% rule-of-thumb is used, DNAPL may be present in the vicinity of a monitoring well if $\alpha > 0.01$. The procedure can be applied on a sample-by-sample basis without having to make the assumption that the DNAPL composition is spatially uniform in the subsurface. If it is believed that a value other than 1% effective solubility indicates DNAPL presence, α can be set to the corresponding value. The presented technique can be prone to false negatives where the groundwater sample was not analyzed for some of the components of the DNAPL. Because of this, it may be prudent in some cases to only use the calculation for demonstrating that α has been exceeded in a sample and not rely upon it to demonstrate that α was not exceeded in a sample.

Example Calculation

The table below presents an example calculation for 5 components. Although each component has been detected at a concentration less than 1% of S_i, the cumulative mole fractions sum to 3.4%, providing evidence of possible DNAPL presence in the vicinity of the monitoring location. If the groundwater sample is not analyzed for all components present in the DNAPL, or if any compounds are degrading in the aqueous phase, the calculation procedure will underestimate the likelihood of DNAPL presence.

Compound	C_i^{obs} ***(mg/l)***	S_i ***(mg/l)***	$\frac{C_i}{S_i}$
Trichloroethene	4.4	1100	0.004
Tetrachloroethene	1.8	200	0.009
Toluene	3.5	500	0.007
Chlorobenzene	4.0	500	0.008
Trichloromethane	48.0	8000	0.006
$\sum \frac{C_i^{obs}}{S_i}$			**0.034**

Calculation 7 – Plume Detachment Time

$$\boxed{t = \frac{LR}{v}}$$

t = time (yrs) required for contaminants to migrate through source zone of length L in the direction of groundwater flow,

v = average linear groundwater velocity (m/yr) [site specific],

R = retardation factor (unitless) for the contaminant of interest [site specific measurement – see calculation below],

L = length (m) of source zone in direction of flow [site specific measurement].

Calculation assumes unidirectional, steady-state flow conditions subject to advection and sorption only (dispersion and matrix diffusion are ignored). The calculation assumes that contaminant mass is not being added to the saturated flow system from any unsaturated zone sources (e.g., leaching and desorption). Note that R is often approximated in unconsolidated media by

$$R = 1 + \frac{\rho_b}{\phi} K_{oc} f_{oc}$$

where ρ_b is the dry bulk density (g/cc), ϕ is the porosity (unitless), K_{oc} is the organic-carbon partition coefficient (ml/g), and f_{oc} is the fraction organic carbon (unitless). Calculations considering dispersion and degradation can be found in (10).

Example Calculation

Using L = 50 m, v = 25 m/yr, and R = 5, the source zone should be flushed of dissolved and sorbed contaminants in approximately 10 years following the last release of contaminants. Dispersion, which always occurs, will lengthen this time as will back-diffusion, if it is occurring. In cases where complicated flow conditions exist and where it is desired to account for dispersion and back-diffusion, numerical models can be used to perform the assessment.

Calculation 8 – Conversion to Parent Compound

Daughter product concentrations can be converted to equivalent parent product concentrations by converting the daughter mass/volume concentrations to moles/volume, attributing that number of moles to the parent, and then converting the parent concentration to mass/volume.

Example Calculation

Consider a groundwater sample containing 500 ppb PCE, 400 ppb TCE, 1300 ppb cis-1,2 DCE and 44 ppb VC at a site where it is known that only PCE was released to the subsurface. It is assumed that biodegradation has not progressed beyond VC. The PCE concentration of 500 ppb is less than 1% of the PCE solubility (1% PCE solubility is 2000 ppb). Given TCE, cis-1,2 DCE and VC molecular weights of 131.5, 97.0 and 62.5 g/mol, respectively, the groundwater concentrations of these compounds are equal to 3.042E-06 mol/l, 1.340E-05 mol/l and 7.040E-07 mol/l, respectively. Assuming that each mole of daughter product derives from one mole of parent product, the equivalent total concentration of parent product is 2.016E-05 mol/l. This corresponds to an equivalent parent (PCE) concentration of 3343 ppb (PCE molecular weight 165.8 g/mol), which exceeds the 1% solubility value of 2000 ppb.

United States
Environmental Protection
Agency

National Risk Management
Research Laboratory
Cincinnati, OH 45268

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EXHIBIT Y

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H` (unitless)	HLC (atm-m^3/mole)	H` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
Sodium Tungstate	13472-45-2	2.9E+02	CRC89						7.0E+02	CRC89	4.2E+00	CRC89										7.4E+05	CRC89	6.6E-03	4.6E+00	1.1E+01	1.0E-03	RAGSE
Sodium Tungstate Dihydrate	10213-10-2	3.3E+02	CRC89						1.0E+02	CRC89	3.3E+00	CRC89										7.4E+05	CRC89	7.0E-03	7.4E+00	1.8E+01	1.0E-03	RAGSE
Stirofos (Tetrachlorovinphos)	961-11-5	3.7E+02	PHYSPROP	7.5E-08	1.8E-09	EPI	4.2E-08	PHYSPROP	9.8E+01	PHYSPROP			3.7E-02	4.3E-06	EPA WATER9			1.4E+03	EPI	3.5E+00	PHYSPROP	1.1E+01	PHYSPROP	2.3E-02	1.2E+01	2.8E+01	3.1E-03	EPI
Strontium Chromate	7789-06-2	2.0E+02	CRC89								3.9E+00	CRC89										1.1E+03	CRC89	5.5E-03	1.5E+00	3.5E+00	1.0E-03	RAGSE
Strontium, Stable	7440-24-6	8.8E+01	PHYSPROP						7.8E+02	PHYSPROP	2.6E+00	CRC89				3.5E+01	BAES							3.6E-03	3.3E-01	7.8E-01	1.0E-03	RAGSE
Strychnine	57-24-9	3.3E+02	PHYSPROP	3.1E-12	7.6E-14	PHYSPROP	2.9E-09	PHYSPROP	2.9E+02	PHYSPROP	1.4E+00	CRC89	2.2E-02	5.6E-06	EPA WATER9			5.4E+03	EPI	1.9E+00	PHYSPROP	1.6E+02	PHYSPROP	2.8E-03	7.8E+00	1.9E+01	4.0E-04	EPI
Styrene	100-42-5	1.0E+02	PHYSPROP	1.1E-01	2.8E-03	PHYSPROP	6.4E+00	PHYSPROP	-3.1E+01	PHYSPROP	9.0E-01	CRC89	7.1E-02	8.8E-06	EPA WATER9			4.5E+02	EPI	3.0E+00	PHYSPROP	3.1E+02	PHYSPROP	1.5E-01	4.0E-01	9.7E-01	3.7E-02	EPI
Styrene-Acrylonitrile (SAN) Trimer	NA	2.1E+02	OTHER								1.1E+00	PPRTV	2.6E-02	6.5E-06	EPA WATER9					3.1E+00	OTHER	8.5E+01	PPRTV	6.6E-02	1.6E+00	3.8E+00	1.2E-02	RAGSE
Sulfolane	126-33-0	1.2E+02	PHYSPROP	2.0E-04	4.9E-06	PHYSPROP	4.1E-03	EPI	2.8E+01	PHYSPROP	1.3E+00	CRC89	7.2E-02	9.9E-06	EPA WATER9			9.1E+00	EPI	-7.7E-01	PHYSPROP	1.0E+06	PHYSPROP	4.3E-04	5.0E-01	1.2E+00	1.0E-04	EPI
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	2.9E+02	PHYSPROP	5.6E-06	1.4E-07	PHYSPROP	8.1E-07	PHYSPROP	1.5E+02	PHYSPROP			4.4E-02	5.1E-06	EPA WATER9			2.9E+03	EPI	3.9E+00	PHYSPROP	2.4E+00	PHYSPROP	9.7E-02	4.3E+00	1.0E+01	1.5E-02	EPI
Sulfur Trioxide	7446-11-9	8.0E+01	PHYSPROP				2.6E+02	PHYSPROP	1.7E+01	PHYSPROP	1.9E+00	CRC89	1.2E-01	1.6E-05	EPA WATER9									3.4E-03	3.0E-01	7.1E-01	1.0E-03	RAGSE
Sulfuric Acid	7664-93-9	9.8E+01	PHYSPROP				5.9E-05	PHYSPROP	1.0E+01	PHYSPROP	1.8E+00	CRC89										1.0E+06	PHYSPROP	3.8E-03	3.7E-01	8.9E-01	1.0E-03	RAGSE
Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	3.3E+02	PHYSPROP	7.8E-06	1.9E-07	PHYSPROP	2.2E-07	PHYSPROP	-3.2E+01	PHYSPROP	1.1E+00	CRC89	2.0E-02	5.0E-06	EPA WATER9			5.6E+03	EPI	4.8E+00	PHYSPROP	5.9E-01	PHYSPROP	2.3E-01	7.9E+00	1.9E+01	3.3E-02	EPI
TCMTB	21564-17-0	2.4E+02	PHYSPROP	2.7E-10	6.5E-12	PHYSPROP	3.1E-07	PHYSPROP	1.5E+02	EPI			4.9E-02	5.8E-06	EPA WATER9			3.4E+03	EPI	3.3E+00	PHYSPROP	1.3E+02	PHYSPROP	6.7E-02	2.3E+00	5.5E+00	1.1E-02	EPI
Tebuthiuron	34014-18-1	2.3E+02	PHYSPROP	4.9E-09	1.2E-10	PHYSPROP	3.0E-07	PHYSPROP	1.6E+02	PHYSPROP			5.1E-02	5.9E-06	EPA WATER9			4.2E+01	EPI	1.8E+00	PHYSPROP	2.5E+03	PHYSPROP	7.4E-03	2.0E+00	4.8E+00	1.3E-03	EPI
Temephos	3383-96-8	4.7E+02	PHYSPROP	8.0E-08	2.0E-09	PHYSPROP	7.9E-08	PHYSPROP	3.0E+01	PHYSPROP	1.3E+00	CRC89	1.8E-02	4.5E-06	EPA WATER9			9.5E+04	EPI	6.0E+00	PHYSPROP	2.7E-01	PHYSPROP	2.9E-01	4.3E+01	1.0E+02	3.5E-02	EPI
Terbacil	5902-51-2	2.2E+02	PHYSPROP	4.9E-09	1.2E-10	EPI	4.7E-07	PHYSPROP	1.8E+02	PHYSPROP	1.3E+00	CRC89	2.7E-02	7.2E-06	EPA WATER9			5.0E+01	EPI	1.9E+00	PHYSPROP	7.1E+02	PHYSPROP	9.7E-03	1.7E+00	4.1E+00	1.7E-03	EPI
Terbufos	13071-79-9	2.9E+02	PHYSPROP	9.8E-04	2.4E-05	EPI	3.2E-04	PHYSPROP	-2.9E+01	PHYSPROP	1.1E+00	CRC89	2.2E-02	5.4E-06	EPA WATER9			1.0E+03	EPI	4.5E+00	PHYSPROP	5.1E+00	PHYSPROP	2.3E-01	4.3E+00	1.0E+01	3.6E-02	EPI
Terbutryn	886-50-0	2.4E+02	PHYSPROP	8.8E-07	2.2E-08	EPI	1.7E-06	PHYSPROP	1.0E+02	PHYSPROP	1.1E+00	CRC89	2.4E-02	6.0E-06	EPA WATER9			6.1E+02	EPI	3.7E+00	PHYSPROP	2.5E+01	PHYSPROP	1.3E-01	2.4E+00	5.7E+00	2.1E-02	EPI
Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47	5436-43-1	4.9E+02	PHYSPROP	1.2E-04	3.0E-06	PHYSPROP	7.0E-08	EPI	1.6E+02	EPI			3.1E-02	3.6E-06	EPA WATER9			1.3E+04	EPI	6.8E+00	PHYSPROP	1.5E-03	PHYSPROP	7.9E-01	5.5E+01	2.1E+02	9.3E-02	EPI
Tetrachlorobenzene, 1,2,4,5-	95-94-3	2.2E+02	PHYSPROP	4.1E-02	1.0E-03	PHYSPROP	5.4E-03	EPI	1.4E+02	PHYSPROP	1.9E+00	CRC89	3.2E-02	8.8E-06	EPA WATER9			2.2E+03	EPI	4.6E+00	PHYSPROP	6.0E-01	PHYSPROP	6.6E-01	1.7E+00	6.7E+00	1.2E-01	EPI
Tetrachloroethane, 1,1,1,2-	630-20-6	1.7E+02	PHYSPROP	1.0E-01	2.5E-03	PHYSPROP	1.2E+01	PHYSPROP	-7.0E+01	PHYSPROP	1.5E+00	CRC89	4.8E-02	9.1E-06	EPA WATER9			8.6E+01	EPI	2.9E+00	PHYSPROP	1.1E+03	PHYSPROP	7.9E-02	9.2E-01	2.2E+00	1.6E-02	EPI
Tetrachloroethane, 1,1,2,2-	79-34-5	1.7E+02	PHYSPROP	1.5E-02	3.7E-04	PHYSPROP	4.6E+00	PHYSPROP	-4.4E+01	PHYSPROP	1.6E+00	CRC89	4.9E-02	9.3E-06	EPA WATER9			9.5E+01	EPI	2.4E+00	PHYSPROP	2.8E+03	PHYSPROP	3.5E-02	9.2E-01	2.2E+00	6.9E-03	EPI
Tetrachloroethylene	127-18-4	1.7E+02	PHYSPROP	7.2E-01	1.8E-02	PHYSPROP	1.9E+01	PHYSPROP	-2.2E+01	PHYSPROP	1.6E+00	CRC89	5.0E-02	9.5E-06	EPA WATER9			9.5E+01	EPI	3.4E+00	PHYSPROP	2.1E+02	PHYSPROP	1.7E-01	8.9E-01	2.1E+00	3.3E-02	EPI
Tetrachlorophenol, 2,3,4,6-	58-90-2	2.3E+02	PHYSPROP	3.6E-04	8.8E-06	EPI	6.7E-04	EPI	7.0E+01	PHYSPROP			5.0E-02	5.9E-06	EPA WATER9			3.0E+03	EPI	4.5E+00	PHYSPROP	2.3E+01	PHYSPROP	4.2E-01	2.1E+00	5.0E+00	7.1E-02	EPI
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	2.3E+02	PHYSPROP	7.9E-03	1.9E-04	PHYSPROP	3.8E-02	PHYSPROP	4.0E+01	EPI	1.4E+00	CRC89	2.8E-02	7.3E-06	EPA WATER9			1.6E+03	EPI	4.5E+00	PHYSPROP	4.0E+00	PHYSPROP	4.9E-01	2.0E+00	4.9E+00	8.4E-02	EPI
Tetraethyl Dithiopyrophosphate	3689-24-5	3.2E+02	PHYSPROP	1.8E-04	4.5E-06	EPI	1.1E-04	PHYSPROP	-3.2E+01	EPI	1.2E+00	CRC89	2.1E-02	5.3E-06	EPA WATER9			2.7E+02	EPI	4.0E+00	PHYSPROP	3.0E+01	PHYSPROP	7.5E-02	6.7E+00	1.6E+01	1.1E-02	EPI
Tetrafluoroethane, 1,1,1,2-	811-97-2	1.0E+02	PHYSPROP	2.0E+00	5.0E-02	PHYSPROP	5.0E+03	PHYSPROP	-1.0E+02	PHYSPROP	1.2E+00	CRC89	8.2E-02	1.1E-05	EPA WATER9			8.6E+01	EPI	1.7E+00	PHYSPROP	2.0E+03	PHYSPROP	2.1E-02	3.9E-01	9.4E-01	5.5E-03	EPI
Tetryl (Trinitrophenylmethylnitramine	479-45-8	2.9E+02	PHYSPROP	1.1E-07	2.7E-09	PHYSPROP	5.7E-08	PHYSPROP	1.3E+02	PHYSPROP	1.6E+00	CRC89	2.6E-02	6.7E-06	EPA WATER9			4.6E+03	EPI	1.6E+00	PHYSPROP	7.4E+01	PHYSPROP	3.1E-03	4.3E+00	1.0E+01	4.7E-04	EPI
Thallium (I) Nitrate	10102-45-1	2.7E+02	PHYSPROP						2.1E+02	PHYSPROP	5.6E+00	CRC89										9.6E+04	PHYSPROP	6.3E-03	3.3E+00	7.9E+00	1.0E-03	RAGSE
Thallium (Soluble Salts)	7440-28-0	2.1E+02	PHYSPROP						3.0E+02	PHYSPROP	1.2E+01	CRC89				7.1E+01	SSL							5.5E-03	1.5E+00	3.6E+00	1.0E-03	RAGSE
Thallium Acetate	563-68-8	2.6E+02	PHYSPROP				1.5E+01	PHYSPROP	1.3E+02	CRC89	3.7E+00	CRC89	3.9E-02	1.2E-05	EPA WATER9					-1.7E-01	PHYSPROP	2.8E+04	PHYSPROP	2.5E-04	3.1E+00	7.5E+00	4.0E-05	EPI
Thallium Carbonate	6533-73-9	4.7E+02	PHYSPROP				5.8E+00	PHYSPROP	2.7E+02	PHYSPROP	7.1E+00	CRC89	3.9E-02	1.2E-05	EPA WATER9					-8.6E-01	PHYSPROP	5.2E+04	PHYSPROP	8.2E-06	4.4E+01	1.1E+02	9.8E-07	EPI
Thallium Chloride	7791-12-0	2.4E+02	PHYSPROP						4.3E+02	PHYSPROP	7.0E+00	CRC89	5.2E-02	1.8E-05	EPA WATER9							2.9E+03	PHYSPROP	6.0E-03	2.3E+00	5.6E+00	1.0E-03	RAGSE
Thallium Sulfate	7446-18-6	5.0E+02	PHYSPROP						6.3E+02	PHYSPROP	6.8E+00	CRC89										5.5E+04	CRC89	8.6E-03	7.1E+01	1.7E+02	1.0E-03	RAGSE
Thifensulfuron-methyl	79277-27-3	3.9E+02	PHYSPROP	1.7E-12	4.1E-14	PHYSPROP	1.3E-10	PHYSPROP	1.8E+02	PHYSPROP			3.6E-02	4.2E-06	EPA WATER9			5.1E+01	EPI	1.6E+00	PHYSPROP	2.2E+03	PHYSPROP	8.6E-04	1.6E+01	3.7E+01	1.1E-04	EPI
Thiobencarb	28249-77-6	2.6E+02	PHYSPROP	1.1E-05	2.7E-07	EPI	2.2E-05	PHYSPROP	3.3E+00	PHYSPROP	1.2E+00	CRC89	2.3E-02	5.9E-06	EPA WATER9			1.6E+03	EPI	3.4E+00	PHYSPROP	2.8E+01	PHYSPROP	6.3E-02	2.9E+00	7.0E+00	1.0E-02	EPI
Thiodiglycol	111-48-8	1.2E+02	PHYSPROP	7.6E-08	1.9E-09	PHYSPROP	3.2E-03	PHYSPROP	-1.0E+01	PHYSPROP	1.2E+00	CRC89	6.8E-02	9.4E-06	EPA WATER9			1.0E+00	EPI	-6.3E-01	PHYSPROP	1.0E+06	PHYSPROP	5.2E-04	5.1E-01	1.2E+00	1.2E-04	EPI
Thiofanox	39196-18-4	2.2E+02	PHYSPROP	3.8E-07	9.4E-09	EPI	1.7E-04	PHYSPROP	5.7E+01	PHYSPROP			5.2E-02	6.1E-06	EPA WATER9			7.2E+01	EPI	2.2E+00	PHYSPROP	5.2E+03	PHYSPROP	3.6E-02	1.8E+00	4.2E+00	6.3E-03	EPI
Thiophanate, Methyl	23564-05-8	3.4E+02	PHYSPROP	4.9E-08	1.2E-09	EPI	7.1E-08	PHYSPROP	1.7E+02	EPI			3.9E-02	4.5E-06	EPA WATER9			3.3E+02	EPI	1.4E+00	PHYSPROP	2.7E+01	PHYSPROP	1.1E-03	8.7E+00	2.1E+01	1.6E-04	EPI
Thiram	137-26-8	2.4E+02	PHYSPROP	7.4E-06	1.8E-07	EPI	1.7E-05	PHYSPROP	1.6E+02	PHYSPROP	1.3E+00	PERRY	2.6E-02	6.6E-06	EPA WATER9			6.1E+02	EPI	1.7E+00	PHYSPROP	3.0E+01	PHYSPROP	5.9E-03	2.3E+00	5.6E+00	9.9E-04	EPI
Tin	7440-31-5	1.2E+02	CRC89				0.0E+00	NIOSH	1.3E+01	CRC89	7.3E+00	CRC89				2.5E+02	BAES							4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE
Titanium Tetrachloride	7550-45-0	1.9E+02	CRC89				1.0E+01	ATSDR Profile	-2.4E+01	CRC89	1.7E+00	CRC89	3.8E-02	9.1E-06	EPA WATER9									5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE
Toluene	108-88-3	9.2E+01	PHYSPROP	2.7E-01	6.6E-03	PHYSPROP	2.8E+01	PHYSPROP	-9.5E+01	PHYSPROP	8.6E-01	CRC89	7.8E-02	9.2E-06	EPA WATER9			2.3E+02	EPI	2.7E+00	PHYSPROP	5.3E+02	PHYSPROP	1.1E-01	3.5E-01	8.3E-01	3.1E-02	EPI
Toluene-2,5-diamine	95-70-5	1.2E+02	PHYSPROP	3.0E-07	7.4E-09	PHYSPROP	3.4E-03	PHYSPROP	6.4E+01	PHYSPROP			7.7E-02	9.0E-06	EPA WATER9			5.5E+01	EPI	1.6E-01	PHYSPROP	7.7E+04	PHYSPROP	1.7E-03	5.1E-01	1.2E+00	4.1E-04	EPI
Toluidine, p-	106-49-0	1.1E+02	PHYSPROP	8.3E-05	2.0E-06	PHYSPROP	2.9E-01	PHYSPROP	4.4E+01	PHYSPROP	9.6E-01	CRC89	7.1E-02	9.0E-06	EPA WATER9			1.1E+02	EPI	1.4E+00	PHYSPROP	6.5E+03	PHYSPROP	1.3E-02	4.2E-01	1.0E+00	3.3E-03	EPI
Total Petroleum Hydrocarbons (Aliphatic High)	NA	1.7E+02	EPI	3.3E+02	8.2E+00	EPI	1.4E-01	EPI	-9.6E+00	EPI			6.2E-02	7.2E-06	EPA WATER9			4.8E+03	EPI	6.1E+00	EPI	3.7E-03	EPI	9.8E+00	9.5E-01	4.3E+00	2.0E+00	EPI
Total Petroleum Hydrocarbons (Aliphatic Low)	NA	8.6E+01	EPI	7.4E+01	1.8E+00	EPI	1.5E+02	EPI	-9.5E+01	EPI	6.6E-01	CRC89	7.3E-02	8.2E-06	EPA WATER9			1.3E+02	EPI	3.9E+00	EPI	9.5E+00	EPI	7.2E-01	3.2E-01	1.2E+00	2.0E-01	EPI
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA	1.3E+02	EPI	1.4E+02	3.4E+00	EPI	4.5E+00	EPI	-5.4E+01	EPI	7.2E-01	CRC89	5.1E-02	6.8E-06	EPA WATER9			8.0E+02	EPI	5.7E+00	EPI	2.2E-01	EPI	7.4E+00	5.5E-01	2.5E+00	1.7E+00	EPI
Total Petroleum Hydrocarbons (Aromatic High)	NA	2.0E+02	EPI	3.6E-04	8.9E-06	EPI	9.2E-06	EPI	1.1E+02	EPI	1.3E+00	CRC89	2.8E-02	7.2E-06	EPA WATER9			5.5E+04	EPI	5.2E+00	EPI	2.6E-01	EPI	1.7E+00	1.4E+00	5.7E+00	3.1E-01	EPI
Total Petroleum Hydrocarbons (Aromatic Low)	NA	7.8E+01	EPI	2.3E-01	5.6E-03	EPI	9.5E+01	EPI	5.5E+00	EPI	8.8E-01	CRC89	9.0E-02	1.0E-05	EPA WATER9			1.5E+02	EPI	2.1E+00	EPI	1.8E+03	EPI	5.1E-02	2.9E-01	6.9E-01	1.5E-02	EPI
Total Petroleum Hydrocarbons (Aromatic Medium)	NA	1.4E+02	EPI	2.0E-02	4.8E-04	EPI	7.0E-02	EPI	5.7E+01	EPI	1.0E+00	CRC89	5.6E-02	8.1E-06	EPA WATER9			2.0E+03	EPI	3.6E+00	EPI	2.8E+01	EPI	3.1E-01	6.0E-01	1.4E+00	6.9E-02	EPI
Toxaphene	8001-35-2	4.5E+02	PHYSPROP	2.5E-04	6.0E-06	PHYSPROP	6.7E-06	PHYSPROP	7.7E+01	PHYSPROP			3.2E-02	3.8E-06	EPA WATER9			7.7E+04	EPI	5.9E+00	PHYSPROP	5.5E-01	PHYSPROP	4.2E-01	3.4E+01	8.2E+01	5.2E-02	EPI
Tralomethrin	66841-25-6	6.7E+02	PHYSPROP	1.6E-08	3.9E-10	EPI	3.6E-11	PHYSPROP	1.4E+02	PHYSPROP			2.5E-02	2.9E-06	EPA WATER9			1.9E+05	EPI	7.6E+00	PHYSPROP	8.0E-02	PHYSPROP	3.0E-01	5.6E+02	1.3E+03	3.1E-02	EPI
Tri-n-butyltin	688-73-3	2.9E+02	PHYSPROP	6.2E+01	1.5E+00	PHYSPROP	4.0E-02	PHYSPROP	2.9E+01	EPI	1.1E+00	CRC89	2.1E-02	5.4E-06	EPA WATER9			8.1E+03	EPI	4.1E+00	PHYSPROP	7.3E-03	PHYSPROP	1.3E-01	4.5E+00	1.1E+01	1.9E-02	EPI
Triacetin	102-76-1	2.2E+02	PHYSPROP	5.0E-07	1.2E-08	EPI	2.5E-03	PHYSPROP	7.8E+01	PHYSPROP	1.2E+00	CRC89	2.6E-02	6.6E-06	EPA WATER9			4.1E+01	EPI	2.5E-01	PHYSPROP	5.8E+04	PHYSPROP	7.8E-04	1.8E+00	4.2E+00	1.4E-04	EPI
Triadimefon	43121-43-3	2.9E+02	PHYSPROP	3.3E-09	8.1E-11	EPI	1.5E-08	PHYSPROP	8.2E+01	PHYSPROP	1.2E+00	CRC89	2.2E-02	5.7E-06	EPA WATER9			3.0E+02	EPI	2.8E+00	PHYSPROP	7.2E+01	PHYSPROP	1.6E-02	4.6E+00	1.1E+01	2.4E-03	EPI
Triallate	2303-17-5	3.0E+02	PHYSPROP	4.9E-04	1.2E-05	EPI	1.2E-04	PHYSPROP	2.9E+01	PHYSPROP	1.3E+00	CRC89	2.2E-02	5.7E-06	EPA WATER9			1.0E+03	EPI	4.6E+00	PHYSPROP	4.0E+00	PHYSPROP	2.3E-01	5.3E+00	1.3E+01	3.5E-02	EPI
Triasulfuron	82097-50-5	4.0E+02	PHYSPROP	1.3E-11	3.2E-13	PHYSPROP	5.5E-12	PHYSPROP	1.9E+02	PHYSPROP			3.5E-02	4.1E-06	EPA WATER9			4.3E+02	EPI	1.1E+00	PHYSPROP	3.2E+01	PHYSPROP	3.6E-04	1.9E+01	4.5E+01	4.7E-05	EPI
Tribenuron-methyl	101200-48-0	4.0E+02	PHYSPROP	4.2E-12	1.0E-13	PHYSPROP	3.9E-10	PHYSPROP	1.4E+02	PHYSPROP			3.5E-02	4.1E-06	EPA WATER9			9.5E+01	EPI	7.8E-01	PHYSPROP	5.0E+01	PHYSPROP	3.6E-03	1.7E+01	4.1E+01	4.7E-04	EPI
Tribromobenzene, 1,2,4-	615-54-3	3.1E+02	PHYSPROP	1.4E-02	3.4E-04	PHYSPROP	5.5E-03	PHYSPROP	4.5E+01	PHYSPROP	2.3E+00	ChemNet	2.9E-02	7.9E-06	EPA WATER9			6.1E+02	EPI	4.7E+00	PHYSPROP	4.9E+00	PHYSPROP	2.3E-01	6.1E+00	1.5E+01	3.4E-02	EPI
Tributyl Phosphate	126-73-8	2.7E+02	PHYSPROP	5.8E-05	1.4E-06	EPI	1.1E-03	PHYSPROP	-7.9E+01	PHYSPROP	9.7E-01	CRC89	2.1E-02	5.2E-06	EPA WATER9			2.4E+03	EPI	4.0E+00	PHYSPROP	2.8E+02	PHYSPROP	1.4E-01	3.3E+00	7.8E+00	2.3E-02	EPI
Tributyltin Compounds	NA																											
Tributyltin Oxide	56-35-9	6.0E+02	PHYSPROP	1.2E-05	3.0E-07	EPI	7.5E-06	PHYSPROP	-4.5E+01	PHYSPROP	1.2E+00	CRC89	1.5E-02	3.6E-06	EPA WATER9			2.6E+07	EPI	4.1E+00	PHYSPROP	2.0E+01	PHYSPROP	2.4E-03	2.3E+02	5.5E+02	2.5E-04	EPI
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	1.9E+02	PHYSPROP	2.2E+01	5.3E-01	EPI	3.6E+02	PHYSPROP	-3.5E+01	PHYSPROP	1.6E+00	CRC89	3.8E-02	8.6E-06	EPA WATER9			2.0E+02	EPI	3.2E+00	PHYSPROP	1.7E+02	PHYSPROP	9.2E-02	1.2E+00	2.8E+00	1.8E-02	EPI
Trichloroacetic Acid	76-03-9	1.6E+02	PHYSPROP	5.5E-07	1.4E-08	PHYSPROP	6.0E-02	EPI	5.8E+01	PHYSPROP	1.6E+00	CRC89	5.2E-02	9.5E-06	EPA WATER9			3.2E+00	EPI	1.3E+00	PHYSPROP	5.5E+04	PHYSPROP	7.1E-03	8.6E-01	2.1E+00	1.5E-03	EPI
Trichloroaniline HCl, 2,4,6-	33663-50-2	2.3E+02	EPI	2.9E-12	7.2E-14	EPI	6.1E-08	EPI	1.8E+02	EPI			5.0E-02	5.9E-06	EPA WATER9			1.3E+03	EPI	-6.7E-01	EPI	2.1E+01	EPI	1.6E-04	2.1E+00	5.1E+00	2.8E-05	EPI
Trichloroaniline, 2,4,6-	634-93-5	2.0E+02	PHYSPROP	5.5E-05	1.3E-06	PHYSPROP	4.4E-03	PHYSPROP	7.9E+01	PHYSPROP			5.6E-02	6.6E-06	EPA WATER9			4.4E+03	EPI	3.5E+00	PHYSPROP	4.0E+01	PHYSPROP	1.5E-01	1.3E+00	3.2E+00	2.7E-02	EPI
Trichlorobenzene, 1,2,3-	87-61-6	1.8E+02	PHYSPROP	5.1E-02	1.3E-03	PHYSPROP	2.1E-01	PHYSPROP	5.4E+01	PHYSPROP	1.5E+00	CRC89	4.0E-02	8.4E-06	EPA WATER9			1.4E+03	EPI	4.1E+00	PHYSPROP	1.8E+01	PHYSPROP	3.8E-01	1.1E+00	2.6E+00	7.4E-02	EPI
Trichlorobenzene, 1,2,4-	120-82-1	1.8E+02	PHYSPROP	5.8E-02	1.4E-03	PHYSPROP	4.6E-01	PHYSPROP	1.7E+01	PHYSPROP	1.5E+00	CRC89	4.0E-02	8.4E-06	EPA WATER9			1.4E+03	EPI	4.0E+00	PHYSPROP	4.9E+01	PHYSPROP	3.7E-01	1.1E+00	2.6E+00	7.1E-02	EPI
Trichloroethane, 1,1,1-	71-55-6	1.3E+02	PHYSPROP	7.0E-01	1.7E-02	PHYSPROP	1.2E+02	PHYSPROP	-3.0E+01	PHYSPROP	1.3E+00	CRC89	6.5E-02	9.6E-06	EPA WATER9			4.4E+01	EPI	2.5E+00	PHYSPROP	1.3E+03	PHYSPROP	5.6E-02	5.9E-01	1.4E+00	1.3E-02	EPI
Trichloroethane, 1,1,2-	79-00-5	1.3E+02	PHYSPROP	3.4E-02	8.2E-04	PHYSPROP	2.3E+01	PHYSPROP	-3.7E+01	PHYSPROP	1.4E+00	CRC89	6.7E-02	1.0E-05	EPA WATER9			6.1E+01	EPI	1.9E+00	PHYSPROP	4.6E+03	PHYSPROP	2.2E-02	5.9E-01	1.4E+00	5.0E-03	EPI
Trichloroethylene	79-01-6	1.3E+02	PHYSPROP	4.0E-01	9.9E-03	PHYSPROP	6.9E+01	PHYSPROP	-8.5E+01	PHYSPROP	1.5E+00	CRC89	6.9E-02	1.0E-05	EPA WATER9			6.1E+01	EPI	2.4E+00	PHYSPROP	1.3E+03	PHYSPROP	5.1E-02	5.7E-01	1.4E+00	1.2E-02	EPI
Trichlorofluoromethane	75-69-4	1.4E+02	PHYSPROP	4.0E+00	9.7E-02	PHYSPROP	8.0E+02	PHYSPROP	-1.1E+02	PHYSPROP	1.5E+00	CRC89	6.5E-02	1.0E-05	EPA WATER9			4.4E+01	EPI	2.5E+00	PHYSPROP	1.1E+03	PHYSPROP	5.7E-02	6.2E-01	1.5E+00	1.3E-02	EPI
Trichlorophenol, 2,4,5-	95-95-4	2.0E+02	PHYSPROP	6.6E-05	1.6E-06	EPI	7.5E-03	EPI	6.9E+01	PHYSPROP	1.5E+00	PERRY	3.1E-02	8.1E-06	EPA WATER9			1.8E+03	EPI	3.7E+00	PHYSPROP	1.2E+03	PHYSPROP	2.0E-01	1.3E+00	3.2E+00	3.6E-02	EPI
Trichlorophenol, 2,4,6-	88-06-2	2.0E+02	PHYSPROP	1.1E-04	2.6E-06	EPI	8.0E-03	EPI	6.9E+01	PHYSPROP	1.5E+00	CRC89	3.1E-02	8.1E-06	EPA WATER9			1.8E+03	EPI	3.7E+00	PHYSPROP	8.0E+02	PHYSPROP	1.9E-01	1.3E+00	3.2E+00	3.5E-02	EPI
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	2.6E+02	PHYSPROP	3.5E-07	8.7E-09	PHYSPROP	3.8E-05	EPI	1.5E+02	PHYSPROP	1.8E+00	PubChem	2.9E-02	7.8E-06	EPA WATER9			1.1E+02	EPI	3.3E+00	PHYSPROP	2.8E+02	PHYSPROP	5.6E-02	2.8E+00	6.8E+00	9.1E-03	EPI
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	2.7E+02	PHYSPROP	3.7E-07	9.1E-09	PHYSPROP	1.0E-05	PHYSPROP	1.8E+02	PHYSPROP	1.2E+00	PubChem	2.3E-02	5.9E-06	EPA WATER9			1.8E+02	EPI	3.8E+00	PHYSPROP	7.1E+01	PHYSPROP	1.0E-01	3.4E+00	8.2E+00	1.6E-02	EPI
Trichloropropane, 1,1,2-	598-77-6	1.5E+02	PHYSPROP	1.3E-02	3.2E-04	EPI	3.1E+00	PHYSPROP	-6.5E+01	EPI	1.4E+00	CRC89	5.7E-02	9.2E-06	EPA WATER9			9.5E+01	EPI	2.4E+00	PHYSPROP	1.9E+03	PHYSPROP	4.5E-02	7.0E-01	1.7E+00	9.6E-03	EPI
Trichloropropane, 1,2,3-	96-18-4	1.5E+02	PHYSPROP	1.4E-02	3.4E-04	PHYSPROP	3.7E+00	PHYSPROP	-1.5E+01	PHYSPROP	1.4E+00	CRC89	5.7E-02	9.2E-06	EPA WATER9			1.2E+02	EPI	2.3E+00	PHYSPROP	1.8E+03	PHYSPROP	3.5E-02	7.0E-01	1.7E+00	7.5E-03	EPI
Trichloropropene, 1,2,3-	96-19-5	1.5E+02	PHYSPROP	7.2E-01	1.8E-02	PHYSPROP	4.4E+00	PHYSPROP	-5.6E+01	EPI	1.4E+00	CRC89	5.9E-02	9.4E-06	EPA WATER9			1.2E+02	EPI	2.8E+00	PHYSPROP	3.3E+02	PHYSPROP	7.8E-02	6.9E-01	1.6E+00	1.7E-02	EPI
Tricresyl Phosphate (TCP)	1330-78-5	3.7E+02	PHYSPROP	3.3E-05	8.1E-07	EPI	6.0E-07	EPI	-3.3E+01	PHYSPROP	1.2E+00	Yaws	1.9E-02	4.8E-06	EPA WATER9			4.7E+04	EPI	5.1E+00	PHYSPROP	3.6E-01	PHYSPROP	2.5E-01	1.2E+01	2.9E+01	3.3E-02	EPI
Tridiphane	58138-08-2	3.2E+02	PHYSPROP	1.7E-05	4.1E-07	PHYSPROP	3.9E-04	PHYSPROP	4.3E+01	PHYSPROP			4.1E-02	4.7E-06	EPA WATER9			3.4E+03	EPI	5.2E+00	PHYSPROP	1.1E+00	PHYSPROP	4.7E-01	6.6E+00	1.6E+01	6.9E-02	EPI
Triethylamine	121-44-8	1.0E+02	PHYSPROP	6.1E-03	1.5E-04	PHYSPROP	5.7E+01	PHYSPROP	-1.1E+02	PHYSPROP	7.3E-01	CRC89	6.6E-02	7.9E-06	EPA WATER9			5.1E+01	EPI	1.5E+00	PHYSPROP	6.9E+04	PHYSPROP	1.5E-02	3.9E-01	9.3E-01	3.9E-03	EPI
Triethylene Glycol	112-27-6	1.5E+02	PHYSPROP	1.3E-09	3.2E-11	PHYSPROP	1.3E-03	PHYSPROP	-7.0E+00	PHYSPROP	1.1E+00	CRC89	5.1E-02	8.1E-06	EPA WATER9			1.0E+01	EPI	-1.8E+00	PHYSPROP	1.0E+06	PHYSPROP	7.3E-05	7.3E-01	1.8E+00	1.6E-05	EPI
Trifluoroethane, 1,1,1-	420-46-2	8.4E+01	PHYSPROP	3.1E+01	7.7E-01	PHYSPROP	9.5E+03	PHYSPROP	-1.1E+02	PHYSPROP			9.9E-02	1.2E-05	EPA WATER9			4.4E+01	EPI	1.7E+00	PHYSPROP	7.6E+02	PHYSPROP	2.7E-02	3.1E-01	7.5E-01	7.6E-03	EPI

EXHIBIT Z

CAMBRIA

July 15, 1999

Mr. Chuck Curtis
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150

Re: **Well Survey**
Shell-branded Service Station
1020 Emerald Bay Road
South Lake Tahoe, California
SAP Code: 135410
Incident #: 98995490

Dear Mr. Curtis:

Cambria Environmental Technology, Inc. (Cambria) prepared this letter on behalf of Equiva Services LLC (Equiva) to document our well survey results performed at the above referenced site (Plate 1). The well survey was performed in response to the California Regional Water Quality Control Board - Lahontan Region's (RWQCB) June 9, 1999 letter to Equiva. The purpose of this survey was to identify private and municipal drinking water wells within 2,000 feet of the above referenced site. Additionally, based on the survey results, RWQCB staff is requesting that private drinking water wells identified within 1,000 feet of the site be sampled for petroleum constituents.

Well Survey Records Search

Cambria performed a 2,000-foot radius well survey by reviewing records from the following sources: (1) California Department of Water Resources (DWR), (2) South Tahoe Public Utility District (STPUD), (3) Lukins Brothers Water Company, and (4) RWQCB. Copies of these records are presented in the Appendices.

Findings

Water Well Survey: The records were reviewed to determine the location of water wells within the vicinity of the subject site. The wells identified are presented in Table 1 and their locations are presented on Plate 1. Table 1 lists each of the wells by property owner, location, well construction details, and approximate distance from the site. Plate 1 shows the site location, survey radius, and the approximate well locations. The wells identified were assigned numbers to assist with locating the wells on Plate 1 and in Table 1.

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

Cambria Environmental Technology, Inc.

270 Perkins Street
P.O. Box 259
Sonoma, CA 95476
Tel (707)935-4850
Fax (707)935-6649

As shown on Plate 1, thirteen private wells (Well No.'s 1 through 13) and seven municipal wells (Well No.'s 14 through 20) are located within an estimated 2,000 foot radius of the site. Four of the private wells (Well No.'s 9 through 12) and two of the municipal wells (Well No.'s 17 and 18) are located within an estimated 1,000 foot radius of the site. All distances identified in this report are estimates and are based on the source materials available.

Discussion

Four private wells and two municipal wells are located within an estimated 1,000 feet of the site. Of the four private wells identified, Well No. 12 is not currently in use based on a RWQCB communication with Cambria staff on July 9, 1999. There were no records describing the well construction details for this well. The well location was identified in the RWQCB records presented in Appendix D. The operational status of private Well No.'s 9 through 11 is unknown. Well No.'s 9 and 10 are located north and northeast of the subject site, respectively. Well No. 11 is located southeast of the subject site.

[illegible]

The municipal water supply wells identified within an estimated 1,000 feet of the site are the Tata No. 4 (Well No. 17) and the South Y (Well No. 18) wells. These wells are owned by STPUD and according to the RWQCB, these wells are non-operational. Well No.'s 17 and 18 are located southwest of the subject site.

Closing

As requested by RWQCB staff in their June 9, 1999 letter, Equiva will contact the owners for the private water wells (Well No.'s 9 through 11) identified within the estimated 1,000 foot radius to determine the operational status of these wells and whether the wells can be accessed for sampling. If property access is provided and the wells can be sampled, we will collect and analyze groundwater samples from each of the wells for petroleum constituents. For wells that are inaccessible, we will report to RWQCB staff efforts being made to access the wells and provide justification for denial. We will attempt to complete these efforts by the July 31, 1999 due date.

If you have any questions regarding the contents of this letter, please call Jeff Gaarder at (707) 935-4857.

Sincerely,
Cambria Environmental Technology, Inc.

J. Gaarder
Jeff Gaarder
Project Manager

Owen Ratchye, P.E.
Project Engineer

C47749
12-31-99

Attachments

Table 1.	Well Locations and Construction Details
Plate 1.	Area Well Survey
Appendix A.	DWR Records
Appendix B.	STPUD Records
Appendix C.	Lukins Brothers Water Company Records
Appendix D.	RWQCB Records

cc: Mr. Tony Palagyi, Equiva Services LLC
Mr. Denis Brown, Equiva Services LLC
Ms. Virginia Huber, El Dorado County Department of Environmental Management
Mr. Doug Smith, Tahoe Regional Planning Agency

TABLE 1

Map #	Well Location	Well Owner Address	Well Number	Well Depth (feet)	Screened Interval (feet)	Pumping Rates (gpm)	Depth to Water (feet)	Date Installed
1	250 feet north of Highway 50 on C Street. 90 Feet North of C Street.	H. A. Boyce Box 211, Tahoe Valley	NA	100	90 - 100	NA	24	16-May-60
2	Barton Tract, Northwest portion of Lot 8. Block 1, Tallac (Bonanza) Avenue between D and B Streets.	Jack Anderson P.O. Box 61, Stateline, NV	NA	68	44 - 64	NA	26	8-Jun-61
3	5th Street and Eloise. Corner of 5th St and Eloise. 10' east of Eloise, Tahoe Valley	Dana Wood 60 Lara Street, San Francisco, CA	NA	44	20 - 44	NA	14	7-May-57
4	300' north of intersection of 89 and 6th st on 89. 20' west of 89, Tahoe Valley	Andrini Brothers P.O. Box 4, Tahoe Valley, CA	NA	84	64 - 84	NA	24	19-Dec-59
5	Eloise Street, 260' south of 7th on Eloise, 30' East of Eloise.	Don Thran Box 647, Tahoe Valley	NA	64	44 - 64	NA	22	15-May-58
6	Corner of 5th Street and Eloise.	Beno Fitcher P.O. Box 332, Tahoe Valley	NA	24	12 - 24	NA	12	31-Aug-56
7	Eloise Street, 268' south of 7th Street on Eloise, 6' East of Eloise.	Verne Hearld 3804 32nd Ave., Sacramento, CA	NA	76	56 - 76	NA	18	28-May-58
8	150 north of intersection of 5th and Eloise , on Eloise, 20' East of Eloise.	J.D. Wibb P.O. Box 168, Tahoe Valley	NA	60	40 - 60	NA	28	22-Apr-60

TABLE 1

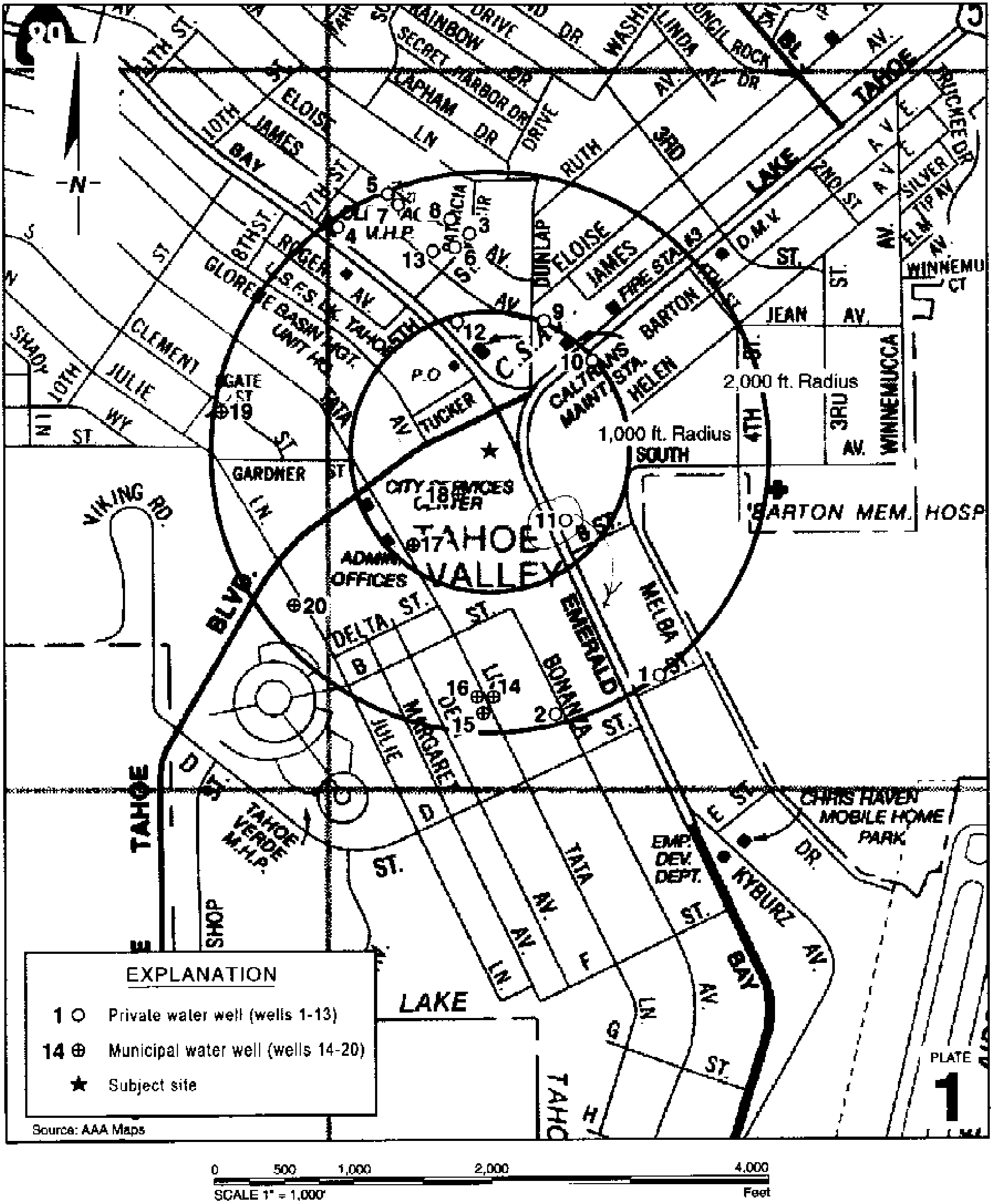
Map #	Well Location	Well Owner Address	Well Number	Well Depth (feet)	Screened Interval (feet)	Pumping Rates (gpm)	Depth to Water (feet)	Date Installed
9	Dunlap Avenue, 1 block off Highway 89, north side of Dunlap, 8' from street.	Frank Bishop 1822 N. Ave 53, Los Angeles, CA	NA	52	32 - 52	NA	18	13-Aug-57
10	2074 Lake Tahoe Boulevard, South Lake Tahoe	Tahoe Valley Pharmacy P.O. Box 371, Tahoe Valley	NA	60	36 - 56	NA	22	18-Jan-62
11	1113 Emerald Bay Road, South Lake Tahoe	Lester Bush P.O. Box 7681, South Lake Tahoe	NA	140	80 - 140	100	58	2-Jan-92
12	941 Emerald Bay Road, South Lake Tahoe	Nisar M. & K.B. Iman, 941 Emerald Bay Road, South Lake Tahoe, CA	NA	NA	NA	NA	NA	NA
13	921 James Avenue, South Lake Tahoe	Lukins Brothers Water Company	Lukins # 3	NA	NA	NA	NA	NA
14	See Map	STPUD	Tata No. 1	223	36 - 105 167 - 223	300	NA	NA
15	See Map	STPUD	Tata No. 2	193	73 - 193	75	NA	NA

TABLE 1

Map #	Well Location	Well Owner Address	Well Number	Well Depth (feet)	Screened Interval (feet)	Pumping Rates (gpm)	Depth to Water (feet)	Date Installed
16	See Map	STPUD	Tata No. 3	225	55 - 75 200 - 220	165	NA	NA
17	See Map	STPUD	Tata No. 4	135	87 - 127	70	NA	NA
18	See Map	STPUD	South Y	260	190 - 260	350	NA	NA
19	See Map	STPUD	Clement	140	40 - 70 71 - 121	180	NA	NA
20	See Map	STPUD	Julie	135	65 - 100 115 - 125	200	NA	NA

NA = Data Not Available

07/14/99



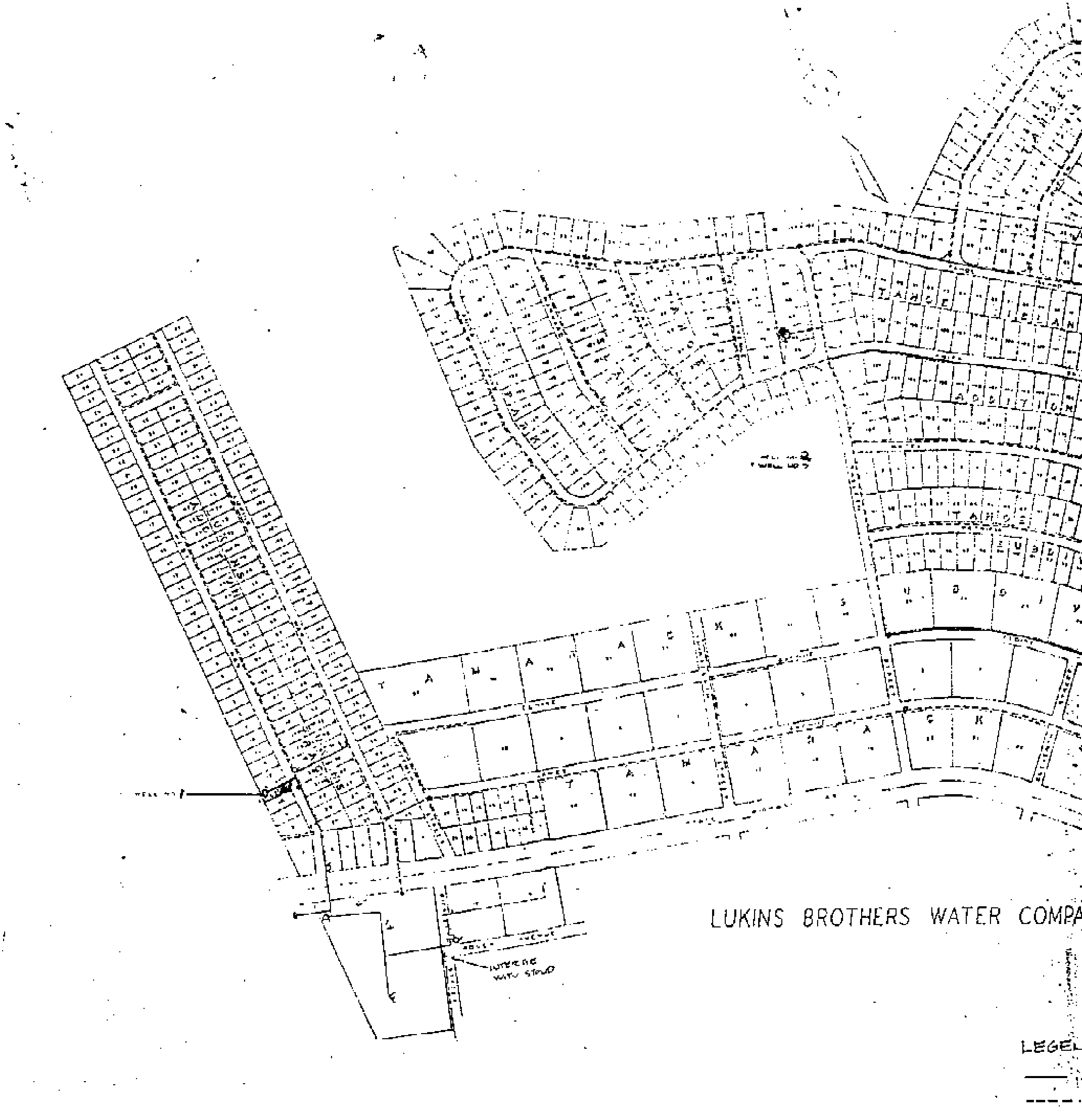
Shell-branded Service Station

1020 Emerald Bay Road
South Lake Tahoe, California

CAMBRIA

Area Well Survey

July 14, 1999


TAHOE
ADDITION
TAHOE
SUBDIV
PARK
TAHNACK
TAHNACK
INTERTIE WITH STPUD
LUKINS BROTHERS WATER COMPA
LEGE

PANY

END:

[illegible] MAIN (AS NOTED)

[illegible] MAIN (TYPICAL)

Appendix A

DWR Records

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 6
(Insert appropriate number)

VATER WELL DRILLERS REP .T

(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

Tahoe Valley Trailer Court

JUN 2 196

Do Not Fill In
No. 57806
State Well No.
Other Well No.

(1) OWNER:

Name H. A. Boyle
Address Box 112
Tahoe Valley, Calif

(2) LOCATION OF WELL:

County Eldorado Owner's number, if any—
R. F. D. or Street No. 250 ft east of U.S 50 on C Street 90 ft north of C Street
Tahoe Valley, Calif.

(3) TYPE OF WORK (check):

New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:

SINGLE ☒ DOUBLE ☐

From ft.	to ft.	Diam.	Gage or Wall
98	100	6	10
0	98	6	12

If gravel packed

Diameter of Bore	from ft.	to ft.

Type and size of shoe or well ring 6 X 5 X 3/8 Steel Size of gravel:
Describe joint Welded

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations 7 in., length, by 3/8 in.
From 92 ft. to 100 ft. 4 Perf. per row 7 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☒ Yes ☐ No To what depth 4 ft.
Were any strata sealed against pollution? ☐ Yes ☒ No If yes, note depth of strata
From ft. to ft.
Method of Sealing Cement

(9) WATER LEVELS:

Depth at which water was first found 24 ft.
Standing level before perforating 42 ft.
Standing level after perforating 42 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.

(11) WELL LOG:

Total depth 100 ft. Depth of completed well 100 ft.

Formation: *Describe by color, character, size of material, and structure.*

ft.	to ft.	
0	3	Soil
3	24	Sand + Boulders
24	30	Sand
30	35	Clay
35	38	Sand
38	72	Clay
72	99	Sand
99	100	Clay

Work started 5-13 1960. Completed 5-16 1960

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME W. E. BLAIN
(Person, firm, or corporation) (Typed or printed)
Address Box 486
Tahoe Valley, Calif
[SIGNED]
Well Driller

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. ~~3~~ 6
(Insert appropriate number)

WATER WELL DRILLERS REPORT

(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

Do Not Fill In
№ 64023
State Well No.
Other Well No.

JUL 28 1961

(1) OWNER:

Name JACK ANDERSON
Address PO BOX 61
STATELINE, CALIF.

(2) LOCATION OF WELL:

County EL DORADO Owner's number, if any—
R. F. D. or Street No. W.D. BARTON TRACT
N.W. PORTION OF LOT 48
BLOCK 1
TALLAC AVE. BETWEEN D ST. &
B STS.

(3) TYPE OF WORK (check):

New well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐
Cable ☑
Dug Well ☐

(6) CASING INSTALLED:

SINGLE ☑ DOUBLE ☐

From	ft. to	ft.	Diam.	Gage or Wall
0	68	6	12	

If gravel packed

Diameter of Bore	from ft.	to ft.

Type and size of shoe or well ring 3/2 X 3 X 6"
Size of gravel:
Describe joint ARC WELD.

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations 4 in., length, by 1/8 in.

From	ft. to	ft.	Perf. per row	Rows per ft.
44	48	5	4	
52	64	5	4	

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☑ Yes ☐ No To what depth ft.
Were any strata sealed against pollution? ☐ Yes ☐ No If yes, note depth of strata
From 0 ft. to 16 ft.
Method of Sealing GROUT

(9) WATER LEVELS:

Depth at which water was first found 26 ft.
Standing level before perforating 20 ft.
Standing level after perforating 40 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes ☑ No If yes, by whom?
Yield gal./min. with ft. draw down after hrs.

(11) WELL LOG:

Total depth 68 ft. Depth of completed well 68 ft.

Formation: Describe by color, character, size of material, and structure.

ft. to	ft.	
0	10	SANDY SOIL
10	21	CEMENTED GRAVEL
21	24	SANDY CLAY
24	32	CEMENTED GRAVEL
32	47	SAND
47	48	BRN CLAY
48	56	SAND & GRAVEL
56	62	COURSE SAND
62	66	BRN SANDY CLAY
66	68	BLUE CLAY

CONFIDENTIAL
Section

Work started 6-8 1961. Completed 6-11 1961

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME JAMES W. IMBACH WELL DRILLING
(Person, firm, or corporation) (Typed or printed)
Address PO BOX 286
TAHOE VALLEY, CALIF.
[SIGNED] James W. Imbach
Well Driller

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 5
(Insert appropriate number)

WATER WELL DRILLERS REPORT

(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

210

Do Not Fill In
No. 44723
State Well No.
Other Well No.

(1) OWNER:

Name Dana Wood
Address 60 Yara St
San Francisco Calif

(2) LOCATION OF WELL:

County ELDORADO Owner's number, if any—
R. F. D. or Street No. 5th + Eloise St
Corner of 5th Ave + Eloise St
10 ft east of Eloise Lake
Valley, Calif

(3) TYPE OF WORK (check):

New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:

SINGLE ☒ DOUBLE ☐
From 0 ft. to 44 ft. 8" Diam. 12 Gage or Wall

If gravel packed

Diameter of Bore	from ft.	to ft.

Type and size of shoe or well ring 1/2 X 3 X 8 Steel Size of gravel:
Describe joint Welded

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations 3 in., length, by 1/4 in.
From 20 ft. to 44 ft. 7 Perf. per row 5 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☒ Yes ☐ No To what depth 16 ft.
Were any strata sealed against pollution? ☒ Yes ☐ No If yes, note depth of strata 6 ft
From 0 ft. to 16 ft.
Method of Sealing Cement

(9) WATER LEVELS:

Depth at which water was first found 6 ft ft.
Standing level before perforating 14 ft ft.
Standing level after perforating 14 ft ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.

(11) WELL LOG:

Total depth 44 ft. Depth of completed well 44 ft.
Formation: *Describe by color, character, size of material, and structure.*

0 ft. to	6 ft.	Sandy Soil
6	16	Clay
16	44	Sand + Gravel

~~FOR OFFICIAL USE ONLY~~

Work started 5/6 1957. Completed 5/7 1957

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME PLACERVILLE PUMP SHOP
(Person, firm, or corporation) (Typed or printed)
Address Rt 4 Box 5
Placerville Calif
[SIGNED] W E B[illegible]
Well Driller

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 5 6
(Insert appropriate number)

'ATER WELL DRILLERS REI ɪT
(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

Do Not Fill In
Nº 55749
State Well No.
Other Well No.

(1) OWNER:
Name Andreini Brothers
Address P O Box 4
Tahoe Valley, Calif

(2) LOCATION OF WELL:
County El Dorado Owner's number, if any—
R. F. D. or Street No. 300 ft North of Intersection of St Route 89 and 6th St on St Route 89. 20 ft west of Highway 89. Tahoe Valley.

(3) TYPE ⸺ WORK (*check*):
New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (*check*):
Dome ndustrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:
Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:
From 0 ft. to 84 ft. 8" Diam. 12 Gage or Wall

If gravel packed
Diameter of Bore from ft. to ft.

Type and size of shoe or well ring 8 x 3 x 3/8 Steel Size of gravel:
Describe joint Welded

(7) PERFORATIONS:
Type of perforator used Torch
Size of perforations 5 in., length, by 1/4 in.
From 64 ft. to 54 ft. 4 Perf. per row 7 Rows per ft.

(8) CONSTRUCTION:
Was a surface sanitary seal provided? ☒ Yes ☐ No To what depth 3 ft.
Were any strata sealed against pollution? ☐ Yes ☒ No If yes, note depth of strata
From ft. to ft.
Method of Sealing Cement

(9) WATER LEVELS:
Depth at which water was first found 20 ft.
Standing level before perforating 24 ft.
ding level after perforating 24 ft.

(10) WELL TESTS:
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.

(11) WELL LOG:
Total depth 94 ft. Depth of completed well 82 ft.
Formation: *Describe by color, character, size of material, and structure.*

0	ft. to	3	ft.	Sandy Soil
3	"	20	"	Clay
20	"	26	"	Sand
26	"	42	"	Sandy Clay
42	"	47	"	Sand
47	"	60	"	Sandy Clay
60	"	76	"	Sand
76	"	82	"	Sandy Clay

Work started 12-18 1959. Completed 12-19 1959

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME W. E. BLAIN
(Person, firm, or corporation) (Typed or printed)
Address P.O. BOX 286
Tahoe Valley Calif
[SIGNED] W E Blain

1958

ORIGINAL

File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 56
(Insert appropriate number)

WATER WELL DRILLERS REPORT

(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

Do Not Fill In
No. 49369
State Well No.
Other Well No.

(1) OWNER:

Name Don Shram
Address Box 647
Tahoe Valley Calif

(2) LOCATION OF WELL:

County El Dorado Owner's number, if any—
R. F. D. or Street No. Eloise St
260 ft south of 7th St on Eloise
30 ft east of Eloise, Tahoe
Valley, Calif

(3) TYPE OF WORK (check):

New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:

SINGLE ☒ DOUBLE ☐

From	ft. to	ft.	Diam.	Gage or Wall
0	64		6"	12

If gravel packed

Diameter of Bore	from ft.	to ft.

Type and size of shoe or well ring ½ x 3 x 6 Steel
Size of gravel:
Describe joint Welded

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations 5 in., length, by ¼ in.

From	ft. to	ft.	Perf. per row	Rows per ft.
44	64	4	5	

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☐ Yes ☒ No To what depth ft.
Were any strata sealed against pollution? ☐ Yes ☐ No If yes, note depth of strata
From ft. to ft.
Method of Sealing

(9) WATER LEVELS:

Depth at which water was first found 6 ft.
Standing level before perforating 22 ft.
Standing level after perforating 22 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

(11) WELL LOG:

Total depth 64 ft. Depth of completed well 64 ft.

Formation: *Describe by color, character, size of material, and structure.*

ft.	to ft.	
0	4	Sandy Soil
4	30	Sand
30	44	Brown clay
44	60	Sand
60	64	clay

a surface sanitary seal was not provided on this well as the owner intends to dig a pit for offsetting the pump.

CONFIDENTIAL
Section

Work started 5-14 1958 Completed 5-15 1958

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME BLAIN + EMBACH WELL DRILLING
(Person, firm, or corporation) (Typed or printed)
Address P.O. Box 286
Tahoe Valley Calif
[SIGNED] W E Blain

SEP 1 1956

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 5
(Insert appropriate number)

ATER WELL DRILLERS REP T
(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

Do Not Fill In
No 37170
State Well No.
Other Well No.

(1) OWNER:
Name Beno Fitscher
Address P.O. Box 332 Lake Valley
Calif.

(2) LOCATION OF WELL:
County El Dorado Owner's number, if any—
R. F. D. or Street No. Corner of 5th St and
~~Lake St~~, Eloise ave.
Lake Valley

(3) TYPE OF WORK (check):
New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:
Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:
SINGLE ☒ DOUBLE ☐

From	ft. to	ft.	Diam.	Gage or Wall
0	24	8"		12

If gravel packed

Diameter of bore	from ft.	to ft.

Type and size of shoe or well ring 6X3X8 Steel Size of gravel:
Describe joint Welded

(7) PERFORATIONS:
Type of perforator used Torch
Size of perforations 5 in., length, by 1/4 in.
From 12 ft. to 24 ft. 4 Perf. per row 5 Rows per ft.

(8) CONSTRUCTION:
Was a surface sanitary seal provided? ☒ Yes ☐ No To what depth 6 ft.
Were any strata sealed against pollution? ☒ Yes ☐ No If yes, note depth of strata 6
From 0 ft. to 6 ft.
Method of Sealing Cement

(9) WATER LEVELS:
Depth at which water was first found 6 ft ft.
Standing level before perforating 12 ft.
Standing level after perforating 12 ft.

(10) WELL TESTS:
Was a pump test made? ☐ Yes ☒ No If yes, by whom?

(11) WELL LOG:
Total depth 24 ft. Depth of completed well 24 ft.
Formation: Describe by color, character, size of material, and structure.
0 ft. to 6 ft. Orange Soil
6 " 24 " Sand

Section

Work started Aug 31 1956. Completed Aug 31 1956

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME PLACERVILLE PUMP SHOP
(Person, firm, or corporation) (Typed or printed)
Address RT4 BOX5
Placerville, Calif
[SIGNED] W E B

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 6
(Insert appropriate number)

JUN 3 1958

WATER WELL DRILLERS REPORT

(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

Do Not Fill In
No 49374
State Well No.
Other Well No.

(1) OWNER:

Name Verne Harold
Address 3804 - 32nd ave
Sacramento, Calif

(2) LOCATION OF WELL:

County El Dorado Owner's number, if any—
R. F. D. or Street No. Eloise ave
268 ft South of 7th St on Eloise ave,
6 ft East of Eloise, Tahoe
Valley, Calif

(3) TYPE OF WORK (check):

New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:

SINGLE ☒ DOUBLE ☐

			Gage or Wall
From 0 ft. to	76 ft.	6" Diam.	12

If gravel packed

Diameter of Bore	from ft.	to ft.

Type and size of shoe or well ring 3/8 X 3 X 6 Steel
Size of gravel:
Describe joint Welded

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations [illegible] 5 in., length, by 3/4 in.
From 56 ft. to 76 ft. 4 Perf. per row 5 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☒ Yes ☐ No To what depth 6 ft.
Were any strata sealed against pollution? ☒ Yes ☒ No If yes, note depth of strata 5 ft
From 0 ft. to 6 ft.
Method of Sealing Cement

(9) WATER LEVELS:

Depth at which water was first found 5 ft.
Standing level before perforating 18 ft.
Standing level after perforating 18 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.

(11) WELL LOG:

Total depth 76 ft. Depth of completed well 76 ft.
Formation: Describe by color, character, size of material, and structure.

ft. to	ft.	
0	3	Sandy Soil
3	6	Sand
6	17	Sandy Clay
17	20	Sand
20	48	Sandy Clay
48	62	Sand
62	64	Hard Sand
64	72	Sand
72	76	Sandy Clay

CONFIDENTIAL
Section 7076.

Work started 5-27 1958 Completed 5-28 1958

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME BLAIN + IMBACH WELL DRILLING
(Person, firm, or corporation) (Typed or printed)
Address P. O. Box 286
Tahoe Valley, Calif
[SIGNED] W E Blaine
Well Driller

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. K6
(Insert appropriate number)

WATER WELL DRILLERS REPORT

(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

Do Not Fill In
No 57803
State Well No.
Other Well No.

(1) OWNER:

Name L. N. Welch JUN 2 1960
Address Box 168
Tahoe Valley Calif

(2) LOCATION OF WELL:

County El Dorado Owner's number, if any–
R. F. D. or Street No. 150 ft north of Intersection of 5th St + Elaine on Elaine, 90 ft east of Elaine, Tahoe Valley Calif

(3) TYPE OF WORK (check):

New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:

SINGLE ☒ DOUBLE ☐

From 0 ft. to 60 ft. 6 Diam. 10 Gage or Wall

If gravel packed
Diameter of Bore | From ft. | to ft.

Type and size of shoe or well ring 6 X 3 X 5/8
Size of gravel:
Describe joint Welded

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations 5 in., length, by 1/8 in.
From 40 ft. to 60 ft. 4 Perf. per row 7 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☒ Yes ☐ No To what depth 4 ft.
Were any strata sealed against pollution? ☒ Yes ☐ No If yes, note depth of strata
From ft. to ft.
Method of Sealing Cement

(9) WATER LEVELS:

Depth at which water was first found 20 ft.
Standing level before perforating 18 ft.
Standing level after perforating 18 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.

(11) WELL LOG:

Total depth 60 ft. Depth of completed well 60 ft.
Formation: Describe by color, character, size of material, and structure.

0 ft. to	4 ft.	Sandy soil
4	7	Sand
7	20	Sandy clay
20	26	Sand
26	32	Clay
32	36	Gravel
36	58	Sand
58	60	Clay

[illegible] Section [illegible] Code

Work started 4-21 1960 Completed 4-22 19

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME W. E. BLAIN
(Person, firm, or corporation) (Typed or printed)
Address Box 256
Tahoe Valley, Calif
[SIGNED] W. E. Blain
(Well Driller)

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 5
(Insert appropriate number)

ATER WELL DRILLERS REP T

(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

Do Not Fill In
No. 44745
State Well No.
Other Well No.

(1) OWNER:

Name Frank W Bishop
Address 1822 N. Ave 53
Los Angeles, Calif

(2) LOCATION OF WELL:

County El Dorado Owner's number, if any—
R. F. D. or Street No. Dunlap Ave
1 Block off Highway 89 on
north side of Dunlap Ave
5 ft from St. Lake Valley
Calif

(3) TYPE OF WORK (check):

New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:

SINGLE ☒ DOUBLE ☐

From	ft. to	ft.	Diam.	Gage or Wall
0	52	6"	12	

If gravel packed

Diameter of Bore	from ft.	to ft.

Type and size of shoe or well ring ½ X 3 X 6
Size of gravel:
Describe joint Welded

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations 5 in., length, by ¼" in.
From 32 ft. to 52 ft. 4 Perf. per row 5 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☒ Yes ☐ No To what depth 6 ft.
Were any strata sealed against pollution? ☐ Yes ☒ No If yes, note depth of strata
From ft. to ft.
Method of Sealing Cement

(9) WATER LEVELS:

Depth at which water was first found 32 ft.
Standing level before perforating 18 ft.
Standing level after perforating 18 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.

(11) WELL LOG:

Total depth 51 ft. Depth of completed well 52 ft.
Formation: *Describe by color, character, size of material, and structure.*

ft. to	ft.	
0	8	sandy soil
8	16	Gravel
16	32	Sandy clay
32	49	Sand
49	51	Sandy clay

CONFIDENTIAL
Section [illegible]

Work started 8-12 1957. Completed 8-13 1957

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME PLACERVILLE PUMP SHOP
(Person, firm, or corporation) (Typed or printed)
Address 3020 Coloma Rd.
Placerville Calif
[SIGNED] G V E Blair
Well Driller

REGIONAL WATER POLLUTION
CONTROL BOARD No. 5(
(Insert appropriate number)

STATE OF CALIFORNIA

N. 04000
State Well No.
Other Well No.

(1) OWNER:

Name TAHOE VALLEY PHARMACY BUILDING, INC
Address PO BOX 371
TAHOE VALLEY, CALIF.

(2) LOCATION OF WELL:

County El Dorado Owner's number, if any—
R. F. D. or Street No. Approx 1000' East of The 'Y' on US 50. Approx 150 Ft. South - 8 Ft. From old well. - TAHOE VALLEY, CALIF.

(3) TYPE OF WORK (check):

New well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary ☐
Cable ☑
Dug Well ☐

(6) CASING INSTALLED:

SINGLE ☑ DOUBLE ☐

From ft.	to ft.	Diam.	Gage or Wall
0	20	8"	12
0	60	6	10

If gravel packed

Diameter of Bore	from ft.	to ft.

Shoe or well ring 1/2 X 4 X 6
Size of gravel:
Describe joint ARC WELD

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations 4 in., length, by 1/16 in.
From 36 ft. to 56 ft. 6 Perf. per row 5 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☑ Yes ☐ No To what depth 20 ft.
Were any strata sealed against pollution? ☐ Yes ☑ No If yes, note depth of strata
From 0 ft. to 20 ft.
" 8' 12ga Conductor Casing
Method of Sealing CEMENT

(9) WATER LEVELS:

Depth at which water was first found 22 ft.
Standing level before perforating ft.
Standing level after perforating ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes ☑ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.
Temperature of water Was a chemical analysis made? ☐ Yes ☑ No
Was electric log made of well? ☐ Yes ☑ No

(11) WELL LOG:

Total depth 60 ft. Depth of completed well 52 ft.
Formation: *Describe by color, character, size of material, and structure.*

ft.	to ft.	
0	14	SANDY SOIL
14	22	BRN CLAY
22	34	SAND
34	37	BRN CLAY
37	55	SAND
55	59	BRN CLAY
59	60	BLUE CLAY

Work started 1 - 15 1962. Completed 1 - 18 - 1962

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME JAMES W. IMLACH WELL DRILLING
(Person, firm, or corporation) (Typed or printed)
Address PO BX 226
TAHOE VALLEY, CALIF.
[SIGNED] James W. Imlach
Well Driller
License No. 120 502 Dated 2 - 3, 1962

57028 6-57 60M QUIN △ SPO

DWR 188 (REV. 3-54)

Page ____ of ____

Refer to Instruction Pamphlet

Owner's Well No. ____

No. 497009

Date Work Began 12/31/91, Ended 1/2/92

Local Permit Agency El Dorado E.H.

Permit No. T-91017 Permit Date ____

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ____ VERTICAL X HORIZONTAL ____ ANGLE ____ (SPECIFY)

DEPTH TO FIRST WATER ____ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	10	Brown Sandy top Soil
10	22	Sand & Cobbles
22	24	Brown Clay
24	45	Brown Sandy Clay
45	46	Sand
46	50	BrownClay
50	53	Sand & Cobbles
53	55	Brown Sandy Clay
55	60	Brown Sand & Cobbles
60	70	Brown Clay
70	78	Gray Clay
78	88	Black Sandy Clay W/some Gravels
88	120	Br. D.G. Clay
120	140	Br. D.G. Sand & Gravel

TOTAL DEPTH OF BORING 140 (Feet)

TOTAL DEPTH OF COMPLETED WELL 140 (Feet)

WELL OWNER

Name Lester Bush

Mailing Address P.O. Box 7681

So. Lake Tahoe CA 95731

CITY STATE ZIP

WELL LOCATION

Address 1113 Hwy 50

City So Lake Tahoe

County El Dorado

APN Book 032 Page 190 Parcel 002

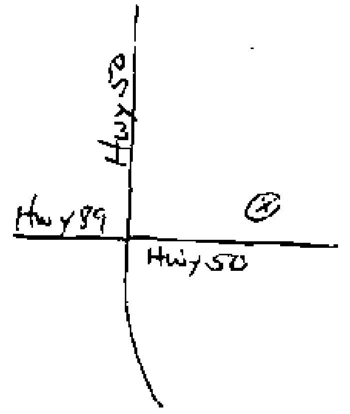
or Township 12N Range 18E Section 04N

or Latitude ____ NORTH DEG. MIN. SEC. Longitude ____ WEST DEG. MIN. SEC.

LOCATION SKETCH

NORTH

WEST



EAST

SOUTH

Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

X NEW WELL

MODIFICATION/REPAIR

____ Deepen

____ Other (Specify)

____ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USE(S) (✓)

____ MONITORING

WATER SUPPLY

X Domestic

____ Public

____ Irrigation

____ Industrial

____ "TEST WELL"

____ CATHODIC PROTECTION

____ OTHER (Specify)

DRILLING METHOD Rotary Mud FLUID Bentonite Gel

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 58 (Ft.) & DATE MEASURED 1/2/92

ESTIMATED YIELD* 100 (GPM) & TEST TYPE Air lift

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ____ (Ft.)

* *May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL/GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	80	12½	X				Steel	6"	.156	
80	140	12½		X			Steel	6"	.156	1/8

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	X			
20	140				3/8 pea

ATTACHMENTS (✓)

____ Geologic Log

____ Well Construction Diagram

____ Geophysical Log(s)

____ Soil/Water Chemical Analyses

____ Other

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Cal-Tech Drilling, In c.

(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS P.O. Box 337 Jackson, CA 95642

CITY STATE ZIP

Signed Tim Hunt

WELL DRILLER/AUTHORIZED REPRESENTATIVE

572562 8/11/92

DATE SIGNED C-57 LICENSE NUMBER

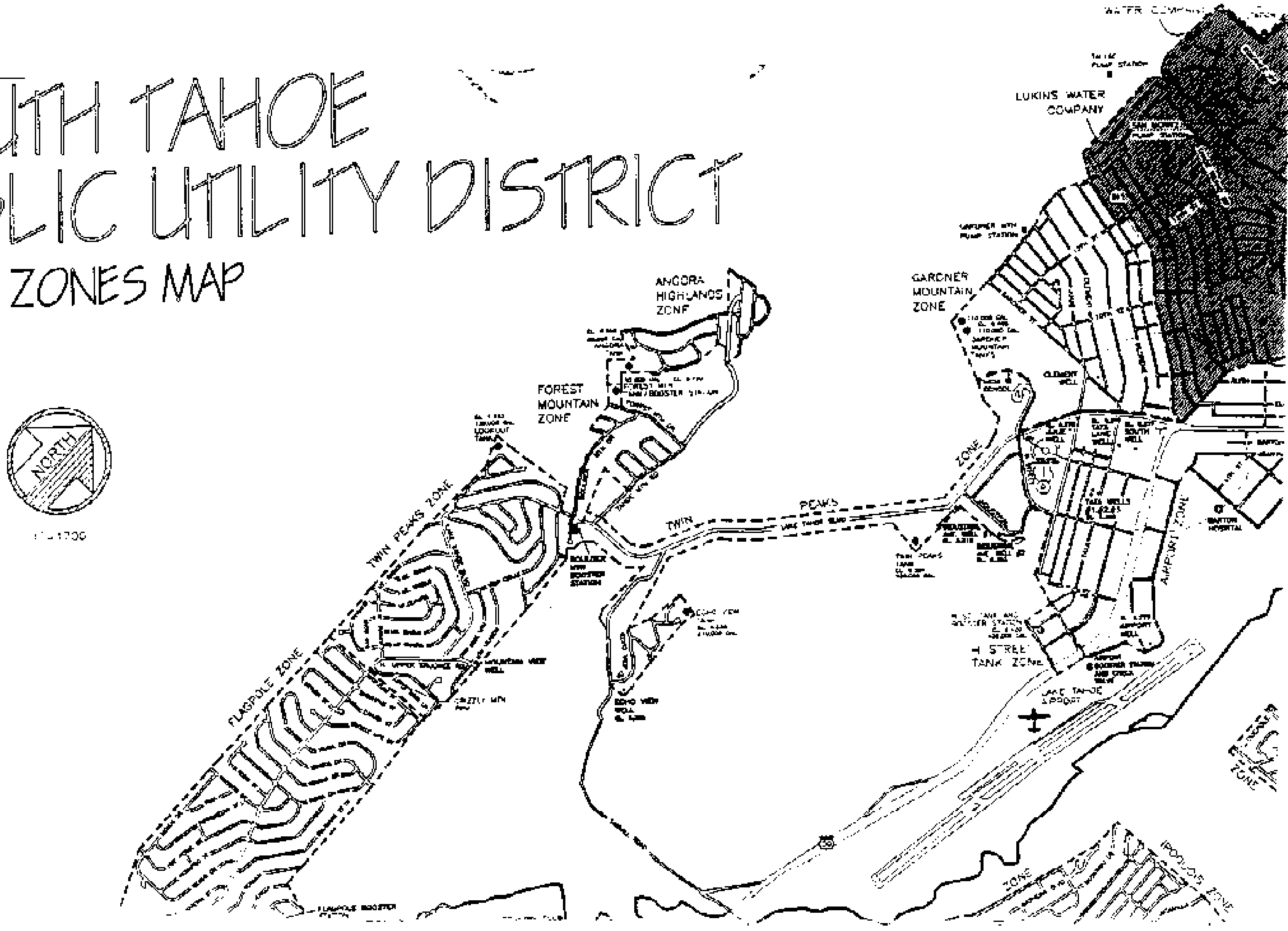
DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

Appendix B

STPUD Records

UTH TAHOE
BLIC UTILITY DISTRICT
ER ZONES MAP



SOUTH Y AREA WELL INFORMATION

WELL	ELEVATION (ft msl)	TOTAL DEPTH (ft)	ANNULAR SEAL DEPTH (ft)	SCREEN INTERVAL (ft) Top	Bottom	AVERAGE PUMPING RATE (gpm)	Pump Intake
Tata No. 1	6290	223	~~50~~ No Seal	36 167	105 223	300	~130'
Tata No. 2	6290	193	54	73	193	75	~150'
Tata No. 3	6290	225	No Seal	55 200	75 220	165	~210'
Tata No. 4	6292	135	50	87	127	70	~100'
Julie Well	6276	135	No Seal	65 115	100 125	200	
South Y Well	6277	260	Estimated at 55'	40' between 190 & 260'		350	
Clement Well	6281	140	Unknown	40 71	70 121	180	~110'
			SOUTH Y AREA TOTALS		(gpm) (mgd) (af-yr)	1,340 1.93 2,161	

Appendix C

Lukins Brothers Water Company Records

LUKINS BROTHERS WATER COMPANY, INC.
2031 WEST WAY
SOUTH LAKE TAHOE, CA 96150
(530) 541-2606
FAX (530) 541-1746

RECEIVED
JUN 21 1999
BY:

June 16, 1999

Kambria Environmental
Attention: Mr. Darren Croteau
270 Perkins Street
Sonoma, CA 95476

Dear Mr. Croteau,

Thank you for your call this afternoon, and as you requested a map of our facilities is enclosed. The well sites are highlighted in blue.

If you have any questions please do not hesitate to call us.

Sincerely,

Michelle Lukins

Michelle Lukins

ENCLOSURES

Appendix D

RWQCB Records

TERRA VAC
5075 Commercial Circle Suite A, Concord, CA 94520
Tel: (925) 363-7322 ☐ Fax: (925) 363-7275

May 14, 1999

Chuck Curtis
California Regional Water Control Board
Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

Subject: 1000 Feet Well Survey in Response to the Amended Cleanup And Abatement Order (CAO) NO. 6-98-78A1 For The Swiss Mart Gas Station, 913 Emerald Bay Road, South Lake Tahoe, El Dorado County, LUSTIS NO. 6T0297A, WDID 6A099810N02

Dear Mr. Curtis:

In response to the correspondence, dated April 27, 1999, for the subject Cleanup and Abatement Order from Lahontan Regional Water Quality Control Board dated March 23, 1999, we have conducted an investigation regarding the locations of water wells within 1000 feet from the Swiss Mart service station at 913 Emerald Bay Road. The investigation involved a series of phone interviews, associated FAX messages, assessor information, and field investigation. Additional research regarding local businesses was also conducted on the Internet. All municipal and private drinking wells, including drinking and/or irrigation wells, within 1000 feet from the service station were to be identified. Six wells were located and confirmed (see attached map). They are listed in the following table:

No.	Location	Owner	Mailing Address of Property Owners
1	868 Emerald Bay Road	Grabowsky Enterprises	342 Harper Lane, Danville, CA 94526
2	941 Emerald Bay Road	Nisar M. & K.B. Iman	941 Emerald Bay Road, South Lake Tahoe, CA 96150
3	883 Eloise Avenue	SAA Sierra Programs LLC	P.O. Box 10618, South Lake Tahoe, CA 96158
4	921 Eloise Avenue	Harold & Laurel Bollenbacher	P.O. Box 15050, South Lake Tahoe, CA 96151
5	921 James Avenue	Lukins Brothers Water Co., Inc.	2031 West Way, South Lake Tahoe, CA 96150
*6	848 Glorene Avenue	Stephen & Susan Ward	P.O. Box 9082, South Lake Tahoe, CA 96158

***Beyond 1000 feet, but near enough for consideration**

In response to the information provided to us by the Lahontan Regional Water Quality Control Board, we conducted a thorough inquiry regarding 828 Eloise Avenue. Our findings suggest that the location is a plumbing company and there are no wells on its property.

The California Regional Water Quality Control Board-Lahontan Region, El Dorado County Environmental Department, and the South Tahoe Public Utility District (STPUD) provided information of water wells that existed **beyond**, but near the 1000 feet range. These well locations are listed in the following table:

Location	Owner	Mailing Address of Property Owner
*787 Emerald Bay Road	John & T.C. McNamara	21115 Devonshire Street #263, Chatsworth, CA 91311
*745 Eloise Avenue	Lon Dean Saunders	1753 East Saginaw Way #102, Fresno, CA 93726
751 Emerald Bay Road	Douglas Tom Sr.	33757 Heartland Court, Union City, CA 94587
912 Clement Street	STPUD	1275 Meadow Crest Drive, South Lake Tahoe, CA 96150
740 Glorene Avenue	Nick & Catherine Evanikoff	3470 La Mesa Dr., San Carlos, CA 94070
780 Rogers Avenue	Harry Clyde & M. L. Tremain	214 West Banbury Drive, Stockton, CA 95207

*** Ownership and Mailing Addresses obtained from County Assessor but could not be confirmed; i.e., no phone listing.**

Information was received, through FAX, from the Lahontan Regional Water Quality Control Board containing possible water well locations from old well logs and other sources. These well locations were suggested to be either within or near the 1000 feet range from the service station. We obtained owner's names and addresses from the County Assessor, and contact was attempted. Solely from old well logs, Terra Vac contacted the owner or business at the most likely address matching the well location description. Because two locations were described at 5th and Eloise, businesses at each corner were contacted. These possible well locations, and whether a well exists at these locations based on the listed owner's response, are listed in the following table:

Location	Owner	Mailing Address of Property Owners	Well/No Well
*903 Eloise	(fenced storage yard)		
925 Eloise	Norm Findley	925 Eloise Avenue, South Lake Tahoe, CA 96150	No Well
933 Eloise Avenue	Sierra Pacific Power Co.	933 Eloise Avenue, South Lake Tahoe, CA 96150	No Well
934 Eloise	Bill King	934 Eloise Avenue, South Lake Tahoe, CA 96150	No Well
2042 5th Street	Roland Dunn	P.O. Box 16345, South Lake Tahoe, CA 96151	No Well
*857 Roger Avenue	(apartment homes)	no assessor listing	
*748 Roger Avenue	H. W. & Donna Conley	3949 Orange Grove Ave., Sacramento, CA 95841	
*928 Glorene Avenue	(vacant lot)	no assessor listing	
*920 Glorene Avenue	Rondal & Julie Waller	P.O. Box 9469, South Lake Tahoe, CA 96158	
*762 Glorene Avenue	John D. Uphold	625 Gould Terrace, Hermosa Beach, CA 90254	
*788 Glorene Avenue	John & Judith Uphold	625 Gould Terrace, Hermosa Beach, CA 90254	

***Could not be confirmed; i.e., no phone listing, no one present at location, etc.**

A summary of the investigation is listed in the following:

- A map of South Lake Tahoe from the Automobile Association of America (AAA) was utilized to indicate the 1000 feet range from the service station.

- The Chamber of Commerce, County of El Dorado - The Chamber of Commerce recommended that we contact South Tahoe Public Utility District and Lukins Brothers Water Company regarding the well information.

- Danny Lukins, Owner, Lukins Brothers Water Company Inc. - Mr. Lukins indicated that all wells around the subject area are drinking water wells. There are no irrigation wells. Mr. Lukins sent us a map by FAX containing locations of Lukins Brother's wells and privately-owned wells. Lukins Brothers owns one well at 921 James Avenue. Mr. Lukins did not have any knowledge of the addresses to the privately-owned wells.

- Chuck Curtis, Water Resource Control Engineer, California Regional Water Quality Control Board; Lahontan Region - Mr. Curtis provided additional addresses of privately-owned wells, both confirmed and possible locations, within the 1000 feet range and near it.

- Ivo Bergsohn, Hydro-Geologist, South Tahoe Public Utility District - Mr. Bergsohn provided the addresses of the privately-owned wells, which were plotted on Danny Lukins' map. A water system grid sheet, covering the proximity of the subject area, was sent through FAX by Mr. Bergsohn.

- Additional research on private businesses and approximate locations within the subject area was conducted by using the Internet. The web pages, Maps On Us and MapQuest, were utilized to locate various types of businesses within 1000 feet from the service station.

- Terra Vac visited County Assessor's office to obtain owner's names and addresses.

- Terra Vac conducted a field investigation to identify possible well locations, based on descriptions contained in old well logs supplied to us by Lahontan Regional Water Quality Control Board. The descriptions typically pertained to approximate distances to landmarks and approximate street locations.

- Terra Vac physically visited every address that is not on the assessor's listing, but was suggested to us by Lahontan Regional Water Quality Control Board as a potential water well location.

We will follow-up by mail to those owner's and addresses that could not be confirmed or reached by telephone. We will also contact owner's of existing wells to arrange for access to collect samples.

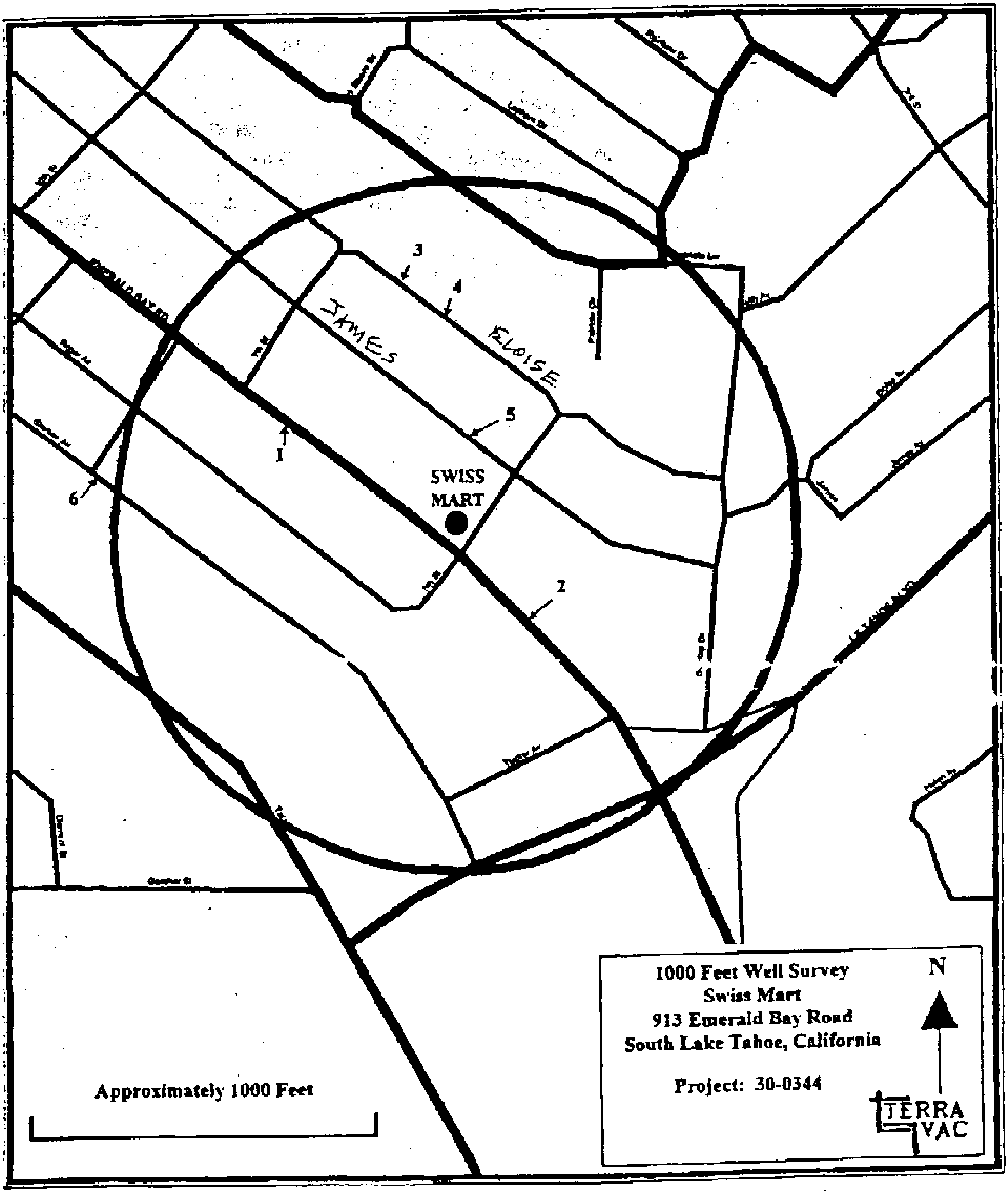
I hope you will find this information helpful. Please call Robert Dahl when you require further information or discussion.

Sincerely,

Larry Argueza
Remediation Specialist

Robert A. Dahl
Project Manager

cc: Azad Amiri
Amiri Oil Company
1505 Monument Street, Suite 101
Concord, CA 94520



1000 Feet Well Survey
Swiss Mart
913 Emerald Bay Road
South Lake Tahoe, California

Project: 30-0344

Approximately 1000 Feet

EXHIBIT AA

From: Harold Singer
To: Dernbach, Lisa; Dodds, Robert
Date: 11/16/04 8:27AM
Subject: Re: Letter re: PCE at Y

Admin - File this w/ our 11-16-04 ltr to owners of Lake Tahoe Laundry Works

File: SLIC, Lk Tahoe Laundry Works, T6S043.

Lisa

Thanks -

BOB - the letter is in my in-box - PLEASE SIGN.

thanks
harold

>>> Lisa Dernbach 11/15/04 03:31PM >>>
Harold,

I agree with the report's conclusion that the source of contamination in GW-6 is not from the laundromat. One, the Clement well ceased operating four years ago and a dissolved plume pulled to the well would have migrated about 700 ft or more with natural groundwater since that time. And two, the laundromat plume is clearly in the upper portion of the saturated zone (20-30 ft) and is unlikely to be pulled to the 44 ft depth in the absence of an active force such as the Clement well.

More likely, contamination at GW-6 is from the Lakeside Napa Auto Store where sampling less than 100 ft away showed PCE levels in the thousands of micrograms per liter. The Napa parties though are claiming the source is the sewerline and believe we should require that STPUD conduct a PCE investigation just as everyone else has had to do. We can discuss this issue more if you want.

A head's up, tomorrow I plan on sending Chuck a draft letter to review that reinstates the CAO for the Big O Tires Store. The letter refutes the DNAPL migrating center of mass theory since no DNAPL was detected at the Lake Tahoe Laundry Works. I'm sure this letter will get a big response from the parties.

Lisa

>>> Harold Singer 11/15/04 10:56 AM >>>
Lisa and Chuck

I have one question on the letter.

You indicate that the "upgradient" well contamination is due to other sources. Given that the Y area is within the zone of influence of the Clement well and that the source of PCE at the Laundromat ceased many years ago, is it possible that some of the contamination in this well is from the Laundromat? If so, you may want to modify the letter to be less specific that this contamination is from "upgradient" sources.

thanks
harold

CC: Curtis, Chuck

EXHIBIT BB

California Regional Water Quality Control Board
Lahontan Region

STAFF REPORT

SOLVENT CONTAMINATION AT THE BIG O TIRES STORE, 1961 LAKE TAHOE BOULEVARD, SOUTH LAKE TAHOE

August 22, 2005

Lisa Dernbach, P.G., C.Hg., C.E.G.
Senior Engineering Geologist (Specialist)

Reviewed by: Chuck Curtis, P.E.
Planning and Toxics Division Manager

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Executive Summary

The Regional Board has been aware of solvent contamination, particularly tetrachloroethene (PCE), at the Big O Tires Store (Facility) in South Lake Tahoe following a 2001 groundwater investigation. In 2003, the Regional Board Executive Officer issued Cleanup and Abatement Order (CAO) No. R6T-2003-031 to current and former owners and operators (Dischargers) of the Facility to conduct corrective actions. The Dischargers are David and Kathleen Barnett; CAD Enterprises, LLC; CAMCO; BOT 65, Incorporated; and Lightnin II, Incorporated. The Dischargers did not comply with orders in the CAO. Instead, the Dischargers submitted a technical report in early 2004 that put forth the theory of a solvent center-of-mass that migrated to the Facility from an off-site source. The CAO was put in abeyance pending Board staff's review of the technical report and investigation results from other solvent source sites.

Regional Board staff's review of all the data associated with the site and review of other case studies of solvent fate and transport indicates that the Dischargers' theory of an off-site migrating center-of-mass affecting the Facility is not supported. Rather, investigation results show that the Facility is primarily affected by a PCE source originating on site and may secondarily be affected by off-site solvent sources. The on-site source is adversely affecting water quality and beneficial uses, such as municipal and domestic drinking water supply. Additional enforcement actions issued to the Dischargers are warranted for cleanup and abatement of the hazardous waste (solvent-contaminated soil and water).

I. History of PCE Contamination in South Lake Tahoe

In 1989, the South Tahoe Public Utility District (District) reported that PCE had been detected in several municipal wells in the "Y" area in the City of South Lake Tahoe (Figure 1). The information indicated that an unauthorized discharge or discharges of solvent compounds had occurred within the capture zones of these wells. While several solvent compounds were detected, PCE was the most abundant compound. The state drinking water standard for PCE is 5 micrograms per liter (μg/l).

In 1990, Regional Board staff began investigations to identify locations of potential solvent discharges. The investigations were able to identify the businesses and areas that could be potential sources. Following additional investigations by the Regional Board and the District, it was determined in 1998 that PCE in groundwater was not a diffused, area-wide problem. Instead, localized, high PCE concentrations were probably attributed to releases originating at a few specific sites.

Starting in 1998, the Regional Board Executive Officer required that groundwater investigations be conducted on certain properties to determine whether a solvent release had occurred. The properties were selected based upon their location relative to affected drinking water wells and whether they included businesses that likely used solvent compounds. The selected businesses included dry cleaners, automotive and machine shops, paint shops, and printing shops.

Groundwater investigations were conducted at thirteen properties between 1998 and 2003. Of the thirteen, two properties had groundwater containing PCE concentrations in the thousands of micrograms per liter in groundwater and three properties had groundwater containing PCE concentrations in the hundreds of micrograms per liter. The results from investigations at properties in the first group having the highest PCE concentrations in groundwater indicated that those properties were sources of solvent contamination affecting the drinking water aquifer. Contamination found in the second group of sites indicated that those properties possibly were solvent sources and warranted further investigation. The remaining eight properties that conducted investigations had PCE concentrations in groundwater at less than 20 µg/l and were determined by Board staff not to be PCE sources.

II. Cleanup and Abatement Order (CAO) No. R6T-2003-031

The Regional Board Executive Officer issued cleanup and abatement orders to dischargers for the properties having PCE concentrations in groundwater in the thousands of micrograms per liter. The Facility was one of the two properties where dischargers received cleanup and abatement orders.

The October 2001 groundwater investigation conducted at the Facility detected PCE and other solvent compounds in groundwater above drinking water standards. PCE increased in concentration from the water table at 18 feet below ground surface (bgs) to depths of 50 feet bgs in the aquifer (Figure 2). Trichloroethene (TCE) and dichloroethene (DCE) also increased in concentration with depth in the water column. Solvent concentrations increased from the western property boundary towards the middle of the Facility, corresponding with groundwater flowing west to east. The investigation results indicated that an on-site solvent source was adversely affecting water quality. Increasing solvent concentrations with depth in the saturated zone implied the source was free product that sank in the aquifer.

CAO No. R6T-2003-031, issued on August 8, 2003, required the Dischargers to conduct investigations and corrective actions to cleanup and abate the affects of discharges of hazardous waste to groundwater. The Order requires the Dischargers to: 1) submit a workplan for investigating the extent of contamination in soil and groundwater; 2) implement the site investigation; 3) submit a technical report that describes the results of the site investigation; and 4) submit a corrective action plan to abate impacts to soil and groundwater. Contamination from the site threatens multiple municipal and domestic drinking water wells in the area.

On September 25, 2003, the Dischargers submitted a workplan for conducting a soil and groundwater investigation, in accordance with the first requirement in CAO R6T-2003-031. In a November 25, 2003 response, Board staff stated that the workplan was deemed incomplete because it did not propose sufficient sampling points to fully characterize contamination in either soil or groundwater. In the letter, the Dischargers were directed to submit a revised workplan within 21 days that would meet the requirements of the Order.

On December 12, 2003, the Dischargers submitted a deadline-extension request for submitting the revised workplan. The basis for the Dischargers' request was that they desired to complete an area-wide contaminant study that would allow for a more accurate determination for need and placement of off-site borings for sampling. The Regional Board Executive Officer approved the request in a December 22, 2003 letter and set a new deadline of January 16, 2004 for submitting the revised workplan.

III. Migrating Solvent Center-of-Mass Theory

In January 2004, the Regional Board received a document entitled, "Review and Interpretation of Hydrologic Data, Big O Tire Facility." The document, prepared by the Sierra-Pacific Group on behalf of the Dischargers, presents the theory that a solvent center-of-mass migrated with natural groundwater to the Facility from a laundromat business located across the street at 1024 Lake Tahoe Boulevard (see Figure 1). The laundromat business, now called the Lake Tahoe Laundry Works (Laundry), at one time contained a coin-operated dry cleaning machine for public use. The compound, PCE, was used in the machine to clean clothes.

The center-of-mass theory was based upon the Facility consultant's contention that there was a single point of release for solvent contamination rather than multiple releases at different sites, as put forth by Regional Board staff. The theory is based upon the occurrence of the same three compounds, PCE, TCE, and cis-1,2-DCE, within the same orders of magnitude at the Laundry, Facility, and Napa Store. The consultant theorizes that contaminant concentrations indicate that PCE free product originating at the Laundry migrated laterally and vertically in the aquifer before reaching the Facility. The resultant dissolved-phased plume became centered beneath the Facility. Later, when the pumping was expanded at the Clement Well, the consultant suggests the plume center-of-mass was pulled beneath the Napa Store, reflected by high solvent concentrations found at that location. Following shutdown of the Clement Well years later, the consultant indicates the center-of-mass is more evident beneath the Facility than the Napa Store due the Facility's proximity to free product from the Laundry. Based upon this theory of solvent contamination originating at an off-site source, the Dischargers did not propose a revised workplan for implementing a site investigation.

On January 29, 2004, Regional Board staff met with several of the Dischargers to discuss the need for the revised workplan and the theory made in the document "Review and Interpretation of Hydrologic Data."

Based on that meeting, on March 1, 2004, the Regional Board Executive Officer issued a letter to the responsible parties agreeing to hold in abeyance the requirement for the revised workplan for a site investigation. The letter stated that the action is being taken until Board staff could research the validity of the migrating center-of-mass theory and review the results of other PCE investigations being conducted in the area. Following receipt of this information, a decision would be made regarding further compliance with CAO R6T-2003-031.

Following the Executive Officer's March 1, 2004 letter to the Dischargers, Regional Board staff researched the migrating center-of-mass theory. In addition, Board staff spoke to staff at other regional boards that are experienced in the fate and transport of solvents in groundwater. The purpose of the research was to understand the basis of the theory and to determine whether the conditions that are applicable to the theory are or were present.

IV. Characteristics and Behavior of Solvent Compounds

Conventional knowledge of solvent contamination cases indicates that for a migrating center-of-mass there must be a solvent source having saturated a volume of the soil pore space. Solvents may be found in soils (above or below the groundwater table) in two general phases. The first is when a solvent saturates the pore spaces of a volume of soil, and it is variously called non-aqueous-phase liquid (NAPL), separate-phase product, liquid-phase product, free-liquid-phase product, or free product (referred hereinafter as free product). Solvent in the free product phase has a specific gravity greater than one, causing it to sink in water. For PCE, a concentration of one percent solubility (about 1,500 µg/l) in groundwater typically indicates the presence of free product.

The other general phase is when a solvent is in gaseous form in soil pores above the water table or a dissolved form below the water table. Dissolved plumes form after contact with solvents, whether it be from free product, residual contamination (having partially-saturated pore spaces), or a gas. A common misconception of solvent plumes is that they too sink in the aquifer. Instead, plumes composed of dissolved solvent compounds migrate with groundwater flow and decrease in concentration with distance from the source. The compound, PCE, tends to lead a plume of dissolved solvents. PCE breakdown products, TCE and DCE, will usually follow PCE in a plume but at lower concentrations and for shorter distances in conditions that are more aerobic than anaerobic.

The fate and transport of a solvent free product can be complex. In the unsaturated zone, free product is mainly acted on by gravity and moves downward. Free product can also travel laterally on fine-grained layers, mainly silts and clays, which resist downward movement. On silty sand layers, free product will move downward between sediment grains unless the entry pressure exceeds the weight of the free product on top of it, at which time the free product may move laterally. When free product reaches groundwater, it begins to form a mound and spread horizontally on the water table until there is enough mass to overcome the capillary entry pressure. Once in the saturated zone, gravity continues to cause free product to sink in the aquifer because it is more dense than water.

Normal groundwater flow gradients are unable to overcome gravitational forces and soil tension forces to cause free product to move laterally. However, if a strong force, such as a pumping municipal well or groundwater extraction well, is present, it can pull free product away from the source site. This process tends to happen more with free product pools rather than with small free product accumulations, such as fingers and drops, called ganglia.

It is generally known that solvent free product does not remediate on its own under natural attenuation. Numerous cases can be pointed to where solvent discharges 40 years old continue to show free product levels in soil and groundwater. Rather, active measures are required to eliminate a free product source that would otherwise be present for decades.

Therefore, the factors required for a migrating center-of-mass are 1) free product at a source site and 2) free product lateral migration either by movement on fine-grained layers or by an external force such as well extraction. These factors are explored more in the following sections.

V. Analysis of PCE Investigation at Off-site Properties

Once the factors required for validation of a migrating center-of-mass theory were known, investigation reports were reviewed for off-site properties believed to be PCE sources to determine if the factors were present. The results of investigations conducted at three solvent sites in the "Y" area are summarized here.

A. Lake Tahoe Laundry Works

The Laundry is located near the northwest end of a shopping center. The property owner reports that the laundromat contained a coin-operated dry cleaning machine in the years between 1973 and 1979. The machine was self contained and used PCE to clean clothes; there was no sewer connection to the machine.

Site investigations were conducted at the Laundry in 2003, 2004, and 2005. The maximum on-site PCE concentration of 690 µg/l was detected at the water table, 20 feet bgs (Figure 2). PCE concentrations decreased with depth in the aquifer, to 15 µg/l at 44 feet bgs. Other solvent compounds, TCE and DCE, detected above the drinking water standard also decreased in concentration with depth in the aquifer. Water samples taken from boring GP-9, located two hundred and fifty feet in the downgradient flow direction, showed PCE concentrations at 1,000 µg/l at 16 feet bgs and 1,200 µg/l at 40 feet bgs. This boring location is situated at the northern corner of the shopping center parking lot, adjacent to Lake Tahoe Boulevard. Soil sampling showed that a majority of solvent compounds detected were at shallow depths, four to eight feet bgs, near the laundromat front door and in the parking lot. Further investigation is necessary to define the outer most boundaries of soil contamination.

Overall, data from the Laundry point to shallow residual contamination in soil instead of sinking free-product in the aquifer. These investigation results are consistent with spills caused by chemical transport and delivery that were common during the period that PCE was used at the Laundry. Since solvent compounds in groundwater decrease with depth and are at concentrations less than one percent of the solubility level for PCE (i.e., 1,500 µg/l), it is reasonable to conclude that free product does not and did not exist at the site.

In addition, the 2004 site investigation included off-site groundwater sampling beneath Lake Tahoe Boulevard. Water samples collected from a boring located at the Glorene

Avenue intersection, 100 feet northwest from the Laundry, showed non-detectable levels of solvents at the water table at 18 feet and 710 µg/l at 44 feet bgs. Samples collected from a boring located 70 feet north from the Laundry and between it and the Facility detected 25 µg/l PCE at the water table and 230 µg/l at 44 feet bgs. The latter sample location is in the downgradient groundwater flow direction from the former sample location. The sample results suggest that the plume from the Laundry site migrates near the water table since PCE concentrations decrease with distance from the site. Whereas, sample results near the Glorene Avenue intersection suggest that a solvent plume from a different source or sources is migrating deeper in the aquifer from the west direction. It is unknown whether the shallow and deeper plumes commingle.

The 2005 investigation results indicate a commingled plume may be present at the northeast parking lot corner of the shopping center. PCE concentrations detected at GP-9 are inconsistent with concentrations detected upgradient at the Laundry site. The boring location is situated between the Facility and the former Shell Station, where a pump and treat system operated and may have affected the plume from the Facility. Further investigation is necessary to determine whether the Laundry plume commingles with the plume from the Facility at this location.

B. Lakeside Napa Auto Parts Store

Board staff also reviewed the 2002 and 2004 investigation reports for the Lakeside Napa Auto Parts Store (Napa Store). This site is located at 1935 Lake Tahoe Boulevard, about 180 feet west of the Facility (Figures 1 and 2). The property owner cites that a machine shop operated in the east end of the store building until 1997.

Results of the two investigations were similar. PCE was detected in the thousands of micrograms per liter in groundwater at 44 feet bgs and at lesser concentrations near the water table at 18 feet bgs. The compounds TCE and DCE were also detected in the water column at levels exceeding drinking water standards. Solvent compounds increased in concentration in groundwater from the upgradient property boundary on the west side to the middle of the property, indicating an on-site source. In the first investigation, the PCE high concentration of 3,000 µg/l was detected on site. Yet, in the second investigation, the PCE high concentration of 2,200 µg/l was detected 50 feet off site across Glorene Avenue from the Napa Store. It is unknown whether contamination detected at the latter sampling location is from a source at the Napa Store or an off-site source.

Since solvent compounds in groundwater increase with depth and are at concentrations greater than one percent solubility for PCE (i.e., 1,500 µg/l), it is likely that free product exists at the site. Off site, PCE concentrations in groundwater reduced to 500 µg/l on Tucker Avenue, just before the Big "O" Tires property line. Despite collecting 17 soil samples and conducting geophysical analyses of subsurface conditions, a solvent source was not identified during either investigation at the Napa Store. Further investigation may be necessary to determine the relationship of the high PCE concentration detected off site during the 2004 investigation with the Napa Store.

C. South Shore Motors

The South Shore Motors is located at 1875 Lake Tahoe Boulevard, about 300 feet west of the Facility (Figure 1). During a 1999 site investigation, water samples showed PCE at concentrations below the 5 µg/l drinking water standard and dichloroethane (DCA) at concentrations above the 0.5 µg/l drinking water standard. The site was the only property in the South "Y" area to identify DCA.

VI. Operating History of "Y" Area Municipal Wells

The District reports that the first PCE detection in "Y" area municipal wells occurred in 1989, the first time that sampling was required in California. The four municipal wells closest to the Facility are the Tata #4 Well, Clement Well, Julie Well, and the South Y Well (see Figure 1). The Facility is located in the downgradient or crossgradient groundwater flow direction of each of these municipal wells.

Table 1 shows that PCE concentrations detected in the Julie Well in 1989 exceeded the state drinking water standard of 5 µg/l. PCE concentrations detected in the Tata #4 and Clement Wells were below the standard. The latter two wells also contained the compound DCA above the 0.5 µg/l drinking water standard, while the Julie Well did not. The Tata #4 Well and Clement Well pumped at about 70 gallons per minute (gpm), and the Julie Lane Well pumped at about 150 gpm. Based upon pumping rates, it would be assumed that the drawdown capture zone would be larger at the Julie Lane Well than at either of the other two municipal wells. The lack of aquifer tests in or around 1989 prevent knowing the actual capture distance of each well.

Table 1. Solvent Compounds Detected in Municipal Wells

	Julie Well (150 gpm)	Tata #4 Well (70 gpm)	Clement Well (70 gpm)
PCE (µg/l) in 1989	8.3	2.2	0.5
Other compounds in 1989	none	DCA	DCA
PCE (µg/l) in 1992	6.4	0.79	29*
Other compounds in 1992	none	DCA	DCE TCE**

Notes:
µg/l: milligrams per liter
gpm: gallons per minute
PCE: Tetrachloroethene
TCE: Trichloroethene
DCE: Dichloroethene
DCA: Dichloroethane
*pumping increased on average to 200 gpm
**detected in 1993

To abate PCE and DCA concentrations in drinking water, the District choose to conduct wellhead treatment using an air stripper at the Clement Well. Extracted water from the Tata #4 Well, Julie Well, and the South Y Well was piped to the Clement Well and merged with its extracted water before undergoing treatment. The treatment method was successful at removing solvent compounds from groundwater to meet state drinking water standards. Treated water was then sent in the distribution lines to District customers.

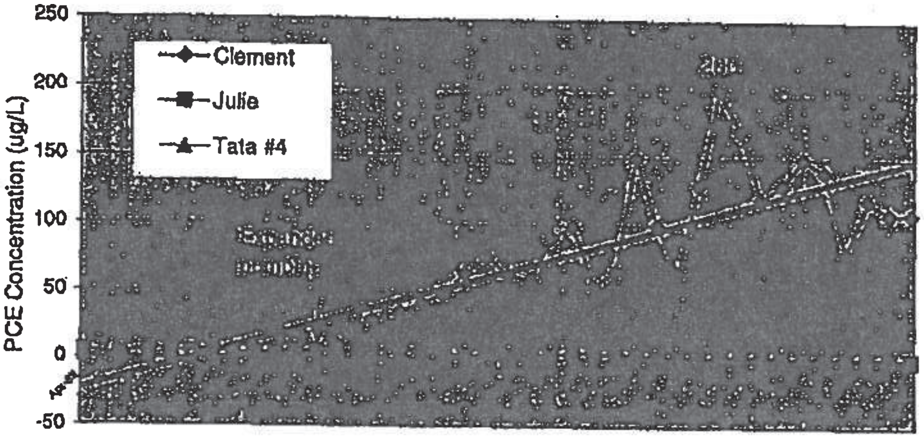
When wellhead treatment began at the Clement Well at the end of 1991, pumping from this well was increased up to 230 gpm and averaged almost 200 gpm. Pumping rates at the Tata #4, Julie, and South Y Wells, however, stayed the same as before. It is unknown whether expanded pumping at the Clement Well caused overlap in the capture zones with other municipal wells in the South Y area.

The District rarely used the South Y Well due to high levels of naturally occurring uranium in the water. When the South Y Well was turned on between August and November 1994 and between July and August 1995, water was blended with water from the other municipal wells to reduce uranium levels. The South Y Well pumped at a rate of 140 gpm.

With the greater pumping rate at Clement came increasing PCE concentrations above the drinking water standard (Graph 1) and the disappearance of DCA (Attachment 1). The trendline for the Clement Well data shows an overall increasing trend in PCE concentrations through time until the well was turned off in early 1999 along with all the other Y area municipal wells. In comparison, expanded pumping at Clement had very little if any effect upon PCE concentrations detected at the Julie and Tata #4 Wells. Graph 1 shows that PCE concentrations peaked at 200 µg/l in the Clement Well in 1996 before starting to decrease in 1997. In addition, the District analyzed influent samples of combined municipal well water going to the air stripper. The levels of PCE detected in these samples were consistently less that PCE concentrations detected in the Clement Well alone due to dilution of the Julie and Tata #4 Wells, and the South Y Well when it occasionally operated.

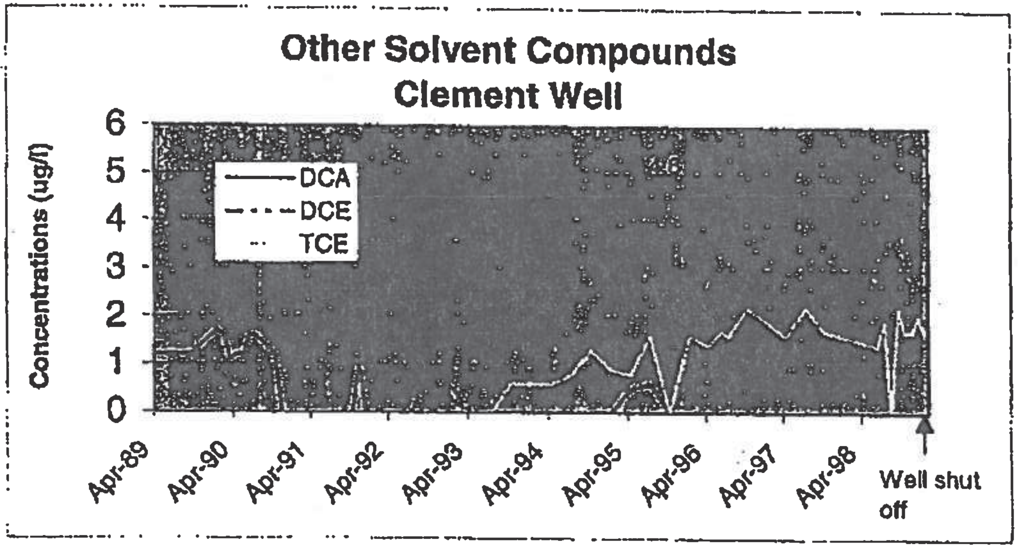
The compounds DCE and TCE were also detected in the Clement Well beginning in 1992 and 1993, respectively (Graph 2). These compounds, however, were not detected in the Julie and Tata #4 Wells, but were detected at low concentrations (less than four micrograms per liter) in the combined well influent samples before the air stripper. No chlorinated hydrocarbon data is available for the South Y Well since it was not pumped often. Clement Well data in Attachment 1 show there was a nine-month time lag from the time when PCE concentrations started steadily increasing in late 1991 to when the

Graph 1. PCE Concentrations in Municipal Wells



first DCE detection was observed in September 1992. The data also show a 22-month time lag, from December 1991 to October 1993, for TCE to reach detectable levels in the Clement Well.

Graph 2



In early 1998, the District shut down all wells in the Y area to conduct a pump test for the Clement Well. The purpose of the test was to determine the drawdown extent of the municipal well and see whether PCE was present in water samples. During the test, the well was pumped at an average rate of 180 gpm for 15 hours. The test results indicated a drawdown distance to 900 feet in the upper aquifer and 1,600 feet in the lower aquifer (Figure 3). Positive PCE results confirmed that one or more solvent sources existed within the well's capture zone.

Wellhead treatment continued uninterrupted from 1991 even when levels of methyl tertiary butyl ether (MTBE) were detected in influent in 1997. MTBE levels in treated effluent increased over the next few years until nearing the drinking water standard in 1999. The District elected at that point to shut down all municipal wells in the south "Y" area. MTBE plumes in groundwater had formed years before from underground storage tank releases, principally from gas stations along Emerald Bay Road.

With the municipal wells shut down in the "Y" area, groundwater resumed the natural flow direction towards Lake Tahoe, to the northeast. The exception to natural groundwater flow occurred at locations where groundwater extraction was implemented for the purpose of aquifer restoration. For the most part, extraction took place on the east side of Lake Tahoe Boulevard between the Tata #4 Well and the former USA Gas Station at 1140 Emerald Bay Road. The largest extraction rate of 45 gpm took place at the Tata #4 Well during 1999 and 2003. Lesser groundwater extraction also took place at the former Shell Station located at 887 Emerald Bay Road. A potentiometric map (Figure 4) shows average groundwater drawdown for remediation purposes in 2002. The map indicates that drawdown (shown as concentric lines) did not affect groundwater at the Facility, Napa Store, and the Laundry. However, the off-site portion of the Laundry plume was likely contained from further migration by extraction wells operating for the Shell Station. If pumping rates fluctuated at different times, so would the extent of capture, possible affecting groundwater contamination from the Facility

VII. Data Interpretation

The following sections discuss data interpretation of the capture distance for municipal wells and discharges affecting the Clement Well.

A. Well Capture and Site Distance

Table 2 lists the distances from the three municipal wells that continuously operated to sites identified as likely solvent sources, and the distances from the South Y Well that briefly operated in 1994 and 1995. Based upon DCA detection in the Clement Well in 1989 (refer to Table 1), it can be concluded that the capture influence extended to at least the South Shore Motors, 440 feet away. Likewise, DCA detected in the Tata #4 Well suggests that capture either reached the South Shore Motors or a similar business using DCA located nearby, of which there were several in the area.

Table 2. Distance from Municipal Wells to Solvent Sources

	Julie Well (ft)	Tata #4 Well (ft)	Clement Well (ft)	South Y Well (ft)
Napa Store	1,400	740	1,100	800
Laundry	1,450	700	1,450	675
Big O Tires	1,500	850	1,400	820
South Shore Motors	550	600	440	1,030

While it is known that PCE discharges had already occurred at the Laundry by 1979, it is unknown when discharges occurred at the Facility or the Napa Store. The Tata #4 Well is closest to the Laundry of the three municipal wells listed in Table 1. Since the pumping rate at the Tata #4 Well and the Clement Well were the same in 1989, it is more likely that the Tata #4 Well would capture PCE at the Laundry rather than the Clement Well, which is located further away. The same could be said about discharges that may have already been present at the Facility; PCE capture would have been more likely by the Tata #4 Well instead of the Clement Well.

The expansion of pumping at the Clement Well in late 1991 not only increased the volume of water reaching the municipal well but also increased the extent of drawdown capture. The disappearance of DCA in 1992 corresponds with increased pumping of municipal wells for wellhead treatment. The increased pumping likely caused low levels of DCA in groundwater to be diluted to non-detectable concentrations from increased water volume.

Since the Facility and the Laundry are located near the edge of the Clement Well's 1,600-foot capture zone (Figure 3) created by increased pumping of 180 gpm, it is unlikely that either site was affected by the smaller capture zone created when the Clement Well was pumping only at 70 gpm before late 1991. Such information supports the contention that PCE detected in the Clement Well in 1989 was not likely from discharges at the Laundry or from potential discharges that may have already occurred at the Facility.

As previously stated, the District operated the South Y Well for four months in 1994 and about two months in 1995. Based upon the pumping rate of this well, 140 gpm, and the close proximity of the well to the three solvent sites, the capture influence of the South Y Well likely overcame the capture influence of the Clement Well. The net effect likely changed the direction of plume movement from west (toward the Clement Well) to south (towards the South Y Well). This would have caused solvent concentrations to decrease at the Clement Well as is evident by the downward spikes in summer 1994 and summer 1995 seen in Graphs 1 and 2. Seasonal pumping rate differences and their effects on plume movement may also be responsible for the down-up cycling of PCE concentrations in the Clement Well.

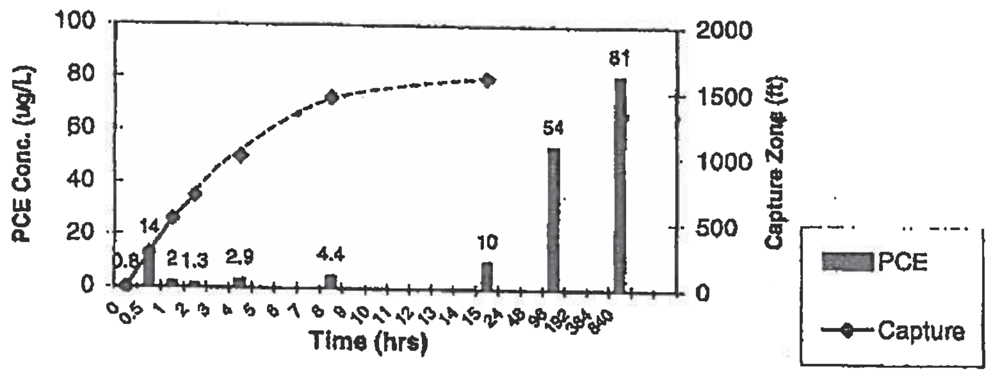
When the South Y Well ceased pumping in each year, portions of the solvent plumes likely moved as a combined plume either to the Tata #4 Well, 330 feet away to the southeast, or to the Clement Well to the west. The net effect of the South Y Well pumping likely caused PCE to move widely in the aquifer in the area and possibly moved some free product to off-site locations from their sources.

Detection of DCE and TCE in the Clement Well after late 1991 could have resulted from either discharges containing the compounds or from chemical breakdown from earlier PCE discharges. Since increasing DCE and TCE detections follow increasing PCE detections, it would not be unreasonable to believe that the former compounds are breakdown products of PCE. DCA is not a typical breakdown product of PCE, so it is likely from a different solvent product.

B. 1998 Clement Well Pump Test

The District's 1998 pump test at the Clement Well showed that at an average pumping rate of 180 gpm, drawdown extended to 1,600 feet within 15 hours. Since data points in the pump test were near asymptotic at the end of the test, it is assumed that the drawdown did not extend a significant distance beyond 1,600 feet. Besides South Shore Motors, the 1,600 feet drawdown distance encompasses the Facility, the Napa Store and the Laundry.

Graph 3. Clement Well Pump Test Results, March 1998



From the pump test data shown in Graph 3, several interpretations can be made. Upon test initiation, PCE was detected in the Clement Well at 14 µg/l. At 60 minutes into the pump test, PCE concentrations dropped to 2 µg/l. This information suggests that a PCE source existed within the first capture zone of 260 feet but reduced in concentration as the capture zone expanded to 520 feet.

Since there are no known PCE sources within the first capture zone, either a PCE release existed within the adjacent residential area or PCE plumes that had been previously drawn to the Clement Well prior to the pump test were still in the immediate area. Since the District had ceased extraction at all Y area municipal wells for two months prior to the pump test, the latter explanation seems more plausible. The PCE plumes that had been drawn to the Clement Well prior to the test had probably migrated about 60 to 120 feet with natural groundwater flow in the time before the pump test was initiated.

The reduced PCE concentrations at the first hour of the pump test were likely affected by dilution from the expanded capture zone. The only PCE site identified within the 520 foot capture zone for the Clement Well is the South Shore Motors at 400 feet. Low PCE concentrations (less than 5 µg/l) detected at the South Shore Motors are consistent with low PCE levels detected in the Clement Well.

PCE concentrations remained low (less than 3 µg/l) until the eighth hour into the test when a PCE concentration of 4.4 µg/l was detected and drawdown was calculated as extending to at least 1,450 feet from the Clement Well. According to Table 2, at this distance, the capture zone influenced the Napa Store, Facility, and Laundry sites.

By the fifteenth hour, PCE concentrations rose to 10 µg/l when the capture zone extended out to 1,600 feet. The increase in PCE concentration between the eighth and fifteenth hour likely represents the time lag for PCE at the Napa Store, the closer of the three sites, to migrate to the Clement Well. After the fifteenth hour, PCE concentrations increased to 81 µg/l in the Clement Well over the next 35 days, probably from the Laundry and the Facility. Overall, increasing PCE concentrations with time after the capture zone reached 1,450 feet likely represents the period it took to reverse the groundwater gradient toward the Clement well and draw in PCE plumes.

The last interpretation is that a time lag can be estimated for PCE near the capture zone boundary to reach the Clement Well following startup of pumping. Prior to the pump test, PCE was detected at 150 µg/l in the Clement Well in late 1997, before pumping ceased in Y area municipal wells. During the pump test, it took 35 days for PCE concentration to reach 81µg/l. At that rate, it should have taken about a month more for PCE concentrations to return to 150 µg/l. However, Julie and Tata #4 Wells were added into service with the Clement Well during that time and diluted the PCE concentrations that were detected from the combined influent. Had that not occurred, a two-month estimation for PCE to travel to the Clement Well from the drawdown boundary of 1,600 feet appears reasonable.

C. PCE Breakdown

Under anaerobic (no to low oxygen) conditions, PCE dissolved in water loses a chloride ion and breaks down into daughter products. The breakdown order is TCE, DCE, and vinyl chloride. DCE is typically in the form of cis-1,2, a stable compound, compared to trans-1,2 DCE, which is less stable.

The rate of PCE breakdown is often site specific depending on such factors as soil type, water table fluctuation, dissolved oxygen content in groundwater, and the presence or not of an impermeable cover on ground surface. It is generally assumed that sites in close proximity to each other would have the same subsurface conditions for PCE breakdown unless available information shows otherwise.

Research has shown that original PCE concentrations can be estimated at sites that have not undergone enhanced remediation. The starting PCE concentration at a location is additive of all constituent concentrations at one location. This calculation has a margin of error of ten percent for concentrations lost due to sampling or analytical errors. The results can be used to estimate whether free product may be present at a site.

Using the above approach, the results of water samples showing the highest solvent concentrations are added together for each of the three solvent sites. Table 3 shows the original PCE concentration calculated for each site, the original concentration after adding a ten percent margin of error, and whether the final concentration indicates free product based upon there being a concentration of one percent of the PCE solubility level of 1,500 µg/l. The table shows that free product is indicated at the Napa Store and the Facility but not at the Laundry site.

Table 3. Calculating Original PCE Concentrations (µg/l)

	PCE	**TCE**	**DCE**	**Original PCE conc.**	**With 10% Margin of error**	**Indicates Free Product?**
	Maximum Concentration					
Laundry	690	48	150	888	977	No
Napa Store	3,000	53	95	3,148	3,462	Yes
Facility	4,700	92	130	4,922	5,414	Yes

Additionally, research has shown that the relative age of a PCE release can be estimated by comparing the ratio of breakdown products with other sites. For instance, as PCE breaks down to TCE, the ratio of TCE divided by PCE is a decimal that approaches the number one. The smaller the decimal, 0.01 or less, the newer the release. The larger the decimal, 0.1 or more, the older the release.

Using this concept, the relative age of PCE releases can be compared at the Facility, Napa Store, and the Laundry. Table 4 shows the ratios calculated using groundwater results from past investigations. Only data showing a positive detection for PCE and breakdown products were included in the data set to calculate ratios; non-detect results were excluded. Data collected at off-site locations that could potentially be commingled with other plumes were also excluded from the calculations.

The table shows the maximum range for TCE and DCE and the average ratio of DCE for the Laundry is 0.1 or greater. This information suggests that the release is relatively old. In comparison, the maximum range and the average ratio of TCE and DCE for the Napa Store is 0.030 or greater, indicating the Napa Store release is younger than the Laundry

Table 4. Ratio of PCE Breakdown Products at Solvent Sites

	TCE	cis-1,2DCE	Average TCE DCE	Total No. of Water Samples Collected	Age of Release
Laundry	0.002 – 0.133	0.043 – 0.385	0.048 0.252	27	Oldest
Napa Store	0.010 – 0.10	0.018 – 0.10	0.030 0.047	36	Less than Laundry
Facility	0.013 – 0.068	0.011 – 0.057	0.027 0.031	6	Less than Napa

release. For the Facility, the maximum range and average ratio of TCE and DCE are less than those numbers for the Napa Store, implying the Facility's release was more recent. Lastly, both the average ratios for TCE and DCE are closer in value between the Facility and Napa Store than the Napa Store and the Laundry. This information suggests that the release at the Facility was closer in time to the release at the Napa Store than was the Napa Store release to the Laundry. The confidence level in these calculations is high for the Napa Store and the Laundry since each site contained a minimum of 27 water sample results. The confidence level of calculations for the Facility, however, is not as high since the results of only six water samples are available.

To summarize, calculations indicate that PCE free product is present at the Napa Store and the Facility but not at the Laundry site. Based upon TCE and DCE ratios calculated from PCE, the Laundry release is indicated as being the oldest of releases identified at the three sites. The Laundry release was followed by releases at the Napa Store and then the Facility. According to information provided to the Regional Board, the release at the Laundry ceased by 1979 when the self-service dry cleaning machine was removed. Thus, the Laundry release is at least 26 years old. The release at the Napa Store would then be less than 26 years old and the release at the Facility even younger still. It is noted that these results are based upon a limited data set available for the Facility. Additional sample results would improve the confidence level of the ratios calculated for the Facility.

D. Geology in the South Lake Tahoe Y Area

The Clement Well is screen from approximately 100 to 140 feet bgs in what was originally believed by District staff to be the most transmissive of three aquifers. However, extensive investigation in the Y area by other parties has provided a better understanding of subsurface conditions.

The geologic cross section in Figure 5 shows that the stratigraphy at the Clement Well is not continuous. Rather than an unconfined and two confined aquifers, the cross section shows one aquifer composed mostly of sand with discontinuous interbeds. The majority of the interbeds consist of silty sand and some clayey sand. Less common in the aquifer are silt and clay interbeds.

The cross section in Figure 6 shows the geology beneath the Laundry. The site is underlain by an extensive silty sand interbed that is separated by sand before another, but less extensive, silty sand interbed. Below the water table, generally at 20 feet bgs, is an extensive silty sand interbed at about 38 feet bgs. Below this layer are two more silty sand interbeds and then a thick clay layer at 80 feet. Because no free product is indicated at the Laundry, solvent compounds have been identified as residual contamination in the uppermost silty sand interbed immediately below ground surface. Further investigation should determine whether the second silty sand layer beneath the site has residual product as well.

While a geologic cross section is not available at the Facility, boring logs from the 2001 site investigation provide a good picture of subsurface conditions. The boring log for B-2 (Figure 7) at the Facility shows geologic conditions that are different than that at the Laundry site. The geology at B-2 shows sand from ground surface to 6 feet bgs. This is underlain by silty to clayey sand down to 46 feet bgs. From 46 to 51 feet, sand is identified. The water sample collected from boring B-2 contained the highest solvent concentrations at the site, with PCE detected at 4,700 μg/l. Yet, a soil sample collected at 20 feet bgs did not contain detectable concentrations of solvent compounds. Since the soil sample location was 14 feet below the top of the silty to clayey sand layer, sampling could have missed where solvent free product may have pooled on top before spreading laterally. A review of the two other boring logs (Figures 8 and 9) for the Facility shows that soil samples were collected in the sand below finer-grained layers in the vadose zone. Thus it is possible that soil samples at these locations having non-detectable concentrations of solvents also could have missed identifying where solvent free product may have spread laterally on top of overlying fine-grained layers. Additional investigations at the Facility would assist in determining whether this is the case or not.

VIII. Reconstruction of Well Extraction and Solvent Discharges

The location of the Clement Well, its pumping rate, and type and detected concentration of solvent compounds provide clues to the location and types of possible sources and timing of discharges.

A. Year 1989

It is likely that more than one PCE release existed in the Y area prior to the first time that the solvent compounds were analyzed for in municipal wells in 1989. Positive PCE detections indicated that PCE releases existed within the capture zones for the Julie Well, Clement Well, and Tata #4 Well.

Low concentrations of DCA (less than 2 μg/l) in the Clement Well in 1989 and 1990 indicate that the pumping influence likely encompassed the South Shore Motor contamination, 400 feet away. It is unlikely that solvent compounds detected at the South Shore Motors migrated there from off-site plumes. This is because the groundwater flow direction from South Shore Motors to the Clement Well would have been to the north, which would be cross gradient to groundwater flow at the Napa, Laundry, and the Facility. Therefore, solvent compounds detected in groundwater at the South Shore Motors probably represent a discharge that occurred on site. The property is likely a minor DCA source but not a major PCE source.

According to information available to the Regional Board, PCE discharges had probably occurred at the Laundry by 1979. It is unknown after that time whether PCE flowed with natural groundwater to the northeast or was captured by a municipal well. If the latter instance occurred, capture would most likely have been by the Tata #4 Well, which is located closer to the Laundry than are the Clement and Julie Lane Wells. If capture was not to the Tata #4 Well, then the dissolved plume from the Laundry would have migrated undetected to the northeast with natural groundwater.

Contrary to claims made by the Dischargers, there could not have been a solvent center-of-mass that migrated to the Facility from the Laundry since there did not appear to be free product at the Laundry. In addition, if PCE at the Laundry was being captured by the Tata #4 Well prior to late 1991, the direction would have been southwest instead of northeast towards the Facility. If, however, the Laundry was not within the Tata #4 capture zone, natural groundwater flow would still not have caused a solvent center-of-mass to migrate to the Facility from the Laundry since natural flow forces are not strong enough to overcome gravitational and soil tensional forces exerted on solvent. Instead, soil investigations suggest that residual contamination at the Laundry primarily exists within a silty sand layer beneath the site. Therefore, data available for the Laundry does not support the Discharger's theory of a migrating center-of-mass affecting the Facility.

The same logic applies as to whether the Napa Store could be a potential source for free product migrating to the Facility. Natural groundwater flow would not have been strong enough to overcome gravitational and soil-attraction forces at the Napa Store to move free product to the Facility.

Prior to late 1991 when the Clement Well capture zone did not reach the Napa Store, free product may have moved upon fine-grained layers that sloped or dipped towards the Facility. However, there is not sufficient information to know if laterally continuous fine-grained layers exist between the Napa Store and the Facility. Thus, it is unknown whether free product could have moved towards or away from the Facility on a fine-grained layer until further investigations are completed.

Based upon low to non-detectable PCE concentrations in the Clement Well between 1989 and late 1991, it is unlikely that PCE discharges at the Laundry and potentially at the Facility and Napa Store would have been affected by the Clement Well capture zone. Rather, with the Clement Well pumping at the rate of 70 gpm pumping rate, only PCE from South Shore Motors was likely reaching the well.

B. Late 1991

Groundwater conditions changed in the "Y" area starting in late 1991 with the startup of wellhead treatment at the Clement Well. Upon startup of expanded pumping at the Clement Well in December 1991, averaging up to 200 gpm, PCE concentrations detected from that well showed an immediate rise from those concentrations detected in the past. This information indicates that a PCE source or sources existed in the expanded Clement Well capture zone prior to expanded pumping.

The Laundry release had occurred prior to expanded pumping at the Clement Well in late 1991. The PCE plume from the Laundry would have been affected by the expanded Clement Well capture zone and pulled westward. Based upon breakdown product ratios, the next oldest release after the Laundry occurred at the Napa Store. Clement Well data indicates that the Napa release occurred prior to expanded pumping in late 1991. The time difference between the PCE release at the Laundry site and the Napa Store was likely no greater than 12 years. However, there exists insufficient data to determine an exact timing for the Napa Store release before late 1991.

Breakdown product ratios also imply that the PCE release at the Facility occurred after the release at the Napa Store. Since the ratios calculated at the Facility are closer to the ratios for the Napa Store, it can be surmised that the Facility release occurred significantly less than 12 years after the Napa release. DCE concentrations shown peaking in the Clement Well during October 1995 suggest that the Facility release had occurred before this time. If this were the case, the nine-month time lag for DCE migration to ~~the Clement Well would place the Facility release at being no later than~~ January 1995. It is possible that a release occurred at the Facility even prior to expanded pumping at the Clement Well, yet there is insufficient data to know whether this occurred.

Between late 1991 and early 1999, expanded pumping at the Clement Well may have affected free product at the Napa Store and the Facility. Pumping forces could have moved free product at the Napa Store westward, which is away from the Facility. Likewise, free product at the Facility could also have been pulled westward, possible affecting the Napa Store. Investigations at off-site properties would be necessary to determine whether this was the case or not.

C. Year 1999

Groundwater conditions changed again in 1999 following the shut down of "Y" area municipal wells due to MTBE contamination. Groundwater flow returned to the natural northeast direction. All plumes not affected by remediation wells on the east side of Lake Tahoe Boulevard at other sites were, therefore, acted on by natural groundwater flow. This includes the solvent plumes previously captured by the Clement Well.

From all indications, the release at the Facility had more likely occurred by this time than did not. This conclusion is based upon (1) the amount of TCE and DCE that were detected during the 2001 site investigation, (2) the breakdown product ratios indicating a release not too far in time from the Napa Sore release prior to late 1991, and (3) possibly, the DCE peak concentration in the Clement Well suggesting a release by January 1995. However, as with the Napa Store, there is insufficient data to provide an exact timing for the release or releases at the Facility.

When groundwater samples were collected at the Facility in October 2001, more than 600 days had passed following the shut down of municipal wells. Aquifer tests conducted in the "Y" area by dischargers at other sites in 1999 and later indicate that natural groundwater flows at a rate of about half a foot or more per day. Using this rate, solvent plumes previously pulled to the Clement Well would then have migrated at least 300 feet in the northeast direction by that time. New plumes formed at the Facility, Laundry, and Napa Store would also have migrated the same distance. High PCE concentrations detected in groundwater across Glorene Avenue from the Napa Store during the 2004 investigation could either be from that site or the Facility.

Groundwater sampling beneath Lake Tahoe Boulevard conducted for the Laundry reflect two solvent plumes migrating in the aquifer upgradient and cross gradient of the Facility. Investigation results between the Napa Store and the Laundry site do not support a migrating center-of-mass theory affecting the Facility. Rather, since the concentrations of solvent compounds detected on the Facility's upgradient boundaries are at only a fraction of the concentration of solvent compounds detected in the middle of the Facility, a source is indicated at the Facility.

Figure 10 is a conceptual model of the formation of a PCE commingled plume in the "Y" area from 1991 to 2004. The figure shows that starting in 1999, when the Clement Well ceased pumping, plumes from the Napa Store and the Laundry may have commingled with the plume beneath the Facility. The latter commingled plume migrates from the Facility to downgradient properties in the northeast direction. A portion of the Laundry and Facility plumes may have been captured by extraction wells for the Shell Station. In mid-2003, groundwater extraction at the Shell Station was scaled back as a result of decreasing MTBE levels in the aquifer. That action likely resulted in a loss of capture of a portion the plumes that were drawn to the Shell Station.

The status today is that municipal wells remain off in the "Y" area. The District has not stated a timetable for resuming operation of the wells. Thus, it is assumed that none of the solvent plumes emanating from the Napa Store, Laundry, and the Facility are being captured, except potentially by a few domestic wells located north of "Y" area.

IX. Discharge at the Facility

The exact time of solvent discharge at the Facility is unknown. The 2001 investigation results imply that PCE has been around long enough (greater than five years) to break down to TCE and DCE. This indicates that the release was not a recent one but rather one that had been present for more than just a few years.

Data does not support the Dischargers' theory of a migrating center-of-mass being the sole source of contamination beneath the Facility. The absence of free product at the

Laundry eliminates the possibility of a migrating center-of-mass from that site. In addition, the lack of free product beneath Lake Tahoe Boulevard refutes the Discharger's contention that the source migrated from the Laundry and settled under the road before the Facility. Without free product, the theory of the Laundry being a single point of release for PCE contamination in the Y area is unsupported. Since PCE concentrations increase appreciably as groundwater migrates beneath the Facility, it is apparent that a solvent source at the Facility is contributing to the pollution.

The above conclusion is based upon the assumption that solvent concentrations detected in groundwater at the Laundry reflect that of the original discharge. This theory is more reasonable than the Discharger's implication of a free product release. The Discharger's theory is unrealistic because many studies have shown that solvent free product does not naturally attenuate to levels less than one percent of the solubility level without active remediation. Since active remediation has not occurred at the Laundry, solvent concentrations in groundwater represent those close to that of the original discharge.

Furthermore, data does not support a migrating center-of-mass originating at the Napa Store. While free product is indicated by solvent concentrations at the Napa Store, there is insufficient information indicating lateral movement on a fine-grained layer or an external force from the northeast direction. Rather, there is just as much probability that free product from the Facility migrated towards the Napa Store during the time of expanded pumping at the Clement Well. Since there is insufficient data indicating that either the Laundry or the Napa Store are sources for a migrating center-of-mass, the groundwater pollution at the ~~Facility most likely originated at~~ the ~~Facility.~~

This leads to three possible scenarios for the timing of the discharge or discharges at the Facility. The first scenario is that the initial discharge occurred prior to 1991. In this scenario, the plume emanating from the site migrated undetected with natural groundwater flow in the northeast direction. After wellhead treatment began at the Clement Well in late 1991, the plume was pulled to the northwest to the Clement Well, along with the plumes originating from the Laundry and the Napa Store, if a release had occurred there by then. When all "Y" area municipal wells were shut down in 1999 due to MTBE contamination, the solvent plumes ceased being pulled to the Clement Well and were acted on by natural groundwater flow to the northeast. In addition, plumes continued to form from sources at the Facility, Laundry, and the Napa Store, flowing with natural groundwater in a northeast direction. Downgradient portions of the Laundry and Facility plumes may have been affected by off-site extraction being conducted at other sites.

The second scenario is that the discharge at the Facility originally began sometime after wellhead treatment was initiated at the Clement Well in late 1991. Groundwater contamination beneath the Facility would have been captured by the Clement Well. The release would not have occurred too much after this period since breakdown product ratios indicate a timing fairly close to the timing of the Napa Store release, which was prior to late 1991. Peaking DCE concentrations in the Clement Well suggest that a release occurred no later than January 1995. After the Clement Well ceased pumping in early 1999, the source beneath the Facility continued to form a plume that was acted on by natural groundwater flow to the northeast.

The third scenario is that the discharge at the Facility occurred after the Clement Well ceased pumping in early 1999. The site investigation conducted two-and-a-half years later discovered solvent compounds in groundwater beneath the Facility. This scenario seems unlikely based upon the presence and concentrations of TCE and DCE as PCE breakdown products. On average, TCE and DCE concentrations were detected at the Facility one-order of magnitude less than were PCE concentrations. According to research papers, PCE breakdown is often a slow process taking a number of years to occur and only then in a reduced environment. Since two-and-a-half years is a relatively short time for PCE breakdown to occur, the difference between PCE concentrations and TCE and DCE concentrations should be much greater. This is especially true at the water table, which is an aerobic environment that does not promote PCE breakdown.

Of the three discharge scenarios described above, the first and second scenarios seem most likely. The third scenario is the least likely scenario given the short time available for PCE breakdown.

X. Dischargers

Based upon data indicating that an on-site discharge of solvent waste is contributing to groundwater pollution at the Facility and off site, it is reasonable to list parties and entities as dischargers for purposes of ~~cleaning up and abating the pollution.~~ The property owner and operators of the Facility are considered dischargers during the time of the first indication of pollution for solvent compounds. In addition, the current property owner and lessee are considered responsible parties since they control site access.

The first indication of a PCE discharge at the Facility is not exactly known. A release may have originally occurred prior to start up of expanded pumping at the Clement Well in late 1991. Yet, there is no data to confirm this theory. Data, however, is available indicating that a solvent source existed after expanded pumping began in late 1991. According the DCE data, the release likely occurred no later than January 1995.

El Dorado County records reflect that David and Kathleen Barnett were the owners of the subject property from the 1970s to 1996. The property was then recorded under CAD Enterprises, LLC, which is managed by the Barnetts. Therefore, the Barnetts are considered dischargers since they were the property owner when the release probably occurred after late 1991. CAD Enterprises is also a responsible party since it is the current landowner and controls access to the site.

Documents submitted to the Regional Board reflect that Lightnin II, Incorporated became the operator in 1994 and has continuously been the operator to date. Based on the estimated release date being no later than January 1995, Lightnin II, Incorporated is considered a discharger for cleaning up and abating hazardous waste because its times of operating the Facility coincide with the period indicating discharge(s) at the Facility.

Lastly, the Dischargers had previously requested that Board staff name the operator of the Big "O" Tires Store prior to CAMCO, as a responsible party for discharges of waste. This request is not justified. The Regional Board has no information indicating that discharges occurred at the site prior to 1985, when CAMCO became the operator. Hence, there is no justification for the Regional Board to name the prior operator of the site as a responsible party in enforcement orders.

XI. Conclusion

Information provided to the Regional Board about off-site contamination being the source of pollution at the Facility is not supported by data. Investigation results at the Laundry do not indicate the presence of free-product that is necessary to support the Dischargers' migrating center-of-mass theory. Nor do the results support the single point of release theory put forth affecting other PCE-identified sites in the Y area. Rather, results at the Laundry point to shallow, residual contamination in soil that in turn created a shallow groundwater plume having concentrations much less than those detected in the middle of the Facility. Should the Laundry plume extend to the Facility, its affect on water quality there is secondary compared to contaminant concentration from the on-site source. Likewise for the plume migrating to the Facility from the Napa Store; its concentrations are secondary compared to concentrations detected at the Facility.

Since the Facility is the primary source of solvent waste detected in soil and groundwater, an enforcement action is justified ~~requiring the dischargers to clean up and abate the~~ affects of the discharge to protect beneficial uses. The entities Lightnin II, Incorporated and David and Kathleen Barnett are appropriately named as dischargers in CAO R6T-2003-031. These entities were either operating the Facility or owned the property in January 1995 when a solvent discharge was indicated at the site. CAD Enterprises is also appropriately named as a responsible party in CAO R6T-2003-031 since it is the current property owner controlling access to the site.

XII. Recommendation for Additional Enforcement Action

The October 2001 site investigation at the Facility was a limited characterization that did not define the extent of groundwater pollution. Nor did the investigation locate the source of solvent discharge. Previous soil samples collected below fine-grained layers may have missed horizontal movement of solvent free product above. Therefore, further investigation is required to locate solvent waste and define the extent of groundwater pollution.

The four corrective actions listed in CAO R6T-2003-031 still need to be completed. An amended Order containing a revised compliance schedule is necessary for implementing these corrective actions. In addition, interim corrective measures are needed in an amended Order, to abate pollution affecting beneficial uses.

References

2005, PES Environmental, Additional Site Investigation Results, Lake Tahoe Laundry Works

2004, PES Environmental, Supplemental Site Investigation Results, Lake Tahoe Laundry Works

2004, Secor, Soil and Groundwater Investigation Results, Lakeside Automotive Napa Store

2004, Sierra-Pacific Group, Review and Interpretation of Hydrogeologic Data, Big O Tire Facility

2003, PES Environmental, Groundwater Investigation Results, Lake Tahoe Laundry Works

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2001, Battelle Press, Anaerobic Degradation of Chlorinated Solvents

2001, Harding ESE, Groundwater Investigation, Big O Tire Center

1999, Batelle Press, Engineered Approaches for In Situ Bioremediation of Chlorinated Solvent Contamination

1998, South Tahoe Public Utility District, Clement Well Pump Test

1998, Batelle Press, Nonaqueous-Phased Liquids, Remediation of Chlorinated and Recalcitrant Compounds

Figures: Figure 1-Map of South "Y" area of South Lake Tahoe
Figure 2-PCE Map of Big O Tires Store and nearby properties
Figure 3-Capture Map for Clement Well
Figure 4-Shallow Zone Potentiometric Map for "Y" area, 2002
Figure 5-Geologic Cross Section Southeast of the Clement Well
Figure 6-Geologic Cross Section Northeast of the Julie Well
Figure 7-Boring Log for B-2, Big O Tires Store
Figure 7-Boring Log for B-1, Big O Tires Store
Figure 7-Boring Log for B-3 Big O Tires Store
Figure 10-Conceptual PCE Plume Map, 1991-2004

Attachments: 1.Table of Influent VOC Concentrations at the Clement Well
2. Table of Influent VOC Concentrations at the Julie Well
3. Table of Influent VOC Concentrations at the Tata #4 Well

EXHIBIT CC

File

California Regional Water Quality Control Board

Lahontan Region

Linda S. Adams
Secretary for Environmental Protection

2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
(530) 542-5400 • Fax (530) 544-2271
www waterboards.ca.gov/lahontan

Arnold Schwarzenegger
Governor

FEB 22 2007

David and Kathleen Barnett
CAD Enterprises
3170 Highway 50, #5
South Lake Tahoe, CA 96150

CAMCO
BOT 65, Inc.
Attn. Mark Strong
2200 Lindenwood
South Lake Tahoe, CA 96150

Lightnin II, Inc.
dbaBig O Tires Store#147
Attn. Harry Krupp
1835 Clydesdale Drive
Carson City, NV 89703

COMMENTS ON SITE INVESTIGATION RESULTS, BIG O TIRES STORE, 1961 LAKE TAHOE BOULEVARD, SOUTH LAKE TAHOE, EL DORADO COUNTY – CLEANUP AND ABATEMENT ORDER NO. R6T-2003-031A1

The Regional Water Quality Control Board (Water Board) received the October 31, 2006 response document for the Big O Tires Store in South Lake Tahoe. The response document, prepared by Levine Fricke (LFR), supplements information in the August 9, 2006 "Results of Soil and Groundwater Investigations." Both the report and the response document conclude that the Big O Tire Store property has not contributed to the occurrence of tetrachloroethene (PCE) in groundwater detected beneath the site or in the "Y" area.

In addition, the Water Board received the January 29, 2007 letter from CAD Enterprises' attorney, Lewis Feldman of Feldman Shaw, LLP. Mr. Feldman's letter included a copy of a legal complaint by Seven Springs Limited Partnership against Fox Capitol Management Corporation. Seven Springs is the current owner of the South Y Shopping Center, which is located across the street from the Big O Tires Store and which contains the Lake Tahoe Laundry Works site. Fox Capitol is the former owner of the South Y Shopping Center. The legal complaint indicates that the Laundry was a source of PCE to soil and groundwater. Mr. Feldman's letter states that the Laundry is the source of PCE in groundwater at the Big O Tires site. The letter also states that numerous investigations at the Big O Tires site confirm the absence of PCE in soil at the site.

Mr. Feldman requests the Water Board issue a letter requiring no further action at the Big O Tires site and close its file on the case.

Comments

The information provided does not indicate the site is a major source of PCE in groundwater. However, based upon the investigation results, I am not convinced that the site has not contributed to PCE groundwater contamination in the "Y" area of South Lake Tahoe. Rather, information suggests that some PCE originated from operations at the site. My reasoning for this decision is as follows.

First, a soil sample collected at 3 feet below ground surface (bgs) near the northwest hydraulic lift contained 42 micrograms per kilogram (µg/kg) PCE. Since the water table was at 6 feet bgs during this latest investigation, which was the highest ever detected at the site, it is unlikely that PCE in soil originated from groundwater. This is further supported since PCE was not detected in the vadose zone throughout the site, which might have occurred if there was significant soil gas emanating from contaminated groundwater. Instead, PCE detected in shallow soil at boring B-9 indicates an on-site source.

Second, my June 2, 2006 letter conditionally approving your proposed investigation workplan stated: "I believe it will be difficult for you to justify a conclusion that there is no on-site source without concurrent results from a boring located in the anticipated upgradient flow direction on the property unless all on-site samples show non-detect concentrations for solvent compounds." The site investigation conducted did not collect soil or groundwater samples from the anticipated upgradient flow direction on the property, adjacent to Lake Tahoe Boulevard. Meanwhile, a water sample collected from boring B-13b contained 5.8 micrograms per liter (µg/L) PCE in groundwater. Since no upgradient soil or groundwater sample was collected during the investigation and two areas on-site contained detectable PCE concentrations, I do not believe that you have justified a conclusion that there is no on-site source for PCE. My opinion would be different if you had collected an upgradient water sample that showed PCE at concentrations similar to or greater than PCE concentrations detected in groundwater beneath the site. But, the fact that the 2001 site investigation indicated PCE concentrations increase in groundwater from the upgradient flow direction to the downgradient flow direction across the site still suggests an on-site PCE source.

Third, while water samples collected from borings B-8, B-13, and B-14, located within 8 to 9 feet of the sewer lateral, showed no detectable concentrations of PCE, a water sample from boring B-13b, located closer to the sewer lateral, did contain PCE. The report states that 5.8 µg/L PCE was detected within 4 feet of the sewer lateral from this boring. This sample was taken from a depth of 11 to 14 feet bgs, which is five feet deeper than water samples that were taken from the other three borings. This information could suggest that PCE is detected in groundwater at the site as you get closer to the sewer lateral and/or collect water samples at or deeper than 11 feet bgs. Or, it suggests that high groundwater at 6 feet bgs leached out a small source of PCE from the bottom of the sewer lateral, believed to be about 8 feet bgs. Either way, a shallow PCE source cannot be ruled-out.

And fourth, a high water table has the potential to dilute PCE concentrations associated with solvent free product that typically is found with depth in the aquifer. Ten of the eleven boring logs in the report show a water table depth of 6.25 feet or less. This higher than usual groundwater elevation, compared to the past investigation conducted at your site and other nearby sites, appears related to above normal precipitation in 2006. Thus, water samples not showing PCE concentrations during the recent investigation may show detectable PCE concentrations during periods of low water table, as was seen during the original 2001 site investigation. In the earlier investigation, up to 740 µg/L PCE was detected in a water table sample collected at 20 feet bgs. The high groundwater and low to non-detect concentrations in groundwater also suggest that a large source of PCE in shallow soils is not likely present at the site.

Taking all the preceding information into account, I do not believe that you have made a case for concluding that the site has not contributed to the occurrence of PCE in groundwater detected beneath the site or in the "Y" area. The information suggests that while there is not a large mass of PCE in shallow soils at the site, shallow soil and water samples containing PCE do indicate some PCE from operations at the site are present.

Conclusion

Information provided to this office points to your site as being a probable PCE release source, albeit a small one. This implies that a larger source of PCE release likely occurred at another property in the "Y" area of South Lake Tahoe.

Since the information indicates the Big O Tires site potentially contributed to PCE groundwater contamination in the "Y" area, I cannot issue a closure or "no further action" letter that would relieve you of future corrective actions for PCE contamination. Yet, for the time being, there is no basis for you to conduct further investigations.

Rather, I believe the matter of PCE in groundwater in the "Y" area would be better served by requiring further investigations or cleanup remedies at other nearby PCE release sites. I will notify you if further investigations are required at your site.

I appreciate your cooperation to work with Water Board staff. You may contact me at (530) 542-5412 if you have any questions.

Harold J Singer

HAROLD J. SINGER
EXECUTIVE OFFICER

cc: Lewis Feldman, Feldman Shaw, LLP
PCE Interested Parties Mailing List

LSD/dldT:/Big O invest comm.let
[Send to file: SLIC, El Dorado Co., T6S034]

EXHIBIT DD

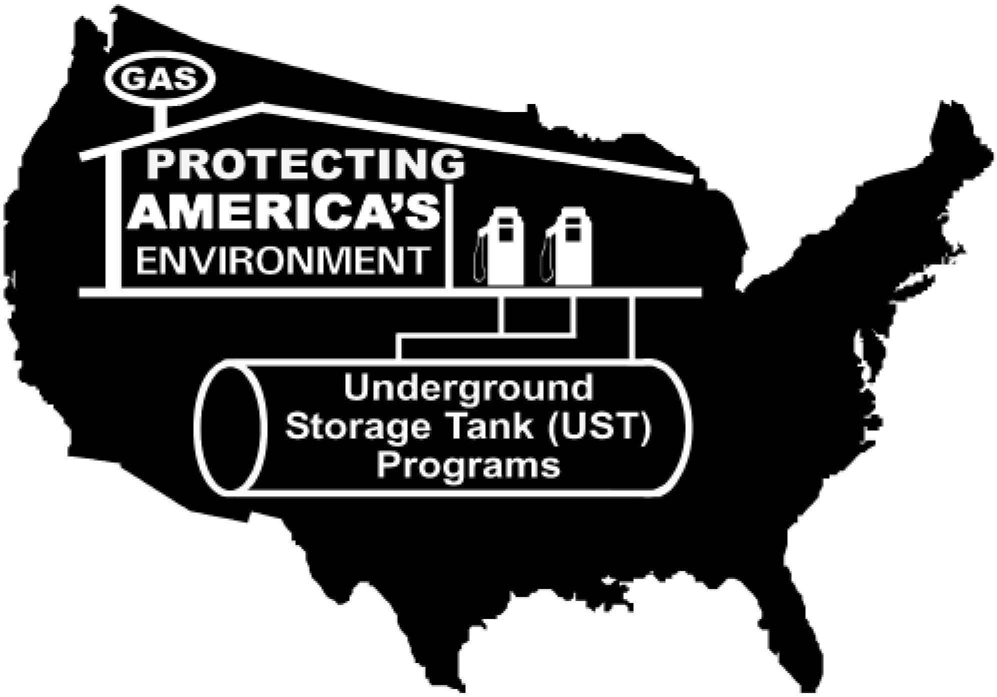
United States
Environmental Protection
Agency

Solid Waste and
Emergency Response
5401G

EPA 510-R-04-002
May 2004
www.epa.gov/oust/pubs/tums.htm

How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites

A Guide for Corrective Action Plan Reviewers



Chapter II

Soil Vapor Extraction

Evaluation Of The SVE System Design

Once you have verified that SVE is applicable, you can scrutinize the design of the system. A pilot study that provides data used to design the full-scale SVE system is highly recommended. The CAP should include a discussion of the rationale for the design and presentation of the conceptual engineering design. Detailed engineering design documents might also be included, depending on state requirements. Further detail about information to look for in the discussion of the design is provided below.

Rationale For The Design

Consider the following factors as you evaluate the design of the SVE system in the CAP.

❍ *Design Radius of Influence (ROI)* is the most important parameter to be considered in the design of an SVE system. The ROI is defined as the greatest distance from an extraction well at which a sufficient vacuum and vapor flow can be induced to adequately enhance volatilization and extraction of the contaminants in the soil. As a rule-of-thumb, the ROI is often considered to be the distance from the extraction well at which a vacuum of at least 0.1 inches of water is observed.

The ROI depends on many factors including: lateral and vertical permeability; depth to the groundwater table; the presence or absence of a surface seal; the use of injection wells; and the extent of soil heterogeneity. Generally, the design ROI can range from 5 feet (for fine grained soils) to 100 feet (for coarse grained soils). For sites with stratified geology, design ROI should be defined for each soil type. The ROI is important for determining the appropriate number and spacing of extraction wells. The ROI should be determined based on the results of pilot study testing; however, at sites where pilot tests can not be performed, the ROI can be estimated using air flow modelling or other empirical methods.

❍ *Wellhead Vacuum* is the vacuum pressure that is required at the top of the extraction well to produce the desired vapor extraction flow rate from the extraction well. Although wellhead vacuum is usually determined through pilot studies, it can be estimated and typically ranges from 3 to 100 inches of water vacuum. Less permeable soils generally require higher wellhead vacuum pressures to produce a reasonable radius of influence. It should be noted, however, that high vacuum pressures (e.g., greater than 100 inches of water) can cause upwelling of the water table and occlusion of the extraction well screens.

- *Vapor Extraction Flow Rate* is the volumetric flow rate of soil vapor that will be extracted from each vapor extraction well. Vapor extraction flow rate, radius of influence, and wellhead vacuum are interdependent (e.g., a change in the extraction rate will cause a change in the wellhead vacuum and radius of influence). Vapor extraction flow rate should be determined from pilot studies but may be calculated using mathematical or physical models (EPA 1993). The flow rate will contribute to the operational time requirements of the SVE system. Typical extraction rates can range from 10 to 100 cubic feet per minute (cfm) per well.

- *Initial Constituent Vapor Concentrations* can be measured during pilot studies or estimated from soil gas samples or soil samples. They are used to estimate constituent mass removal rate and SVE operational time requirements and to determine whether treatment of extracted vapors will be required prior to atmospheric discharge or reinjection.

  The initial vapor concentration is typically orders of magnitude higher than the sustained vapor extraction concentration and can be expected to last only a few hours to a day before dropping off significantly. Vapor treatment is especially important during this early phase of remediation.

- *Required Final Constituent Concentrations* in soils or vapors are either defined by state regulations as "remedial action levels," or determined on a site-specific basis using fate and transport modeling and risk assessment. They will determine what areas of the site require treatment and when SVE operation can be terminated.

- *Required Remedial Cleanup Time* may also influence the design of the system. The designer may reduce the spacing of the extraction wells to increase the rate of remediation to meet cleanup deadlines or client preferences, as required.

- *Soil Volume To Be Treated* is determined by state action levels or a site-specific risk assessment using site characterization data for the soils.

- *Pore Volume Calculations* are used along with extraction flow rate to determine the pore volume exchange rate. The exchange rate is calculated by dividing the soil pore space within the treatment zone by the design vapor extraction rate. The pore space within the treatment zone is calculated by multiplying the soil porosity by the

EXHIBIT EE

PES Environmental, Inc.
Engineering & Environmental Services

A Report Prepared For:

A Report Prepared For:
California Regional Water Quality Board
Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150

Attention: Ms. Lisa Dernbach

INDOOR AIR SAMPLING REPORT
FORMER LAKE TAHOE LAUNDRY WORKS
1022, 1024, AND 1026 LAKE TAHOE BOULEVARD
AND 1032 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CALIFORNIA
RWQCB SLIC CASE No. T6S043

JANUARY 14, 2016

By:

Kyle Flory

Kyle S. Flory, P.G.
Principal Geologist

KYLE S. FLORY
No. 6472

Keith M. O'Brien

Keith O'Brien, P.G., C.HG.
Principal Hydrogeologist

1021.001.01.008

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1.0 INTRODUCTION

This report presents the results of an indoor air assessment for volatile organic compounds (VOCs) conducted by PES Environmental, Inc. (PES) on behalf of Commerce Bank, as a trustee of the Jack R. Lyddon Trust Two, as managing member of Real Estate Management Associates, LLC, as general partner of Seven Springs Limited Partnership, the entity that holds title to the South Y Center, and Fox Capital Management Corporation (Fox), for select tenant spaces within the South Y Center shopping center. The tenant spaces selected for indoor air sampling are: (1) 1024 Lake Tahoe Boulevard (location of Former Lake Tahoe Laundry Works); and (2) 1022 and 1026 Lake Tahoe Boulevard and 1032 Emerald Bay Road[1] which are located adjacent to or in the vicinity of the location of the Former Lake Tahoe Laundry Works tenant space located at 1024 Lake Tahoe Boulevard, South Lake Tahoe, California ([Site]; Plate 1). A Site Plan is presented as Plate 2.

On December 11, 2015, the Regional Water Quality Control Board, Lahontan Region (RWQCB) requested via electronic correspondence that Seven Springs and Fox complete indoor air sampling for occupied tenant spaces along the portion of the shopping center building where prior soil vapor sampling results exceed the Environmental Screening Level (ESL)[2] for tetrachloroethene (PCE) developed by the Regional Water Quality Control Board, San Francisco Bay Region.

PES submitted a work plan[1] to the RWQCB on December 18, 2015, describing the scope of the proposed indoor air sampling (Work Plan). On December 18, 2015, the RWQCB conditionally approved the work plan via electronic correspondence[3]. The RWQCB conditional acceptance stipulated that potential vapor entry points discovered during pre-survey assessment of the tenant spaces should not be sealed prior to sampling, and that indoor air sample containers should not be placed in the direct air flow path of ventilation systems or doors leading to the outside.

1.1 Purpose

The indoor air sampling was conducted to assess the potential for vapor intrusion at concentrations exceeding the ESLs for PCE and associated degradation products in indoor air in a commercial setting. The indoor air sampling was conducted on December 23 and 24, 2015, and was conducted in accordance with the 2011 California

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[1] Inadvertently addressed 1032 Lake Tahoe Boulevard in the work plan prepared for this work. PES, 2015. *Indoor Air Sampling Work Plan, Former Lake Tahoe Laundry Works, 1022-1032 Lake Tahoe Boulevard, South Lake Tahoe, California. RWQCB SLIC Case No. T6S043.* December 18..

[2] RWQCB, 2015a. *LTLW: Indoor Air Sampling. Electronic correspondence from Vanessa Young to Kyle Flory of PES.* December 11.

[3] RWQCB, 2015b. *LTLW - Indoor Air Sampling Work Plan. Electronic correspondence from Lisa Dernbach to Alejandro Bras of Morrison & Foerster LLP.* December 18.

Environmental Protection Agency, Department of Toxic Substances Control (DTSC) guidance document[4] (DTSC Guidance).

1.2 Report Organization

This report is organized as follows:

- Section 2.0 discusses the methods of the air sampling, including preliminary activities, and field sampling procedures;
- Section 3.0 presents the sampling results; and
- Section 4.0 provides references considered in the preparation of this report.

2.0 AIR SAMPLING METHODOLOGIES

Indoor air sampling was conducted at the Site by PES on December 23 and 24, 2015. The methods used during the indoor air sampling are presented in Appendix A.

2.1 Sampling Approach

The following sections describe the components of the air sampling event, which include:

- Preliminary activities - involves obtaining access to the building and performing a pre-survey to assess conditions within the tenant spaces and to confirm the placement of the sampling locations discussed in the Work Plan;
- Sampling procedures - includes sample types, number, and locations, sample collection equipment, sampling height and collection period, sample collection procedures, and laboratory analytical method; and
- Data evaluation and reporting.

Each of these elements is discussed in more detail below.

2.2 Preliminary Activities

A pre-survey assessment of the subject tenant spaces was conducted on December 23, 2015, to confirm general site conditions and feasibility for collecting samples at the desired locations. The subject site floor slab was assessed for visible cracks, penetrations or openings that could represent potential pathways for vapor intrusion.

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[4] DTSC, 2011. *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance).* October.

An indoor air quality building survey and building product inventory form (questionnaire) was completed by the building owner/tenant for 1032 Emerald Bay Road prior to the pre-survey conducted by PES. A questionnaire was completed by PES staff at the time of the pre-survey for the other tenant spaces. Copies of the completed forms are included in Appendix B.

Based on the pre-survey assessment, no significant cracks, penetrations, or openings associated with the floor slab within the subject tenant spaces were identified. The pre-survey assessment identified floor drains in restrooms. The floor drains were not sealed or covered prior to or during the sampling as required by the RWQCB.

A photo-ionization detector (PID) measuring total VOCs in parts per billion by volume (ppbv) was used to monitor for the potential presence of VOCs in indoor air. PID measurements from each of the tenant spaces sampled are presented in Appendix B.

2.3 Sample Collection Methodologies and Procedures

In accordance with DTSC guidelines, the following sample collection procedures were performed:

- Sampling Duration - the sampling event was conducted over a period of 24 hours to ensure diurnal fluctuations in vapor intrusion and indoor air concentrations are included in the sampling period in accordance with the DTSC Guidance and Work Plan;
- Sample Locations - the samples were collected in areas where representative indoor air samples could be collected and at locations where it is most likely for infiltration of VOCs from the subsurface to occur, as described in the Work Plan and below; and
- Analytical Test Method – U.S. Environmental Protection Agency (EPA) Test Method TO-15 Selective Ion Mode (SIM) was used to analyze the air samples.

2.3.1 Sample Types, Number and Locations

Four types of samples were collected during the sampling event: (1) indoor air samples; (2) outdoor or ambient air samples; (3) pathway samples, and (4) quality control samples. A total of 13 air samples, including a field duplicate, were collected and analyzed during the sampling event.

As indicated on Plate 3, the following tenant spaces were sampled for the presence of PCE and associated degradation products in indoor air:

- The Wells Fargo bank located at 1032 Emerald Bay Road;
- The vacant tenant space located at 1026 Lake Tahoe Boulevard;

- The Tahoe Suds tenant space located at 1024 Lake Tahoe Boulevard (location of Former Lake Tahoe Laundry Works); and

- The vacant tenant space located at 1022 Lake Tahoe Boulevard.

Indoor Air Samples

Indoor air samples were collected from each selected tenant space during the sampling event. Two indoor air samples were collected from each tenant space with the exception of 1022 Lake Tahoe Boulevard, in which one indoor air sample was collected (Plate 3). The indoor air samples were not located in the direct air flow path of ventilation systems or doors leading to the outside.

Indoor air samples collected from 1024 Lake Tahoe Boulevard (location of Former Lake Tahoe Laundry Works) were inadvertently relocated from the locations shown on Plate 3 by laundromat cleaning personnel between 1PM and 3PM on December 23rd. The Summa canisters were discovered in an employee office at approximately 8PM on December 23rd and repositioned to the locations shown on Plate 3 at that time. As a result, the canisters were located in an employee office for 5 to 7 hours of the 24-hour sampling period. Based on PES staff discussions with the laundromat manager and inspection of the canisters, we understand the sample canisters were not removed from the 1024 Lake Tahoe Boulevard tenant space and no tampering with the flow controller assemblies on the canisters occurred.

Ambient Air Samples

To evaluate the quality of the ambient air entering the building, three ambient outdoor air samples were collected from the rooftop of the building as shown on Plate 3.

Pathway Air Samples

In accordance with the Work Plan and based on the results of the pre-survey assessment, potential pathways identified within the tenant spaces include floor drains in the restrooms at 1032 Emerald Bay Road and a fire riser located in a common area south of 1022 and 1024 Lake Tahoe Boulevard (Plate 3). Two pathway air samples were collected during the sampling event: one sample in one of the restrooms at 1032 Emerald Bay Road, and one sample in the vicinity of the fire riser on the south side of 1022 and 1024 Lake Tahoe Boulevard, as shown on Plate 3.

Quality Control Samples

In accordance with the Work Plan, a quality assurance/quality control sample was collected and analyzed. During the sampling event, one co-located duplicate sample was collected from 1026 Lake Tahoe Boulevard. The duplicate was collected by splitting the air stream to provide primary and duplicate samples.

2.3.2 Sample Collection Equipment

Samples were collected in 6-liter spherical steel Summa canisters. The Summa canisters, flow controller assemblies, Teflon sampling tubing, and vacuum gauges were supplied by K Prime, Inc. of Santa Rosa, California (K Prime), an analytical laboratory certified by the State of California to perform the specified analyses. The canisters were individually certified clean by K Prime prior to use. The Summa canisters were shipped from the laboratory with a high initial vacuum pressure (ranging from approximately 20 to 24.5 inches of mercury [Hg]). The laboratory also supplied flow controller assemblies (with particulate filters and vacuum gauges), Teflon sampling hose, and a separate vacuum gauge (for more accurate vacuum measurements). Prior to shipment, the laboratory confirmed the flow rate for each controller and certified that the controllers were clean. The flow controllers were set to collect 5 liters of air over the designated sampling period (24 hours). Only 5 liters are collected so that a net negative pressure is maintained in the canister following sample collection.

2.3.3 Sampling Height and Collection Period

The height of indoor air sample collection was 3.5 to 5 feet above the ground or floor surface to represent actual indoor breathing space. Ambient air samples were collected from the building rooftop. The sample collection period (interval) was 24 hours.

2.3.4 Sample Collection Procedures

Samples were collected in accordance with Sample Collection Procedures as described in the Work Plan and Appendix A.

2.3.5 Laboratory Analytical Method

The samples were analyzed by K Prime for select VOCs by U.S. EPA Method TO-15 SIM. The analyses were conducted by the laboratory within six days of sample collection. In accordance with the approved Work Plan, the samples were analyzed for the following VOCs: PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride.

3.0 AIR SAMPLING RESULTS

The results of the air sampling are summarized on the attached Table and the laboratory analytical reports are presented in Appendix C.

3.1 Quality Assurance/Quality Control (QA/QC)

K Prime certified that the Summa canisters were clean prior to use. For the air samples analyzed during the sampling event, QA/QC validation included the evaluation of EPA Test Method TO-15 SIM analytical data using laboratory spikes, blanks and duplicates. A field duplicate was also collected and submitted for laboratory analysis. Final canister vacuum readings were recorded in the field.

3.1.1 Summa Canister Certification

K Prime provided certification that the Summa canisters submitted for the sample collection were individually certified clean (Appendix C).

3.1.2 Spikes

Data accuracy for air samples was assessed by evaluating results of analyses for laboratory spikes. Results of laboratory spike analyses are presented in Appendix C. The percent recoveries for the laboratory spikes were within the target limits (60 to 140 percent) for all samples

3.1.3 Blanks

3.1.3.1 Laboratory Blanks

One internal laboratory blank was prepared by K Prime and analyzed using EPA Test Method TO15 SIM. No VOCs were detected in the internal laboratory blank.

3.1.4 Duplicates

3.1.4.1 Laboratory Duplicate Samples

The laboratory analyzed one duplicate sample as part of their QA/QC program. The relative percent difference (RPD) was within the laboratory-specific goals (25 percent) specified by K Prime in their laboratory report (Appendix C).

3.1.4.2 Field Duplicate Samples

A field duplicate sample (122415-V13 IA) was collected during the sampling event. The sample was submitted to K Prime for EPA Test Method TO-15 SIM analysis. The RPD for the field duplicate sample and primary sample (1026-V04 IA) was 9.6 percent.

3.1.5 Final Canister Vacuum Reading

During the sampling event, a check of the canister vacuums prior to, during, and after sample collection indicated no abnormalities. All canisters had at least 2 inches Hg remaining at the termination of the sampling event (Appendix C).

3.1.6 QA/QC Assessment Summary

The air samples and associated QA/QC samples collected as part of the indoor air sampling were submitted to K Prime for analysis within the holding time recommended by the EPA for EPA Test Method TO-15 SIM (14 days).

The Summa canisters were certified by K Prime to be clean prior to the sampling event.

Laboratory spikes indicated the percent recoveries for the laboratory spikes are within the target ranges.

The laboratory blank indicated that VOCs were not present.

Laboratory duplicate data indicate the RPD for the laboratory duplicate samples were within the laboratory goals. Field duplicate data indicate the RPD for the field duplicate sample was 9.6 percent. The QC limits for surrogate recovery were not exceeded in any samples.

Based on the above data validation assessment, the laboratory analytical data reported by K Prime are considered to be representative and of good quality.

3.2 Laboratory Analytical Results

The laboratory analytical results of the air samples collected on December 23 and 24, 2015 are presented in the attached Table and Appendix C. Relatively low levels of VOCs (i.e., maximum of 545 ppbv) were detected using the PID during the pre-survey activities conducted prior to the sampling event (Appendix B). During the sampling event, 13 samples (including a field duplicate) were collected. The air samples were analyzed for select VOCs using EPA Test Method TO-15 SIM.

TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride were not detected at or above the respective laboratory reporting limits in any of the indoor air or pathway samples. PCE was detected in nine of the ten indoor air and pathway samples collected during the sampling event, at concentrations ranging from 0.079 micrograms per cubic meter ($\mu g/m^3$) (sample 1026-V04) to 0.514 $\mu g/m^3$ (sample 1032-V01). PCE, TCE, cis-1,2-DCE, and vinyl chloride were not detected in any of the ambient air samples. Trans-1,2-DCE was detected at 0.121 $\mu g/m^3$ in ambient air sample 1032-V10.

3.3 Discussion of Results

The results of the December 2015 indoor air sampling event conducted at 1022, 1024, and 1026 Lake Tahoe Boulevard and 1032 Emerald Bay Road within the South Y Center indicate the presence of low levels of PCE in indoor air.

Concentrations of PCE detected in the indoor air and pathway samples did not exceed the conservative ESL established by the Regional Water Quality Control Board, San Francisco Bay Region for PCE in indoor air in a commercial/industrial setting (2.1 $\mu g/m^3$) (RWQCB, 2013). The conservative ESLs are based on a 1 x10^{-6} risk level. Additionally, PCE was not present at concentrations greater than the Modified Screening Levels developed by Department of Toxic Substances Control (DTSC) (2.1 $\mu g/m^3$) or Regional Screening Levels developed by the EPA Region IX (47 $\mu g/m^3$) for PCE for indoor air in a commercial/industrial environment (see attached Table).

The laboratory analytical results indicate that the risk associated with the detected concentrations of PCE in indoor air is less than a 1 x10^{-6} risk level. Based on the response actions identified in the DTSC Guidance, if the initial evaluation of vapor intrusion indicates a risk level less than 1 x10^{-6}, no further action is required.

The two indoor air sample containers located in 1024 Lake Tahoe Boulevard were moved from their original location in the Laundromat by cleaning personnel for 5 to 7 hours of the 24-hour sampling period. We understand these canisters were temporarily located in an employee office in that tenant space during that period and the sample canisters were repositioned to their original locations and remained at those locations until the sampling event was completed. Since the sample canisters did not leave the subject tenant space and the sampling canisters were in the intended locations for a majority of the sampling event, the laboratory analytical results are considered representative of indoor air in the tenant space. This conclusion is supported by comparison of the laboratory analytical results of these two indoor air samples to the indoor air samples collected in the adjacent tenant spaces (1022 and 1026 Lake Tahoe Boulevard) (Table).

3.4 Recommendations

On the basis of the indoor air sampling results, PES recommends that the following actions be undertaken:

- Continue to monitor the concentrations of VOCs in soil vapor monitoring probes immediately adjacent to the tenant spaces as part of the ongoing Site remediation; and

- No additional indoor air sampling appears to be required at this time. Additional indoor air sampling should be conducted at the Site in accordance with the methods presented in the Work Plan following the shutdown of the SVE system.

4.0 REFERENCES

California Environmental Protection Agency, 2011. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air.* Department of Toxic Substances Control (DTSC). Final. October.

California Regional Water Quality Control Board, Lahontan Region, 2015a. *LTLW: Indoor Air Sampling. Electronic correspondence from Vanessa Young to Kyle Flory of PES.* December 11.

California Regional Water Quality Control Board, Lahontan Region, 2015b. *LTLW - Indoor Air Sampling Work Plan. Electronic correspondence from Lisa Dernbach to Alejandro Bras of Morrison & Foerster LLP.* December 18.

California Regional Water Quality Control Board - San Francisco Bay Region, 2008. *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater.* Interim Final. May.

California Regional Water Quality Control Board - San Francisco Bay Region, 2013c. *December 2013 Update to Environmental Screening Levels.* December 23.

Department of Toxic Substances Control (DTSC), 2015. Modified Screening Levels (DTSC-SLs), Table 3, Screening Levels for Volatile Compounds in Ambient Air. October.

PES Environmental, Inc., 2015. *Indoor Air Sampling Work Plan, Former Lake Tahoe Laundry Works, 1022-1032 Lake Tahoe Boulevard, South Lake Tahoe, California. RWQCB SLIC Case No. T6S043.* December 18.

U.S. Environmental Protection Agency (USEPA), Region 9, Regional Screening Levels for Chemical Contaminants at Superfund Sites, Industrial Air Supporting Table, November 2013.

TABLE

Table
Indoor Air Sample Results
1022, 1024 and 1026 South Lake Tahoe Boulevard and 1032 Emerald Bay Road
South Lake Tahoe, California

Sample Identification	Sample Description / Location	PCE (µg/m^3)	TCE (µg/m^3)	cis-1,2-DCE (µg/m^3)	trans-1,2-DCE (µg/m^3)	VC (µg/m^3)
1032 Emerald Bay Road (Wells Fargo Space)						
1032-V01	Foundational opening (men's restroom floor drain), southeast portion of space	**0.514**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1032-V02	Indoor air (customer area), north-central portion of space	**0.300**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1032-V03	Indoor air (teller area), southern portion of space	**0.222**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1032-V10	Outdoor (RTU-2 Intake), eastern portion of roof	ND (<0.0678)	ND (<0.0537)	ND (<0.0397)	**0.121**	ND (<0.0256)
1026 South Lake Tahoe Boulevard (Large Vacant Space)						
1026-V04	Indoor air, north-central portion of space	**0.079**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
122415-V13	Indoor air (V04/QAQC Duplicate), north-central portion of space	**0.087**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1026-V05	Indoor air, south-central portion of space	ND (<0.0678)	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1026-V11	Outdoor (RTU supplying northwestern portion of space), west-central portion of roof	ND (<0.0678)	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1024 South Lake Tahoe Boulevard (Tahoe Suds Space)						
1024-V07	Indoor air, north-central portion of space	**0.119**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1024-V08	Indoor air, south-central portion of space	**0.101**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1022 South Lake Tahoe Boulevard (Small Vacant Space and Common Corridor)						
1022-V06	Foundational opening (common corridor fire riser), southwest corner of structure	**0.122**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1022-V09	Indoor air, central portion of space	**0.110**	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)
1032-V12	Outdoor (RTU supplying central portion of space), western portion of roof	ND (<0.0678)	ND (<0.0537)	ND (<0.0397)	ND (<0.0396)	ND (<0.0256)

Agency-referenced VOC Exposure Threshold Values	PCE (µg/m^3)	TCE (µg/m^3)	cis-1,2-DCE (µg/m^3)	trans-1,2-DCE (µg/m^3)	VC (µg/m^3)
RWQCB ESL (Table E)[1]	2.1	3.0	31	260	0.16
DTSC Modified SL (Table 3)[2]	2.1	3.0	NL	NL	0.16
USEPA Region 9 RSL[3]	47	3.0	NL	NL	2.8

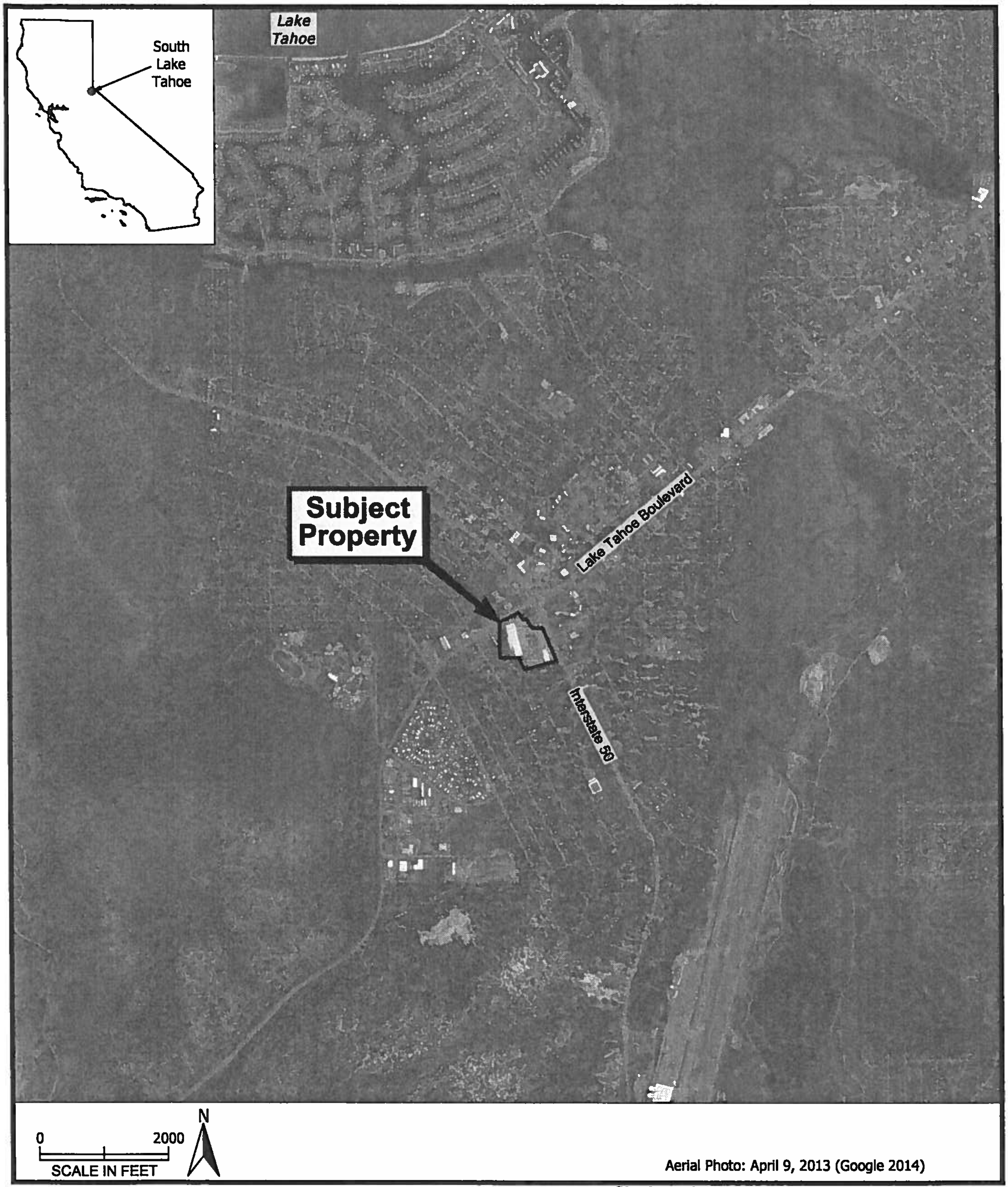
Table
Indoor Air Sample Results
1022, 1024 and 1026 South Lake Tahoe Boulevard and 1032 Emerald Bay Road
South Lake Tahoe, California

Sample Identification	Sample Description / Location	PCE ($\mu g/m^3$)	TCE ($\mu g/m^3$)	cis-1,2-DCE ($\mu g/m^3$)	trans-1,2-DCE ($\mu g/m^3$)	VC ($\mu g/m^3$)

Notes:

$\mu g/m^3$ = Micrograms per cubic meter air
PCE = Tetrachloroethene
TCE = Trichloroethene
c-1,2-DCE = cis-1,2-Dichloroethene
t-1,2-DCE = trans-1,2-Dichloroethene
VC = Vinyl Chloride
RTU = Roof Top Unit
NL = Not Listed
ND = Not detected at or above the specified laboratory reporting limit.
SL = Screening Level
ESL = Environmental Screening Level
RSL = Regional Screening Level
1 = California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, *Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater, Interim Final - December 2013. Table E, Commercial/Industrial Land Use.*
2 = *Department of Toxic Substances Control (DTSC), Modified Screening Levels (DTSC-SLs), Table 3, Screening Levels for Volatile Compounds in Ambient Air. October 2015.*
3 = U.S. Environmental Protection Agency (USEPA), Region 9, *Regional Screening Levels for Chemical Contaminants at Superfund Sites, Industrial Air Supporting Table, November 2015.*

ILLUSTRATIONS



Aerial Photo: April 9, 2013 (Google 2014)

PES Environmental, Inc.
Engineering & Environmental Services

Site Location
Indoor Air Sampling
1022, 1024, and 1026 Lake Tahoe Boulevard
and 1032 Emerald Bay Road
South Lake Tahoe, California

PLATE
1

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JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

PES Environmental, Inc.
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Site Plan
Indoor Air Sampling
1022, 1024, and 1026 Lake Tahoe Boulevard
and 1032 Emerald Bay Road
South Lake Tahoe, California

PLATE
2

JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE
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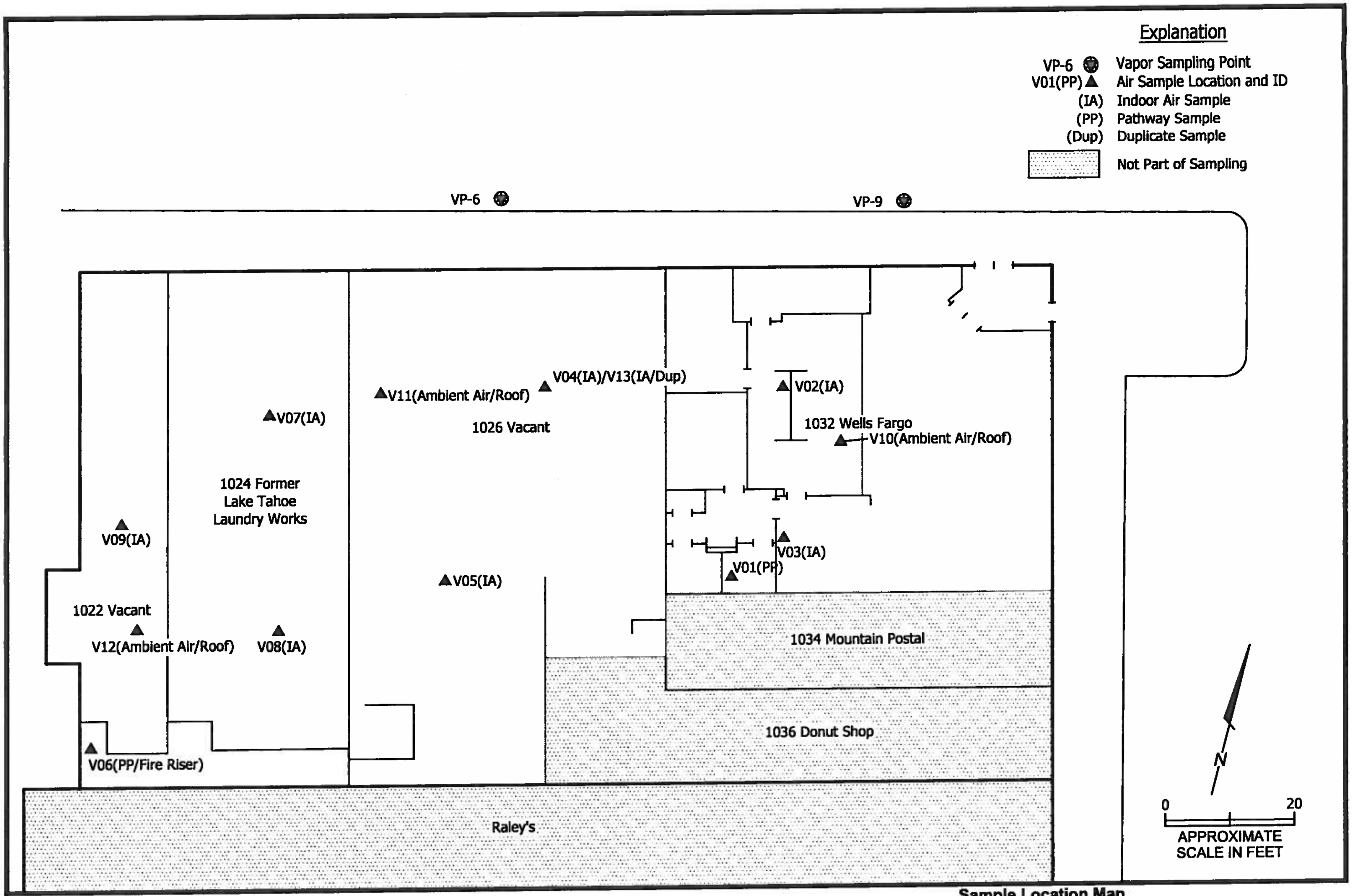

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Engineering & Environmental Services

Sample Location Map
Indoor Air Sampling
1022, 1024, and 1026 Lake Tahoe Boulevard
and 1032 Emerald Bay Road
South Lake Tahoe, California

PLATE
3

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JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

APPENDIX A

SAMPLE COLLECTION PROCEDURES

APPENDIX A

SAMPLE COLLECTION PROCEDURES

PRE-SAMPLING WALK-THROUGH

Prior to conducting the indoor air sampling activities, PES completed a walk-through of the tenant spaces with property management/tenants to check for signs of recent floor penetrations, construction, painting, or chemical usage using a low detection limit (parts per billion [ppb]) photo-ionization detector (PID). Floor penetrations assessed with the PID included wall joints, floor cracks, utility penetrations (i.e., fire risers, water, sewer, and/or electrical conduits), and floor drains.

The actual sampling procedures were discussed with the property management/tenants. PES also advised the property management/tenant(s) to operate the heating, ventilation, and air conditioning (HVAC) system (if available) normally during the sampling period, with operation for at least twenty-four hours prior to the scheduled sampling event.

DAY OF SAMPLING

PES arrived at the Site approximately one hour prior to the planned sampling start time to set up the canisters. PES verified that the building is equipped with a HVAC system and that it had been operated normally, with operation for at least twenty-four hours prior to the scheduled sampling event.

The canisters were opened sequentially with sampling completed approximately 24-hours after sampling commenced (unless an alternate time period has been pre-arranged and approved).

Air samples were collected in pre-evacuated, 6-liter Summa canisters with laboratory-calibrated flow controllers and fitted with a vacuum gauge. The indoor air samples were collected at a height of 3 to 5 feet above ground level. The individually certified-clean 6-liter Summa canisters and individually certified-clean 8-hour flow controllers were obtained from K Prime, Inc. (K Prime) of Santa Rosa, California (or alternate state-certified laboratory). The laboratory provided tubing and connections to allow for a "true duplicate" sample (two canisters connected to one sampling inlet, with a flow controller that is set to fill two 6-liter canisters). The vacuum on each canister was monitored before sampling, during sampling, and after sampling. An extra canister and flow controller (equipped with a vacuum gauge) was available in the event that a device malfunctioned.

1. Samples were collected at a height of 3.5 feet (for samples in an office where people are sitting) or 5.0 feet (in other areas where people normally stand, such as at a counter).

2. The samples were analyzed for PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride by USEPA Method TO-15 SIM. A maximum holding time of 14 days and reporting limits to meet commercial indoor air ESLs was specified on the chain of custody.

3. Quality assurance samples: One true duplicate indoor air sample was collected.

4. An extra canister and flow controller was available for use. During the day-time sampling period, the canister vacuums were periodically checked (canisters were not monitored during the night during the 24-hour sampling period).

5. The sample locations were designated as follow: Building address (1024, 1026, etc.), type of sample (IA = indoor air, PP=pathway air, O=outdoor air, and D added to the "IA" for duplicate samples).

6. The initial and final canister vacuums were recorded on the chain-of-custody. Periodic vacuum readings collected during the sampling event were recorded in the field notes.

At the end of the designated sampling period, the canisters were closed tightly and managed under chain-of-custody documentation and picked up by the laboratory's courier.
Other equipment provided by the laboratory (i.e., the flow controllers) was returned to the laboratory. The laboratory analytical report and chain-of-custody documentation is provided in the report.

APPENDIX B

PRE-SURVEY BUILDING QUESTIONNAIRES AND RESULTS OF AIR MONITORING

APPENDIX A

INDOOR AIR QUALITY BUILDING SURVEY AND HVAC INSPECTION FORM

DATE: 12/23/15

BUILDING: Vacant Space
1022 Lake Tahoe Blvd. South Lake Tahoe

Owner/Developer/Property Manager

Contact

Name: Marcus Clark / Property Management

Address:

Phone: 775.336.4675

Email:

Tenant Contact

Name Same as above

Address:

Phone:

Email:

Notes

Building Construction Characteristics:

- General description of building construction materials (Check all that apply):

  Reinforced concrete Steel-framed [✓ Wood-framed] [✓ Concrete Masonry Units (CMU)]

- How many occupied stories does the building have? Single Story

- What year was the building constructed? ?

- What type of basement does the building have? (Check all that apply)

  [✓ None] Full basement Other (specify): __________

- How is the basement used? (Check all that apply)

  [✓ Not used] Office space Storage Utilities Other (specify): __________

- What are the characteristics of the basement? (Check all that apply)

  Basement floor: Concrete Other (specify): N/A

  Foundation walls: Poured concrete Other (specify): CMU & Wood-framed

  Moisture: Dry Wet Damp Other (specify): Unknown

  What are the characteristics of the floor slab? (Check all that apply)

  [✓ Concrete] ~~Carpeted~~ (No Carpet) Tiled Stone

  Cracks [✓ Seams] Other (specify): __________

- **Are drains or sumps present?** Y ✓ N ______ **Describe each, including information on contents:**

1 toilet drain

- **Are elevator shafts present?** Y ______ N ✓ **Describe each:** ______

- **Are building drawings available?** Y ______ N ✓ **Copy available:** Y ______ N ______

(Please provide copy of building drawings)

- Are there locations where chemicals were or are used or stored?

Y____

N ✓

Check all that apply:

Kitchen Janitorial Closet Other (specify): ____________

- Are plumbing pipes or utility conduits present that penetrate the floor slab? Y✓ Toilet

__ N____

Check all that apply:

Water [✓ Sanitary Sewer] Communication Gas Electrical

Other (specify): fire riser south of space

- Were foundation design specifications and as-built drawings for the facility obtained?

Y__ N ✓____________

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab?

Y____________ N Unknown

Describe: ____________

- Was a vapor barrier installed under the floor slab? Y___ N Unknown

Describe: ____________

- Were any other liners installed under the floor slab? Y_ N Unknown

Describe: ____________

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking?

Y____________ N Unknown

Describe: ____________

- Were other techniques used to restrict vapor migration through the floor slab? Y___ N Unknown

  Describe:______________________________

Heating, Ventilation and Air Conditioning Systems (HVAC):

- Were HVAC as-built drawings for the facility obtained? Y___ N ✓
- Is the HVAC system a zone cooling/heating system? Y___ N Unknown
- If not, what type of HVAC system is used in this building? One HVAC unit services the space

- How Many? 1

- Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

NA, HVAC unit is located on western portion of roof.

Other (specify and describe): ______

- Does the HVAC system have an exhaust capability? Y ____ N Unknown

- What other type of mechanical ventilation systems are present and/or currently operating in the building? None

Mechanical fans Open windows Restroom vent fans Fume Hoods

Other (specify): ______

- Who maintains and manages the HVAC system operation? Property Mangement

- Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air, minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends.

Unknown

- What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

Natural gas Electric Solar Geothermal Other (specify): Unknown ____________

- Are any other fuels or chemicals used in this building? Y ____ N ✓
  Describe: ____

Sources of Chemical Contaminants:

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints, or paint	
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Lubricants	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Photographic darkroom	
Glues	
Scented trees, wreaths	
Other (specify):	
Other (specify):	

- What are the hours during which a majority of the workers are in the building during a work day?

  NA, Vacant

- Do the occupants of the building frequently have their clothes dry-cleaned? Y ____ N N/A

- Was there any recent remodeling or painting done in the building? Y ____ N ✓

- When and where was the most recent carpeting applied in the building? No

- Were glues used to attach the carpeting to the floor slab? Y ____ N N/A

- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y ✓ N ~~Unknown~~

- Are there any new upholstery, drapes, or other textiles in the building? Y ✓ N ____

- Has the building been treated with any insecticides/pesticides? Y ____ N Unknown

  If so, what chemicals were used and how often were they applied? ____

Outdoor sources of contamination:

- Is there any stationary emission source in the vicinity of the building? Yes/SVE/GASS NE of Space

- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? Yes, transit center NE of space

- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? Unknown

APPENDIX A

INDOOR AIR QUALITY BUILDING SURVEY AND HVAC INSPECTION FORM

DATE: 12/23/15

BUILDING: Tahoe Suds
1024 Lake Tahoe Blvd. South Lake Tahoe

Owner/Developer/Property Manager

Contact Name: Marcus Clark / Property Manager

Address:

Phone: 775.336.4675

Email:

Tenant Contact

Name David Turner

Address:

Phone: 702.245.7685

Email:

Notes

Building Construction Characteristics:

- General description of building construction materials (Check all that apply):

  Reinforced concrete Steel-framed [✓ Wood-framed] [✓ Concrete Masonry Units (CMU)]

- How many occupied stories does the building have? Single Story

- What year was the building constructed? ?

- What type of basement does the building have? (Check all that apply)

  [✓ None] Full basement Other (specify): ______

- How is the basement used? (Check all that apply)

  [✓ Not used] Office space Storage Utilities Other (specify): ______

- What are the characteristics of the basement? (Check all that apply)

  Basement floor: Concrete Other (specify): N/A

  Foundation walls: Poured concrete Other (specify): CMU & Wood-framed

  Moisture: Dry Wet Damp Other (specify): Unknown

  What are the characteristics of the floor slab? (Check all that apply)

  [✓ Concrete] ~~Carpeted~~ No Carpet Tiled Stone

  Cracks [✓ Seams] Other (specify): ______

- Are drains or sumps present? Describe each, including information on contents:
  Y ✓ N ____________

  Washing Machine Drains

  ____

- Are elevator shafts present? Y _____ N ✓ Describe each: ________

  ____

- Are building drawings available? Y _____ N ✓ Copy available: Y ____
  N ____________________

(Please provide copy of building drawings)

- Are there locations where chemicals were or are used or stored?

Y____

N ✓

Check all that apply:

Kitchen   Janitorial Closet   Other (specify): ____________

- Are plumbing pipes or utility conduits present that penetrate the floor slab? Y ✓ ___ N____

Check all that apply:

[✓ Water / Sanitary Sewer]   Communication   Gas   Electrical

Other (specify): fire riser South of space

- Were foundation design specifications and as-built drawings for the facility obtained? Y__ N ✓

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab?

Y____________ N Unknown

Describe: ____________

- Was a vapor barrier installed under the floor slab? Y___ N Unknown

Describe: ____________

- Were any other liners installed under the floor slab? Y__ N Unknown

Describe: ____________

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking? Y____________ N Unknown

Describe: ____________

- Were other techniques used to restrict vapor migration through the floor slab? Y___ N Unknown

  Describe:______________________________

Heading, Ventilation and Air Conditioning Systems (HVAC):

- Were HVAC as-built drawings for the facility obtained? Y___ N ✓
- Is the HVAC system a zone cooling/heating system? Y___ N Unknown
- If not, what type of HVAC system is used in this building? Unknown

- How Many? ?

- Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

?

Other (specify and describe): ______

- Does the HVAC system have an exhaust capability? Y ✓ N ____

- What other type of mechanical ventilation systems are present and/or currently operating in the building?

[✓ Mechanical fans] Open windows Restroom vent fans Fume Hoods

Other (specify): Exhaust Fans

- Who maintains and manages the HVAC system operation? Property Management

- Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air, minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends.

Unknown

- What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

Natural gas Electric Solar Geothermal Other (specify): Unknown

____

- Are any other fuels or chemicals used in this building? Y____ N ✓
  Describe: ______________________________

Sources of Chemical Contaminants:

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints or paint	
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Lubricants	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Photographic darkroom	
Glues	
Scented trees, wreaths	
Other (specify):	Laundry Detergents
Other (specify):	

- What are the hours during which a majority of the workers are in the building during a work day?

  7am-9pm

- Do the occupants of the building frequently have their clothes dry-cleaned? Y ____ N Unknown

- Was there any recent remodeling or painting done in the building? Y ____ N Unknown

- When and where was the most recent carpeting applied in the building? N/A

- Were glues used to attach the carpeting to the floor slab? Y ____ N ✓

- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y ✓ N ________

- Are there any new upholstery, drapes, or other textiles in the building? Y ____ N ✓

- Has the building been treated with any insecticides/pesticides? Y ____ N Unknown

  If so, what chemicals were used and how often were they applied? ____________

Outdoor sources of contamination:

- Is there any stationary emission source in the vicinity of the building? Yes/SVE/GASS NE of Space

- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? Yes, transit center NE of Space

- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? Unknown

APPENDIX A

INDOOR AIR QUALITY BUILDING SURVEY AND HVAC INSPECTION FORM

DATE: 12/23/15

BUILDING: Vacant Space.
1026 Lake Tahoe Blvd, South Lake Tahoe CA

Owner/Developer/Property Manager

Contact Name: MarKUS Clark / Property Manager

Address:

Phone: 775.336.4675

Email:

Tenant Contact

Name Same as above

Address:

Phone:

Email:

Notes

Building Construction Characteristics:

- General description of building construction materials (Check all that apply):

  Reinforced concrete Steel-framed [✓ Wood-framed] [✓ Concrete Masonry Units (CMU)]

- How many occupied stories does the building have? Single Story

- What year was the building constructed? ?

- What type of basement does the building have? (Check all that apply)

  [✓ None] Full basement Other (specify): ______

- How is the basement used? (Check all that apply)

  [✓ Not used] Office space Storage Utilities Other (specify): ______

- What are the characteristics of the basement? (Check all that apply)

  Basement floor: Concrete Other (specify): N/A

  Foundation walls: Poured concrete Other (specify): CMU & Wood-framed

  Moisture: Dry Wet Damp Other (specify): ______

  What are the characteristics of the floor slab? (Check all that apply)

  [✓ Concrete] [✓ Carpeted] Tiled Stone

  Cracks [✓ Seams] Other (specify): ______

- Are drains or sumps present? Y ___✓___ N __________ Describe each, including information on contents:

  2 toilet drains

  ____

- Are elevator shafts present? Y _____ N _✓_ Describe each: ________

  ____

- Are building drawings available? Y _____ N _✓_ Copy available: Y ____ N _ ________________

(Please provide copy of building drawings)

- Are there locations where chemicals were or are used or stored?

Y ✓ (gasoline)

N ____

Check all that apply:

Kitchen Janitorial Closet Other (specify): Southern Portion of Space

- Are plumbing pipes or utility conduits present that penetrate the floor slab? Y ✓ (Toilets) N ____

Check all that apply:

Water [✓ Sanitary Sewer] Communication Gas Electrical

Other (specify): ____

- Were foundation design specifications and as-built drawings for the facility obtained?
Y__ N ✓

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab?

Y ____ N Unknown

Describe: ____

- Was a vapor barrier installed under the floor slab? Y___ N Unknown

Describe ____

- Were any other liners installed under the floor slab? Y_ N Unknown

Describe: ____

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking?
Y ____ N Unknown

Describe: ____

- Were other techniques used to restrict vapor migration through the floor slab? Y___ N Unknown

  Describe:____________________

Heating, Ventilation and Air Conditioning Systems (HVAC):

- Were HVAC as-built drawings for the facility obtained? Y____ N ✓
- Is the HVAC system a zone cooling/heating system? Y ____ N Unknown
- If not, what type of HVAC system is used in this building? Two HVAC units service the space.

- How Many? 2

- Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

  NA. both units are located on central portion of roof

  Other (specify and describe): ____

- Does the HVAC system have an exhaust capability? Y ____ N Unknown

- What other type of mechanical ventilation systems are present and/or currently operating in the building? None

  Mechanical fans Open windows Restroom vent fans Fume Hoods

  Other (specify): ____

- Who maintains and manages the HVAC system operation? Property Mgmt.

- Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air, minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends:

  Unknown

- What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

Natural gas Electric Solar Geothermal Other (specify): Unknown

____

- Are any other fuels or chemicals used in this building? Y ✓ N ____
  Describe: Gasoline stored in fuel container

Sources of Chemical Contaminants:

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints, or paint	
Gas-powered equipment ✓	Southern portion of space
Gasoline storage cans ✓	Southern portion of space
Cleaning solvents	
Lubricants	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Photographic darkroom	
Glues	
Scented trees, wreaths	
Other (specify):	
Other (specify):	

- What are the hours during which a majority of the workers are in the building during a work day? NA, Vacant

- Do the occupants of the building frequently have their clothes dry-cleaned? Y ____ N N/A

- Was there any recent remodeling or painting done in the building? Y ___ N ✓

- When and where was the most recent carpeting applied in the building? Unknown

- Were glues used to attach the carpeting to the floor slab? Y ✓ N ___

- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y ✓ N ______

- Are there any new upholstery, drapes, or other textiles in the building? Y _____ N ✓

- Has the building been treated with any insecticides/pesticides? Y __ N Unknown

  If so, what chemicals were used and how often were they applied? ___________

Outdoor sources of contamination:

- Is there any stationary emission source in the vicinity of the building? Yes/SVE/GASS, NE of Space

- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? Yes, transit center NE of Space

- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? Unknown

APPENDIX A

INDOOR AIR QUALITY BUILDING SURVEY AND HVAC INSPECTION FORM

DATE: 12/17/15

BUILDING: Blg A South Y Center
Wells Fargo Suite 1032

Owner/Developer/[✓ Property Manager]

Contact

Name: Marcus Clark - Alliance Commercial

Address:

Phone: 725 336 4680

Email: mclark@naialliance.com

Tenant Contact

Name Tom Moncada

Address 1032 Emerald Bay RD
South Lake tahoe, CA 96150

Phone 530 314 2766

Email: Tom.Moncada@WellsFargo.Com

Notes

Building Construction Characteristics:

- General description of building construction materials (Check all that apply):

  Reinforced concrete   Steel-framed   Wood-framed   [✓ Concrete Masonry Units (CMU)]

- How many occupied stories does the building have? 1
- What year was the building constructed? 70's – Suite [illegible] in 2014
- What type of basement does the building have? (Check all that apply)

  [✓ None]   Full basement   Other (specify): ______

- How is the basement used? (Check all that apply)

  Not used   Office space   Storage Utilities   Other (specify): ______

- What are the characteristics of the basement? (Check all that apply)

  Basement floor: Concrete   Other (specify): ______

  Foundation walls: [✓ Poured concrete]   Other (specify): ______

  Moisture: Dry   Wet   Damp   Other (specify): ______

  What are the characteristics of the floor slab? (Check all that apply)

  Concrete ✓   Carpeted ✓   Tiled ✓   Stone

  Cracks   Seams   Other (specify): ______

- Are drains or sumps present? Y ______ N ______ Describe each, including information on contents:

  ______

  ______

- Are elevator shafts present? Y ______ N ✓ Describe each: ______

  ______

- Are ~~building~~ Suite drawings available? Y ✓ N ______ Copy available: Y ______ N ______

(Please provide copy of building drawings)

- Are there locations where chemicals were or are used or stored? Y____ N____

  Check all that apply:

  Kitchen [✓ Janitorial Closet] Other (specify): ____________

- Are plumbing pipes or utility conduits present that penetrate the floor slab? YES___ N_____

  Check all that apply:

  [✓ Water] [✓ Sanitary Sewer] Communication Gas [✓ Electrical]

  Other (specify): ____________

- Were foundation design specifications and as-built drawings for the facility obtained? Y_____ N_____

- Was soil beneath the floor slab treated with lime or cement prior to placing the slab? Y_____ N_____

  Describe: unknown

- Was a vapor barrier installed under the floor slab? Y_____ N_____

  Describe unknown

- Were any other liners installed under the floor slab? Y_____ N_____

  Describe: unknown

- Were fibers or additional rebar added to the concrete floor slab to minimize cracking? Y_____ N_____

  Describe: unknown

- Were other techniques used to restrict vapor migration through the floor slab? Y_____ N_____

  Describe: unknown

Heating, Ventilation and Air Conditioning Systems (HVAC):

- Were HVAC as-built drawings for the facility obtained? Y ✓ N_____

- Is the HVAC system a zone cooling/heating system? Y ✓ N___

- If not, what type of HVAC system is used in this building? RTU's

- How Many? ______________

- Describe, and delineate HVAC zones in the facility and corresponding rooftop HVAC air inlets:

  see mechanical drawing

  Other (specify and describe): ______________

- Does the HVAC system have an exhaust capability? Y ____ N ___

- What other type of mechanical ventilation systems are present and/or currently operating in the building?

  Mechanical fans Open windows Restroom vent fans Fume Hoods

  Other (specify): ______________

- Who maintains and manages the HVAC system operation? ______________

- Describe the control sequencing and operation of the HVAC system with respect to hours of operation, the intake of outside air minimums, maximums, relative percentage outside air, differences between day and evening operation on weekdays and weekends:

- What type(s) of fuel(s) for space heating and water heating are used in this building? (Select all that apply)

  [✓ Natural gas] [✓ Electric] Solar Geothermal Other (specify): ______________

- Are any other fuels or chemicals used in this building? Y ____ [✓ N]

  Describe: ______________

Sources of Chemical Contaminants:

Which of these items are present in the building? (Select all that apply)

Potential chemical source	Location of Source
Lacquers, paints or paint thinners no	
Gas-powered equipment no	
Gasoline storage cans no	
Cleaning solvents	Janitor closet - Lysol, bleach
Lubricants no	
Air fresheners	commercial aerosol
Oven cleaners no	
Carpet/upholstery cleaners	Brought by vendor
Hairspray no	
Nail polish/polish remover no	
Bathroom cleaner	Janitor closet
Appliance cleaner yes	" "
Furniture/floor polish no	
Moth balls no	
Fuel tank no	
Wood stove no	
Fireplace no	
Perfume/colognes no	
Photographic darkroom chemicals no	
Glues no	
Scented trees, wreaths, potpourri, etc. no	
Other (specify):	
Other (specify):	

- What are the hours during which a majority of the workers are in the building during a work day?

  8 - 7 M - F 8:30 - 4:30 SAT

- Do the occupants of the building frequently have their clothes dry-cleaned? Y____ [✓ N]
- Was there any recent remodeling or painting done in the building? Y ____ N
- When and where was the most recent carpeting applied in the building? ____________

  New in 2014

- Were glues used to attach the carpeting to the floor slab? Y ____ N ____
- Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Y ____ N ________
- Are there any new upholstery, drapes, or other textiles in the building? Y____ [✓ N]
- Has the building been treated with any insecticides/pesticides? Y ______ [✓ N]

  If so, what chemicals were used and how often were they applied? ____________________

Outdoor sources of contamination:

- Is there any stationary emission source in the vicinity of the building? ____________________
- Are there any mobile emission sources (e.g. highway, bus stop, high-traffic area) in the vicinity of the building? ____
- Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? ____________________

PACKAGED ROOFTOP DX UNIT SCHEDULE

EXHAUST FAN SCHEDULE

DUCTLESS HEAT PUMP UNIT SCHEDULE

SYMBOL LEGEND

OUTSIDE AIR CALCULATIONS - RTU-1

OUTSIDE AIR CALCULATIONS - RTU-2

VENDOR CONTACT INFORMATION

DIFFUSER AND GRILLE SCHEDULE

HVAC SYSTEM CONTROLS

MECHANICAL SHEET INDEX

GENERAL NOTES

WELLS FARGO

WELLS FARGO.
BANK REMODEL
1032 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

ARCHITECT OF RECORD

NADEL

NADEL NEVADA INC
175 E. WARM SPRINGS ROAD
SUITE 100
LAS VEGAS, NV 89119
T. 702.###.2000
F. 702.###.7170
WWW.NADELARC.COM

ENGINEER OF RECORD

MARIAN ENGINEERIN
ENGINEERING A SUSTAINABLE FUT

PRELIMINARY
NOT FOR
CONSTRUCTION

BID SET: 02/18/2014

REVISIONS		
NO	DESCRIPTION	DATE

DATE ISSUED: 12-19-2013
REVIEWED BY: RGM
DRAWN BY: KRL
DESIGNED BY: KRL

WELLS FARGO BE NUMBER
1078070000

SHEET TITLE
MECHANICAL
SPECS, SCHEDS,
DETAILS, CALCS,
SYMBOL LIST,
& SHEET INDEX

SHEET NUMBER
M0.1

ARCHITECT PROJECT NUMBER
13-122

ENERGY MANAGEMENT RESPONSIBILITIES

ELECTRICAL CONTRACTOR RESPONSIBILITIES

THE FOLLOWING ARE RESPONSIBILITIES OF THE ELECTRICAL CONTRACTOR DURING THE CONSTRUCTION PHASE.

1. [illegible]

2. [illegible]

MECHANICAL CONTRACTOR RESPONSIBILITIES

THE FOLLOWING ARE RESPONSIBILITIES OF THE MECHANICAL CONTRACTOR DURING THE CONSTRUCTION PHASE.

1. [illegible]

EMS INSTALLER RESPONSIBILITIES

THE FOLLOWING ARE RESPONSIBILITIES OF THE EMS CONTROLS INSTALLER DURING THE CONSTRUCTION PHASE. [illegible]

1. [illegible]

2. [illegible]

3. [illegible]

4. [illegible]

5. [illegible]

6. [illegible]

7. [illegible]

8. [illegible]

9. [illegible]

10. [illegible]

11. [illegible]

12. [illegible]

EMS SUPPLIER/MECHANICAL RESPONSIBILITIES

[illegible]

1. [illegible]

[illegible]

2. [illegible]

3. [illegible]

[illegible]

4. [illegible]

5. [illegible]

6. [illegible]

ENERGY MANAGEMENT SYSTEM NOTES

1. [illegible]

2. [illegible]

3. [illegible]

4. [illegible]

WIRELESS BUILDING MANAGER PANEL

MULTI-STAGE PROGRAMMABLE THERMOSTATS WITH WIRELESS COMMUNICATIONS

DUCT TEMPERATURE SENSORS FOR RTU SUPPLY AIR

REMOTE ROOM TEMPERATURE SENSORS FOR TELE-DATA AND ATM ROOMS

0-5 VDC OUTDOOR LIGHT SENSOR (PHOTOCELL)

OVERRIDE SWITCH FOR EXTERIOR LIGHTS

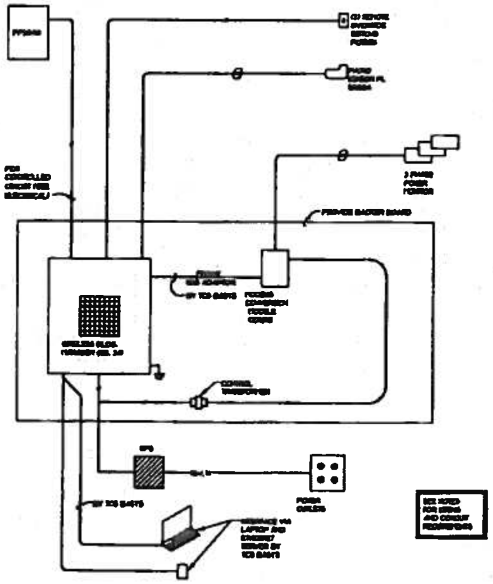
[illegible] 3-PHASE POWER METER

PULSING CONVERSION MODULE FOR [illegible] METER

USB ADAPTOR FOR CONVERSION MODULE

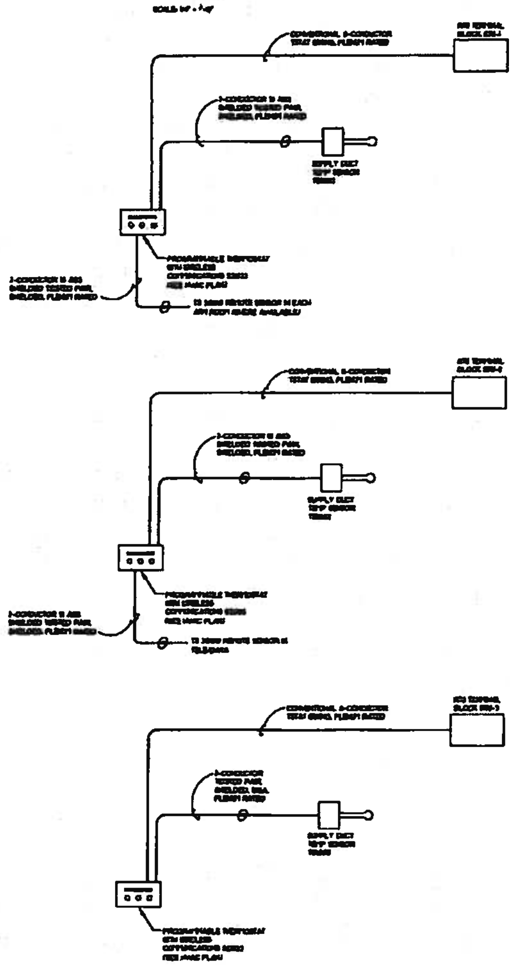
CONTROL TRANSFORMER FOR CONVERSION MODULE

[illegible]



BUILDING MANAGER SCHEMATIC

SCALE: N.T.S.



WELLS FARGO

WELLS FARGO
BANK REMODEL
1032 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

ARCHITECT OF RECORD

NADEL

NADEL NEVADA INC
175 E. WARM SPRINGS ROAD
SUITE 100
LAS VEGAS, NV 89119
T. [illegible]
F. [illegible]
WWW.NADELARC.COM

ENGINEER OF RECORD

MARIAN ENGINEERING
ENGINEERING A SUSTAINABLE F

PRELIMINARY
NOT FOR
CONSTRUCTION

BID SET: 02/18/2014

REVISIONS

NO.	DESCRIPTION	DA

DATE ISSUED: 12-19-201
REVIEWED BY: RGM
DRAWN BY: KRL
DESIGNED BY: KRL

WELLS FARGO BE NUMBER
1078070000

SHEET TITLE
EMS MANAGEMENT SYSTEM

SHEET NUMBER
M0.2

ARCHITECT PROJECT NUMBER
13-122

NOTES:

① PROVIDE THERMOSTAT [illegible] COMPATIBLE WITH THE WELLS FARGO PREFERRED BUILDING AUTOMATED SYSTEM. SEE SHEET [illegible] ON THE SYSTEM CONTROLS FOR FURTHER DETAILS.

② SUPPLY AND RETURN AIR PLENUMS, [illegible] TO CEILING SPACE.

③ [illegible] CONDENSATE DRAIN LINE TO [illegible] AT [illegible]. SEE PLUMBING PLANS.

④ 6" EXHAUST DUCT THROUGH ROOF TO EF-1. POSITION 8 FT FROM NEAREST AIR INTAKE.

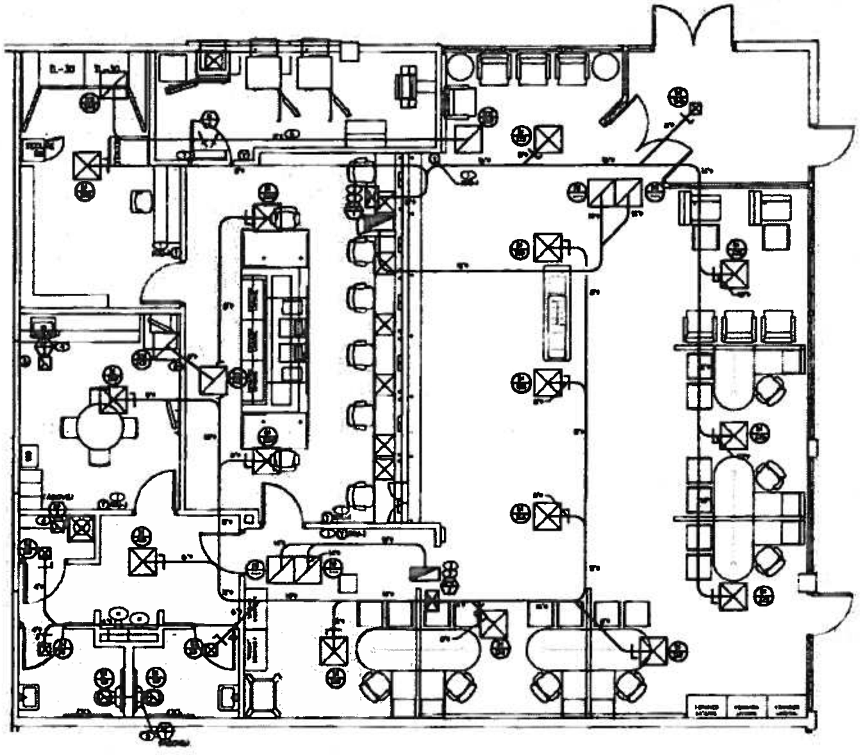
⑤ [illegible] EXHAUST DUCT THROUGH ROOF TO EF-1. POSITION 8 FT FROM NEAREST AIR INTAKE.

⑥ PROVIDE PRESSURE RELIEF CROSS-OVER DUCT AND AIR DEVICES.

⑦ PROVIDE AUXILIARY DRAIN PAN WITH FLOAT AND DRAIN LINE UNDERNEATH INDOOR UNIT. DRAIN SHALL TERMINATE OUTSIDE OR TO OTHER CODE APPROVED AREA.

GENERAL NOTES:

1 REMOVE EXISTING ROOFTOP UNIT, CURB AND ALL ASSOCIATED CONNECTIONS SUCH AS DUCTWORK AND GRILLES. REPAIR EXISTING ROOF PENETRATION.



MECHANICAL FLOOR PLAN

SCALE: 1/4" = 1'-0"

WELLS FARGO
BANK REMODEL
1032 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

ARCHITECT OF RECORD

NADEL

NADEL NEVADA INC
175 E. WARM SPRINGS ROAD
SUITE 100
LAS VEGAS, NV 89119
T. [illegible]
F. [illegible]
WWW.NADELARC.COM

ENGINEER OF RECORD

MARIAN ENGINEERING
ENGINEERING A SUSTAINABLE FUT

PRELIMINARY
NOT FOR
CONSTRUCTION

BID SET: 02/18/2014

REVISIONS

NO.	DESCRIPTION	DATE

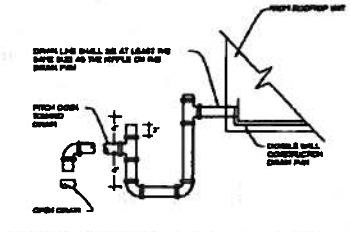
DATE ISSUED: 12-19-2013
REVIEWED BY: RGM
DRAWN BY: KRL
DESIGNED BY: KRL

WELLS FARGO BE NUMBER
1076970000

SHEET TITLE
MECHANICAL
FLOOR PLAN

SHEET NUMBER
M1.0

ARCHITECT PROJECT NUMBER
13-122



TYPICAL CONDENSATE DRAIN TRAP
NO SCALE

NOTES:

① PROVIDE FACTORY ROOF CURB. [illegible] 6" HIGH REFER TO DETAIL 1 FOR P-TRAP.

② EXHAUST DUCT FROM BELOW TO EX. HOOD ON FACTORY ROOF CURB. EXHAUST DISCHARGE MINIMUM 3' FROM NEAREST AIR INTAKE.

③ ROOF HEAT PUMP CONDENSER ON SUPPORT PAD.

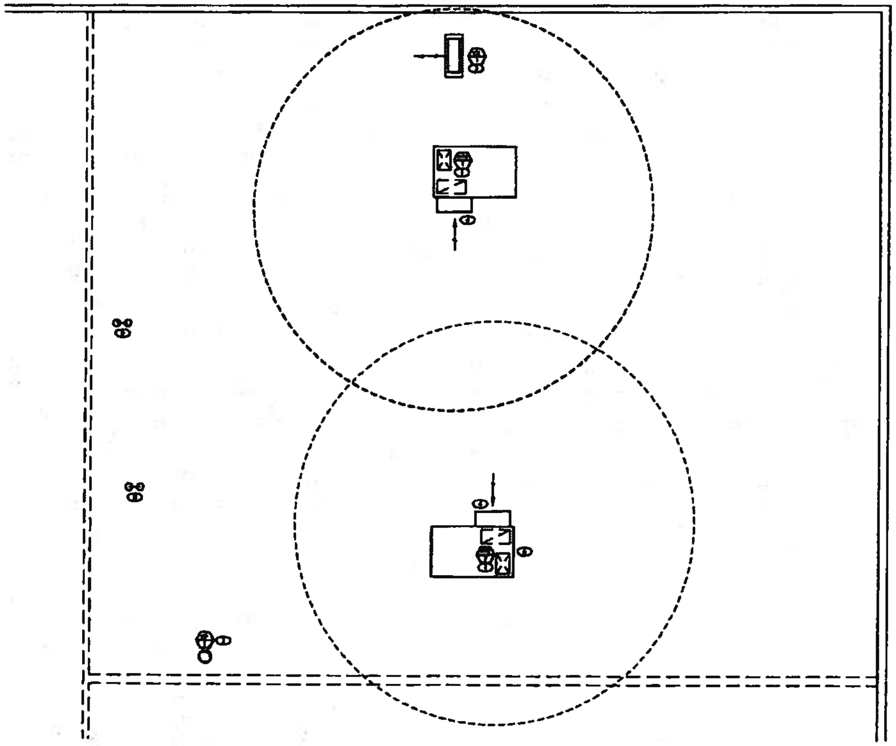
④ EXHAUST AND [illegible] VENT TERMINATIONS SHALL BE 10' OR MORE FROM A FRESH AIR INTAKE.

⑤ EXHAUST TERMINATION: PROVIDE A GOOSENECK [illegible] DISCHARGE SHALL BE 3' FROM ROOFLINE.

⑥ REMOVE EXISTING ROOFTOP UNIT, ROOF CURB AND ALL ASSOCIATED CONNECTIONS.

GENERAL NOTES:

1. CONTRACTOR TO REMOVE EXISTING ROOFTOP UNIT AND ALL ASSOCIATED CONNECTIONS SUCH AS DUCTING, GRILLES AND ROOF CURB. REUSE THE EXISTING ROOF OPENING AND MAKE NECESSARY MODIFICATIONS TO ALLOW FOR NEW ROOF CURB.
2. GENERAL CONTRACTOR TO PROVIDE WELLS FARGO PROJECT MANAGER WITH THE COPIES OF THE RECORDED REFRIGERANT EPA DOCUMENTATION SUCH DOCUMENTS THAT THE REFRIGERANT WAS PROPERLY RECOVERED/RECYCLED/DISPOSED OF IN POUNDS AND OUNCES FROM ALL HVAC UNITS AND APPLIANCES DISPOSED OF DURING DEMOLITION.



MECHANICAL ROOF PLAN
SCALE: [illegible]
A
M1.1

WELLS FARGO

WELLS FARGO:
BANK REMODEL
1032 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

ARCHITECT OF RECORD

NADEL

NADEL NEVADA INC
175 E. WARM SPRINGS ROAD
SUITE 100
LAS VEGAS, NV 89119
T. [illegible]
F. [illegible]
WWW.NADELARC.COM

ENGINEER OF RECORD

MARIAN ENGINEERI
ENGINEERING A SUSTAINABLE FUT

PRELIMINARY
NOT FOR
CONSTRUCTION

BID SET: 02/18/2014

REVISIONS

NO	DESCRIPTION	DATE

DATE ISSUED: 12-19-2013
REVIEWED BY: RGM
DRAWN BY: KRL
DESIGNED BY: KRL

WELLS FARGO BE NUMBER
1078070000

SHEET TITLE
MECHANICAL
ROOF PLAN

SHEET NUMBER
M1.1

ARCHITECT PROJECT NUMBER
13-122

PES Environmental, Inc.
Engineering & Environmental Services

DIRECT READING INSTRUMENT LOG

DATE: December 23, 2015
PROJECT: South Y Shopping Center, South Lake Tahoe, CA
1022, 1024 & 1026 Lake Tahoe Boulvard & 1032 Emerald Bay
JOB NO.: 1021.001.03.003
PROJECT MANAGER: Kyle Flory
RECORDED BY: Dylan Sears

OCCUPANT OF BUILDING:
Vacant Commercial Tenant Space

ADDRESS:
1022 Lake Tahoe Boulevard

CITY, STATE:
South Lake Tahoe, California

Time	Instrument Reading (ppb)	Measurement Location (Ambient, Foundational Opening, Consumer Product, etc.)	Volatile Ingredients (If Consumer Product Present)
8:20am	0	Ambient, outside main entrance to vacant space	N/A
	0	Indoor air, northern portion of space (near main entrance)	N/A
	0	Indoor air, north-central portion of space	N/A
	0	Foundational opening (sealed floor plate), north-central portion of space	N/A
	0	Indoor air, central portion of space	N/A
	0	Indoor air, central portion of space	N/A
	0	Indoor air, south-central portion of space	N/A
	0	Indoor air, southern portion of space	N/A
8:25am	0	Ambient, outside main entrance to vacant space	N/A
8:59am	0	Indoor air (east side of common corridor), near back entrance of space	N/A
8:50am	0	Foundational opening (common corridor fire riser), near back entrance of space	N/A

COMMENTS:

PES Environmental, Inc.
Engineering & Environmental Services

DIRECT READING INSTRUMENT LOG

DATE: December 23, 2015
PROJECT: South Y Shopping Center, South Lake Tahoe, CA
1022, 1024 & 1026 Lake Tahoe Boulvard & 1032 Emerald Bay
JOB NO.: 1021.001.03.003
PROJECT MANAGER: Kyle Flory
RECORDED BY: Dylan Sears

OCCUPANT OF BUILDING: Tahoe Suds
ADDRESS: 1024 Lake Tahoe Boulevard
CITY, STATE: South Lake Tahoe, California

Time	Instrument Reading (ppb)	Measurement Location (Ambient, Foundational Opening, Consumer Product, etc.)	Volatile Ingredients (If Consumer Product Present)
8:15am	0	Ambient, outside main entrance to laundromat space	N/A
	5	Indoor air, northwestern portion of space (near main entrance)	N/A
	15	Indoor air, northern portion of space	N/A
	15	Indoor air, north-central portion of space	N/A
	9	Indoor air, south-central portion of space	N/A
	13	Indoor air, southern portion of space	N/A
8:20am	0	Ambient, outside main entrance to laundromat space	N/A
8:47am	0	Indoor air (west side of common corridor), near back entrance of space	N/A

COMMENTS:

PES Environmental, Inc.
Engineering & Environmental Services

DIRECT READING INSTRUMENT LOG

DATE: December 23, 2015

PROJECT: South Y Shopping Center, South Lake Tahoe, CA

1022, 1024 & 1026 Lake Tahoe Boulvard & 1032 Emerald Bay

JOB NO.: 1021.001.03.003

PROJECT MANAGER: Kyle Flory

RECORDED BY: Dylan Sears

OCCUPANT OF BUILDING: Vacant Commercial Tenant Space

ADDRESS: 1026 Lake Tahoe Boulevard

CITY, STATE: South Lake Tahoe, California

Time	Instrument Reading (ppb)	Measurement Location (Ambient, Foundational Opening, Consumer Product, etc.)	Volatile Ingredients (If Consumer Product Present)
8:00am	0	Ambient, outside main entrance to vacant space	N/A
	8	Indoor air, northwestern portion of space (near main entrance)	N/A
	28	Indoor air, northeastern portion of space	N/A
	52	Indoor air, north-central portion of space	N/A
	80	Indoor air, east-central portion of space	N/A
	70	Indoor air, south-central portion of space	N/A
	90	Indoor air, south-central portion of space	N/A
	40	Foundational opening (open toilet drain), southeast portion of space	N/A
	115	Indoor air (near gas-powered equipment), south-central portion of space	Gasoline
8:05am	187	Consumer product (closed gas can), southern portion of space	Gasoline
	260	Consumer product (snowblower 1 gas tank), southern portion of space	Gasoline
	168	Consumer product (snowblower 2 gas tank), southern portion of space	Gasoline
	442	Consumer product (snowblower 2 gas tank), southern portion of space	Gasoline
	545	Consumer product (lawnmower 1 gas tank), southern portion of space	Gasoline
	68	Consumer product (lawnmower 2 gas tank), southern portion of space	Gasoline
	58	Indoor air, south-central portion of space	N/A
8:15am	0	Ambient, outside main entrance to vacant space	N/A
8:45am	0	Indoor air (west side of common corridor), near back entrance of space	N/A

COMMENTS:

PES Environmental, Inc.
Engineering & Environmental Services

DIRECT READING INSTRUMENT LOG

DATE: December 23, 2015
PROJECT: South Y Shopping Center, South Lake Tahoe, CA
1022, 1024 & 1026 Lake Tahoe Boulvard & 1032 Emerald Bay
JOB NO.: 1021.001.03.003
PROJECT MANAGER: Kyle Flory
RECORDED BY: Dylan Sears

OCCUPANT OF BUILDING: Wells Fargo

ADDRESS: 1032 Emerald Bay Road

CITY, STATE: South Lake Tahoe, California

Time	Instrument Reading (ppb)	Measurement Location (Ambient, Foundational Opening, Consumer Product, etc.)	Volatile Ingredients (If Consumer Product Present)
9:25am	0	Ambient, outside main entrance to vacant space	N/A
	148	Indoor air, northeastern portion of space (customer area, near main entrance)	N/A
	136	Indoor air, southeastern portion of space (customer area)	N/A
	129	Indoor air, southern portion of space (open office in customer area)	N/A
	176	Indoor air, southwestern portion of space (break room)	N/A
	157	Consumer product, southwestern portion of space (janitorial supply closet)	Various Products
	156	Foundational opening (women's room floor drain), southwestern portion of space	N/A
	154	Foundational opening (men's room floor drain), southwestern portion of space	N/A
	150	Indoor air, central portion of space (teller area)	N/A
	148	Indoor air, northwest-central portion of space (teller area)	N/A
	134	Indoor air, northwest portion of space (vault storage room)	N/A
9:50am	0	Ambient, outside main entrance to vacant space	N/A

COMMENTS:

APPENDIX C

LABORATORY ANALYTICAL REPORTS, CERTIFICATIONS AND CHAIN-OF-CUSTODY DOCUMENTATION

K PRIME, Inc.
CONSULTING ANALYTICAL CHEMISTS

3621 Westwind Blvd.
Santa Rosa CA 95403
Phone: 707 527 7574
FAX: 707 527 7879

TRANSMITTAL

DATE: 1/8/2016

TO:
MR. DYLAN SEARS
PES ENVIRONMENTAL, INC.
1682 NOVATO BLVD., STE 100
NOVATO, CA 94947

Phone: 415-899-1600
Fax: 415-899-1601
Email: dsears@pesenv.com

ACCT: 9418
PROJ: 1021.001.03.003

FROM:
Richard A. Kagel, Ph.D. RAK
Laboratory Director
1/8/2016

SUBJECT: LABORATORY RESULTS FOR YOUR PROJECT 1021.001.03.003

Enclosed please find K Prime's laboratory reports for the following samples:

SAMPLE ID	TYPE	DATE	TIME	KPI LAB #
1032-V01	AIR	12/24/2015	8:56	139087
1032-V02	AIR	12/24/2015	8:57	139088
1032-V03	AIR	12/24/2015	8:55	139089
1026-V04	AIR	12/24/2015	8:14	139090
1026-V05	AIR	12/24/2015	6:51	139091
1024-V07	AIR	12/24/2015	7:00	139092
1024-V08	AIR	12/24/2015	8:37	139093
1022-V06	AIR	12/24/2015	6:56	139094
1022-V09	AIR	12/24/2015	8:27	139095
1032-V10	AIR	12/24/2015	7:13	139096
1026-V11	AIR	12/24/2015	7:15	139097
1032-V12	AIR	12/24/2015	7:17	139098
122415-V13	AIR	12/24/2015	8:14	139099

The above listed sample group was received on 12/28/2015 and tested as requested on the chain of custody document.

Please call me if you have any questions or need further information.
Thank you for this opportunity to be of service.

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID:	1032-V01
LAB NO:	139087
SAMPLE TYPE:	AIR
DATE SAMPLED:	12/24/2015
TIME SAMPLED:	08:56
BATCH ID:	122915A1
DATE ANALYZED:	12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	**CAS NO.**	**MRL**	**SAMPLE CONC**	**MRL**	**SAMPLE CONC**
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0758	0.0678	0.514

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: RMC
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID: 1032-V02
LAB NO: 139088
SAMPLE TYPE: AIR
DATE SAMPLED: 12/24/2015
TIME SAMPLED: 08:57
BATCH ID: 122915A1
DATE ANALYZED: 12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	CAS NO.	MRL	SAMPLE CONC	MRL	SAMPLE CONC
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0442	0.0678	0.300

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: RMC
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID: 1032-V03
LAB NO: 139089
SAMPLE TYPE: AIR
DATE SAMPLED: 12/24/2015
TIME SAMPLED: 08:55
BATCH ID: 122915A1
DATE ANALYZED: 12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	CAS NO.	MRL	SAMPLE CONC	MRL	SAMPLE CONC
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0327	0.0678	0.222

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY:
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID:	1026-V04
LAB NO:	139090
SAMPLE TYPE:	AIR
DATE SAMPLED:	12/24/2015
TIME SAMPLED:	08:14
BATCH ID:	122915A1
DATE ANALYZED:	12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	**CAS NO.**	**MRL**	**SAMPLE CONC**	**MRL**	**SAMPLE CONC**
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0117	0.0678	0.0790

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: rMC
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID: 1026-V05
LAB NO: 139091
SAMPLE TYPE: AIR
DATE SAMPLED: 12/24/2015
TIME SAMPLED: 06:51
BATCH ID: 122915A1
DATE ANALYZED: 12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	CAS NO.	MRL	SAMPLE CONC	MRL	SAMPLE CONC
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	ND	0.0678	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: BMC
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID:	1024-V07
LAB NO:	139092
SAMPLE TYPE:	AIR
DATE SAMPLED:	12/24/2015
TIME SAMPLED:	07:00
BATCH ID:	122915A1
DATE ANALYZED:	12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	CAS NO.	MRL	SAMPLE CONC	MRL	SAMPLE CONC
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0175	0.0678	0.119

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: AMC
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID:	1024-V08
LAB NO:	139093
SAMPLE TYPE:	AIR
DATE SAMPLED:	12/24/2015
TIME SAMPLED:	08:37
BATCH ID:	122915A1
DATE ANALYZED:	12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	**CAS NO.**	**MRL**	**SAMPLE CONC**	**MRL**	**SAMPLE CONC**
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0149	0.0678	0.101

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: RMC
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID:	1022-V06
LAB NO:	139094
SAMPLE TYPE:	AIR
DATE SAMPLED:	12/24/2015
TIME SAMPLED:	06:56
BATCH ID:	122915A1
DATE ANALYZED:	12/29/2015

COMPOUND NAME	CAS NO.	PPB (V/V) MRL	PPB (V/V) SAMPLE CONC	µg/cu. m MRL	µg/cu. m SAMPLE CONC
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0180	0.0678	0.122

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: KMC
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID: 1022-V09
LAB NO: 139095
SAMPLE TYPE: AIR
DATE SAMPLED: 12/24/2015
TIME SAMPLED: 08:27
BATCH ID: 122915A1
DATE ANALYZED: 12/29/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	CAS NO.	MRL	SAMPLE CONC	MRL	SAMPLE CONC
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0162	0.0678	0.110

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: BMC
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID: 1032-V10
LAB NO: 139096
SAMPLE TYPE: AIR
DATE SAMPLED: 12/24/2015
TIME SAMPLED: 07:13
BATCH ID: 122915A1
DATE ANALYZED: 12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	CAS NO.	MRL	SAMPLE CONC	MRL	SAMPLE CONC
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	0.0305	0.0396	0.121
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	ND	0.0678	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY:
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID:	1026-V11
LAB NO:	139097
SAMPLE TYPE:	AIR
DATE SAMPLED:	12/24/2015
TIME SAMPLED:	07:15
BATCH ID:	122915A1
DATE ANALYZED:	12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	**CAS NO.**	**MRL**	**SAMPLE CONC**	**MRL**	**SAMPLE CONC**
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	ND	0.0678	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY:
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID: 1032-V12
LAB NO: 139098
SAMPLE TYPE: AIR
DATE SAMPLED: 12/24/2015
TIME SAMPLED: 07:17
BATCH ID: 122915A1
DATE ANALYZED: 12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	**CAS NO.**	**MRL**	**SAMPLE CONC**	**MRL**	**SAMPLE CONC**
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	ND	0.0678	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY:
DATE: 1/4/16

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9418
CLIENT PROJECT: 1021.001.03.003

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

SAMPLE ID: 122415-V13
LAB NO: 139099
SAMPLE TYPE: AIR
DATE SAMPLED: 12/24/2015
TIME SAMPLED: 08:14
BATCH ID: 122915A1
DATE ANALYZED: 12/30/2015

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	CAS NO.	MRL	SAMPLE CONC	MRL	SAMPLE CONC
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	0.0128	0.0678	0.0866

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: ____________
DATE: 1/4/16

K PRIME, INC.

LABORATORY METHOD BLANK REPORT

METHOD BLANK ID: B122915A1
SAMPLE TYPE: AIR

BATCH ID: 122915A1
DATE ANALYZED: 12/29/2015

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	**CAS NO.**	**MRL**	**SAMPLE CONC**	**MRL**	**SAMPLE CONC**
VINYL CHLORIDE	75-01-4	0.0100	ND	0.0256	ND
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	ND	0.0396	ND
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	ND	0.0397	ND
TRICHLOROETHENE	79-01-6	0.0100	ND	0.0537	ND
TETRACHLOROETHENE	127-18-4	0.0100	ND	0.0678	ND

NOTES:

ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

K PRIME, INC.
LABORATORY QUALITY CONTROL REPORT

LAB CONTROL ID: L122915A1
LAB CONTROL DUPLICATE ID: D122915A1

SAMPLE TYPE: AIR
BATCH ID: 122915A1
DATE ANALYZED: 12/29/2015

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO-15-SIM (GC-MS-SIM)

COMPOUND NAME	SPIKE ADDED (PPB)	REPORTING LIMIT (PPB)	SAMPLE CONC (PPB)	SPIKE CONC (PPB)	SPIKE REC (%)	REC LIMITS (%)
1,1-DICHLOROETHENE	0.500	0.010	ND	0.525	105	60 - 140
TRICHLOROETHENE	0.500	0.010	ND	0.560	112	60 - 140
BENZENE	0.500	0.050	ND	0.512	102	60 - 140
TOLUENE	0.500	0.050	ND	0.556	111	60 - 140
TETRACHLOROETHENE	0.500	0.010	ND	0.531	106	60 - 140

					QC LIMITS	
COMPOUND NAME	SPIKE ADDED (PPB)	SPIKE DUP CONC (PPB)	SPIKE DUP REC (%)	RPD (%)	RPD (%)	REC (%)
1,1-DICHLOROETHENE	0.500	0.504	101	4.1	25	60 - 140
TRICHLOROETHENE	0.500	0.516	103	8.2	25	60 - 140
BENZENE	0.500	0.538	108	4.8	25	60 - 140
TOLUENE	0.500	0.553	111	0.4	25	60 - 140
TETRACHLOROETHENE	0.500	0.531	106	0.1	25	60 - 140

NOTES:
NA - NOT APPLICABLE OR AVAILABLE
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT

K PRIME, INC.

INDIVIDUAL SUMMA CANISTER CERTIFICATION REPORT

THE FOLLOWING SUMMA CANISTERS WERE INDIVIDUALLY CERTIFIED TO CONTAIN LESS THAN THE METHOD REPORTING LIMIT AMOUNTS OF THE COMPOUNDS LISTED BELOW BY TESTING ACCORDING TO TEST METHOD INDICATED.

CANISTER ID	CERTIFICATION DATE
A-811	12/17/2015
A-555	12/17/2015
A-786	12/17/2015
A-501	12/17/2015
A-433	12/17/2015
A-883	12/17/2015
A-914	12/17/2015
A-781	12/17/2015
A-705	12/17/2015
A-701	12/17/2015
A-101	12/17/2015
A-551	12/17/2015
A-702	12/17/2015
A-552	12/17/2015
A-724	12/17/2015

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO 15 (GC-MS-SIM)

		PPB (V/V)	µg/cu. m
COMPOUND NAME	**CAS NO.**	**MRL**	**MRL**
VINYL CHLORIDE	75-01-4	0.0100	0.0256
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	0.0396
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	0.0397
TRICHLOROETHENE	79-01-6	0.0100	0.0537
TETRACHLOROETHENE	127-18-4	0.0100	0.0678

NOTES:

MRL - METHOD REPORTING LIMIT
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: ch
DATE: 1/8/2016

K PRIME, INC.

INDIVIDUAL FLOW CONTROLLER CERTIFICATION REPORT

THE FOLLOWING FLOW CONTROLLERS WERE INDIVIDUALLY CERTIFIED TO CONTAIN LESS THAN THE METHOD REPORTING LIMIT AMOUNTS OF THE COMPOUNDS LISTED BELOW BY TESTING ACCORDING TO TEST METHOD INDICATED.
TEST METHOD INDICATED.

FLOW CONTROLLER ID	CERTIFICATION DATE
SN7643	12/17/2015
SN7697	12/17/2015
SN7737	12/17/2015
SN7642	12/17/2015
SN7714	12/17/2015
SN7719	12/17/2015
SN7745	12/17/2015
SN7738	12/17/2015
SN7641	12/17/2015
SN7699	12/17/2015
SN7742	12/17/2015
SN7718	12/17/2015
SN7640	12/17/2015
SN7721	12/17/2015
SN7739	12/17/2015

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO 15 (GC-MS-SIM)

		PPB (V/V)	µg/cu. m
COMPOUND NAME	**CAS NO.**	**MRL**	**MRL**
VINYL CHLORIDE	75-01-4	0.0100	0.0256
TRANS-1,2-DICHLOROETHENE	156-60-5	0.0100	0.0396
CIS-1,2-DICHLOROETHENE	156-59-2	0.0100	0.0397
TRICHLOROETHENE	79-01-6	0.0100	0.0537
TETRACHLOROETHENE	127-18-4	0.0100	0.0678

NOTES:
MRL - METHOD REPORTING LIMIT
µg/cu. m VALUES ARE CALCULATED FROM PPB RESULTS USING NORMAL TEMPERATURE AND PRESSURE (NPT).

APPROVED BY: ch
DATE: 1/8/2016

PES Environmental, Inc.
Engineering & Environmental Services

1682 NOVATO BOULEVARD, SUITE 100
NOVATO, CALIFORNIA 94947
(415) 899-1600 FAX (415) 899-1601

9418

AIR SAMPLE DATA FORM

☐ PCM ☐ TEM

PROJECT:

	SAMPLE ID NO.	~~ACTIVITY~~	DESCRIPTION OF SAMPLING LOCATION & COMMENTS	Summa ~~PUMP ID NO.~~ Canister ID	~~ROTOMETER~~ NO. Regulator
1	1032-V01	Pref. Path	– Wells Fargo, Men's room	ICA-786	7738
2	1032-V02	IA	– Wells Fargo, N. Side	ICA-811	7721
3	1032-V03	IA	– Wells Fargo, S. Side	ICA-501	7697
4	1026-V04	IA	– Lg. Vacant Space, N. Side	ICA-555	7640
5	1026-V05	IA	– Lg. Vacant Space, S. Side	ICA-705	7737
6	1024-V07	IA	– Tahoe Suds, N. Side	ICA-551	7745
7	1024-V08	IA	– Tahoe Suds, S. Side	ICA-101	7739
8					
9					
10					
11					
12					

ACCOUNTABILITY RECORD

PAGE 1 OF 2

REQUESTED COMPLETION DATE: 3-Day TAT
JOB NO: 1021.001.03.003
CLIENT NAME: Commerce Bank
SAMPLER'S NAME: Dylan Sears
SIGNATURE: Dylan W Sears
DATE: 12/23-24/15 TIME:
☐ ANALYZED IN FIELD OR ☒ DELIVERED TO LAB
METHOD OF SHIPMENT: Lab Courrier
LAB NAME: K-Prime, Santa Rosa
ADDRESS:
RECEIVED BY: X Errol (VTC) 12/28/15 3:20
DATE: TIME: SIGNATURE:
ANALYST: Relinquished → Errol (VTC)
DATE COMPLETED: Received → Rw-Couls KPI
ANALYSIS METHOD: 12/28/15 16:40

☐ FAX REPORT ☐ EMAIL REPORT ☐ PRINTED REPORT REQUIRED

SAMPLING AND ANALYTICAL DATA

EFFECTIVE FILTER AREA=________ mm² FIELD AREA=________ mm²

	LAB ID NO.	~~AIR FLOW RATE (LPM)~~ (Hg) START	(Hg) STOP	AVG	SAMPLING TIME (12/23) START	(12/24) STOP	TOTAL (MINUTES)	VOLUME (LITERS)	TOTAL FIBER COUNT	TOTAL FIELD COUNT	FIBERS PER FIELD	AVG BLANK COUNT	BLANK CORRECTED COUNT	LOQ (FIBERS/CC) KPI#	ANALYST CV	INTRA-LAB CV	INTER-LAB CV	FIBERS PER mm²	FIBERS PER CC
1	V01	-23.0	>-2.0		1017	856								139087					
2	V02	-23.5	-6.0		1025	857								139088					
3	V03	-23.5	>-2.0		1030	855								139089					
4	V04	-24.0	-4.5		1049	814								139090					
5	V05	-20.0	-2.5		1055	651								139091					
6	V07	-23.5	-2.0		1104	700								139092					
7	V08	-24.5	-7.0		1107	837								139093					
8																			
9																			
10																			
11																			
12																			

ADDITIONAL COMMENTS: Analyze by TO15 SIM (only for): PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and Vinyl Chloride

*SAMPLE TYPE CODES		**WORK AREA ACTIVITY CODES		NO. OF SAMPLES SUBMITTED	RATE
PCM= PHASE CONTRAST MICROSCOPY	D = OUTSIDE WORK AREA	1 = PRE-ABATEMENT BACKGROUND	7 = WORK AREA CLEARANCE		
TEM = TRANSMISSION ELECTRON MICROSCOPY	E = INSIDE WORK AREA	2 = PREPARATION OF WORK AREA	8 = MAINTENANCE ACTIVITY		
SEM = SCANNING ELECTRON MICROSCOPY	F = AIR QUALITY/ENVIRONMENTAL	3 = ASBESTOS REMOVAL WORK	9 = ACM REPAIR ACTIVITY		
A = PERSONAL EXPOSURE SAMPLE	G = HEPA EXHAUST DISCHARGE	4 = CLEAN UP OF WORK AREA	10 = ACM ENCAPSULATION OR ENCLOSURE	TOTAL:	
B = WORK AREA CLEARANCE	H = DECONTAMINATION FACILITY	5 = WASTE REMOVAL	11 = CLEANING OR DECONTAMINATION		
C = PRE-ABATEMENT BACKGROUND	I = BLANK SAMPLE	6 = GLOVE BAG REMOVAL WORK	12 = NOT APPLICABLE		

PES Environmental, Inc.
Engineering & Environmental Services

1682 NOVATO BOULEVARD, SUITE 100
NOVATO, CALIFORNIA 94947
(415) 899-1600 FAX (415) 899-1601

9418

AIR SAMPLE DATA FORM

☐ PCM ☐ TEM

PROJECT:

	SAMPLE ID NO.	TYPE*	ACTIVITY**	DESCRIPTION OF SAMPLING LOCATION & COMMENTS	Summa ~~*PUMP ID NO.~~ Canister ID	~~ROTOMETER~~ NO. Regulator
1	1022-V06	Pref	Path	- Sm Vacant Space, Fireriser S. Side	ICA-781	7719
2	1022-V09	IA	-	Sm. Vacant Space, Center	ICA-701	7718
3	1032-V10	Ambient	-	Wells Fargo, ACU/Roof	ICA-433	7714
4	1026-V11	Ambient	-	Lg. Vacant Space, ACU/Roof	ICA-883	7699
5	1032-V12	Ambient	-	Sm. Vacant Space, ACU/Roof	ICA-914	7643
6	122415-V13	IA	-	Vacant Space	ICA-552	7640
7						
8						
9						
10						
11						
12						

ACCOUNTABILITY RECORD

PAGE 2 OF 2

REQUESTED COMPLETION DATE: 3-Day TAT
JOB NO: 1021.001.03.003
CLIENT NAME: Commerce Bank
SAMPLER'S NAME: Dylan Sears
SIGNATURE: Dylan W Sears
DATE: 12/23-24/15 TIME:
☐ ANALYZED IN FIELD OR ☒ DELIVERED TO LAB
METHOD OF SHIPMENT: Lab Courier
LAB NAME: K Prime, Santa Rosa
ADDRESS:
RECEIVED BY: X Earl (VTC) 12/28/15 3:20
DATE: TIME: Relinquished — SIGNATURE: Earl (VTC)
ANALYST: Received — SCOPE #: RW - Cook KPT
DATE COMPLETED: TIME: 12/28/15 16:40
ANALYSIS METHOD:

☐ FAX REPORT ☐ EMAIL REPORT ☐ PRINTED REPORT REQUIRED

SAMPLING AND ANALYTICAL DATA

EFFECTIVE FILTER AREA=_____ mm² FIELD AREA=_____ mm²

	LAB ID NO.	AIR FLOW RATE (LPM)			SAMPLING TIME			VOLUME (LITERS)	TOTAL FIBER COUNT	TOTAL FIELD COUNT	FIBERS PER FIELD	AVG BLANK COUNT	BLANK CORRECTED COUNT	LOQ (FIBERS/CC)	ANALYST CV	INTRA-LAB CV	INTER-LAB CV	FIBERS PER mm²	FIBERS PER CC
		(Hg) START	(Hg) STOP	AVG	START (12/23)	STOP (12/24)	TOTAL (MINUTES)							KPT#					
1	V06	-23.5	-2.0		1059	656								139094					
2	V09	-23.5	-4.0		1110	827								139095					
3	V10	-24.5	-2.0		1127	713								139096					
4	V11	-23.5	-5.0		1136	715								139097					
5	V12	-24.0	-2.0		1141	717								139098					
6	V13	-24.0	-4.5		1049	814								139099					
7																			
8																			
9																			
10																			
11																			
12																			

ADDITIONAL COMMENTS: Analyze by TO-15 SIM (only for): PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; and Vinyl Chloride

*SAMPLE TYPE CODES

PCM= PHASE CONTRAST MICROSCOPY	D = OUTSIDE WORK AREA
TEM = TRANSMISSION ELECTRON MICROSCOPY	E = INSIDE WORK AREA
SEM = SCANNING ELECTRON MICROSCOPY	F = AIR QUALITY/ENVIRONMENTAL
A = PERSONAL EXPOSURE SAMPLE	G = HEPA EXHAUST DISCHARGE
B = WORK AREA CLEARANCE	H = DECONTAMINATION FACILITY
C = PRE-ABATEMENT BACKGROUND	I = BLANK SAMPLE

**WORK AREA ACTIVITY CODES

1 = PRE-ABATEMENT BACKGROUND	7 = WORK AREA CLEARANCE
2 = PREPARATION OF WORK AREA	8 = MAINTENANCE ACTIVITY
3 = ASBESTOS REMOVAL WORK	9 = ACM REPAIR ACTIVITY
4 = CLEAN UP OF WORK AREA	10 = ACM ENCAPSULATION OR ENCLOSURE
5 = WASTE REMOVAL	11 = CLEANING OR DECONTAMINATION
6 = GLOVE BAG REMOVAL WORK	12 = NOT APPLICABLE

NO. OF SAMPLES SUBMITTED	RATE
TOTAL:	

DISTRIBUTION

INDOOR AIR SAMPLING REPORT
FORMER LAKE TAHOE LAUNDRY WORKS
1022, 1024, AND 1026 LAKE TAHOE BOULEVARD
AND 1032 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CALIFORNIA
RWQCB SLIC CASE No. T6S043

JANUARY 14, 2016

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EXHIBIT FF

Guidance for Design, Installation and Operation of In Situ Air Sparging Systems

RR-186 February 2015

Purpose

This is a guide to using *in situ* air sparging as a remediation technology. *In situ* air sparging is a process in which a gaseous medium (commonly air) is injected into groundwater through a system of wells. As the injected air rises to the water table, it can strip volatile organic compounds (VOCs) from groundwater and the capillary fringe. The process also oxygenates groundwater, enhancing the potential for biodegradation at sites with contaminants that degrade aerobically.

The Wisconsin DNR developed this guidance for environmental professionals who investigate contaminated sites and design remedial systems. Designing an *in situ* air sparging system is a multi-disciplinary process; the designer should have a working knowledge of geology, hydrogeology and basic engineering to design an effective system.

The majority of this guidance is intended for smaller VOC contaminated sites; however, some of the guidance is appropriate for larger sites. Designers may need to deviate from the guidance in some circumstances because each site has unique contaminants, access constraints, size, hydrogeology, and other characteristics.

If site-specific criteria or conditions require a cost-effective system design that differs from this guidance, it is the responsibility of the remediation system designer to propose an effective system to DNR.

Author/Contact

The original author of this document has left DNR. It was reviewed for accuracy by Gary A. Edelstein (608-267-7563) in November 2003 and again in February 2015.

Errata

This document includes errata and additional information prepared in August 1995.

1. The ERR Program is now called the Bureau for Remediation and Redevelopment or RR Program.
2. 2. The Bureau of Water Supply is now called the Drinking and Groundwater Bureau (or Program).
3. The Bureau of Air Management is now called the Air Management Bureau (or Program).
4. The 8/14/91 memo at the end of the document is still considered a current guideline for air injection at remediation sites even though there is no longer a special group of staff designated as LUST project managers. The guideline is directed to all RR staff that work on such sites.

Wisconsin Department of Natural Resources
P.O. Box 7921, Madison, WI 53707
dnr.wi.gov, search “brownfield”

5. References to the Department of Industry, Labor and Human Relations' (DILHR) and its rules are now part of the Department of Safety and Professional Services (DSPS) Division of Industry Services Program.

The DNR rule cites and references to other DNR guidance in the document were also reviewed and found to be current, with the exception of:

1. The references to NR 112, which has been renumbered NR 812,

2. A cite to s. NR 726.05(3)(a)3. regarding the use of NR 141 compliant monitoring wells, which is now renumbered s. NR 726.05(7)(a),

3. References to SW-157, "Guidance for Conducting Environmental Response Actions", which is no longer current guidance,

4. Table 1-1 guidance references:
    a. Injection Wells – Infiltration and Injection Requests (RR-935)
    b. Investigative Wastes - Guidelines for the Management of Investigative Waste, document (RR-556).

5. The definition of "Hydrogeologist" for the purposes of the RR Program is in s. NR 712.03(1).

Electronic version of:

GUIDANCE FOR DESIGN, INSTALLATION AND OPERATION
OF
IN SITU AIR SPARGING SYSTEMS

Prepared by:
Wisconsin Department of Natural Resources
Emergency and Remedial Response Section
P.O Box 7921
Madison, WI 53707

Publication Number: PUBL-SW186-93, September 1993, File name = spg_E__1

Important notes to users of the guidance that was obtained in electronic format instead of hard copy format are as follows:

The hard copy version includes figures that are not available in electronic format.

This document is available in electronic format as a WordPerfect Version 5.1 document. The document uses superscripts, subscripts, underlines, italics, and mathematical characters that are unique to WordPerfect. The top of this page, the next page, the first table of contents page and the page with the introduction have WordPerfect commands for font, tab settings, margins, etc. In some cases, forced page breaks are used, in other places soft page breaks are used. A WordPerfect header command using small print is also used.

There are several mathematical formulas that will not print properly if a proportional font is used or if different tab settings are selected. Also, some of the mathematical formulas require the use of half line spacing.

For example:

$$s = \frac{2.3\ Q}{4\ ð\ T}\ Log_{10}\ \left(\frac{2.25\ T\ t}{r^2\ S}\right)$$

If the above formula looks correct when it is printed out on your printer, your computer and printer are probably configured properly. If however the above formula looks incorrect, there may be other errors throughout the document.

For the above reasons, other software programs that are unable to translate from a WordPerfect 5.1 file may cause problems. In this case, the user may consider obtaining hard copies of this document instead.

This file of the document also includes errata and additional information through August 11, 1995.

4.0 Design and Installation of an Air Sparging System.

An in situ air sparging system consists of a number of components which are described in this section, beginning with a discussion of well placement and design. The discussion of design parameters includes well design, manifolds and blowers. Subsection 4.5 discusses other equipment that may or may not be used at sites, and the section concludes with a discussion of the information that should be submitted to the DNR.

4.1 Well Placement.

The air sparging well's zone of influence may be estimated by measuring one or more of the following:

- the change in water table elevation (upwelling);
- the use of gas tracers;
- measuring the change in dissolved oxygen (saturated zone);
- oxygen levels (unsaturated zone); and
- measuring the change in contaminant concentrations (saturated and/or unsaturated zone).

Note: The use of any tracers requires prior approval from the Bureau of Water Supply.

It is permissible to select a well placement configuration without scientifically determining a zone of influence at the site, provided that a relatively close well spacing is used. The department does not recommend a specific method to determine a zone of influence. Well spacing of 12 to 50 feet has generally been used, according to the literature. If well spacing is closer than 15 feet or farther than 30 feet, designers should include a justification in the work plan. Some designers use a grid pattern of sparging wells in the source area and other designers use a line of wells oriented perpendicular to the direction of groundwater flow. Some designers have used the same number of air sparging wells as air extraction wells in the soil venting system (if installed) and other designers use a significantly larger number of sparging wells than air extraction wells.

Under active air sparging, the lateral distribution of contaminants in the saturated zone may increase due to the convection currents discussed above in Subsection 2.1. Therefore, additional groundwater monitoring wells and air sparging wells may be necessary near the perimeter of the contaminated zone. If air sparging wells extend to the perimeter of the plume, groundwater extraction may not be necessary at some sites. If air sparging is only used in part of the plume, groundwater extraction will probably be necessary to capture any lateral migration that results from convection currents.

The system designer should use their professional judgement to space wells in a pattern that will effectively decontaminate the aquifer and capillary fringe at the site.

4.2 Well Design.

Figure 4-1 portrays a typical air sparging well design.

EXHIBIT GG

Environmental
Engineering,
Consulting &
Remediation, Inc.

January 12, 2016

Subject: JANUARY 4, 2016 AIR SPARGE CONFIRMATION TEST SUMMARY
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

E_2C Remediation (E_2C) is pleased to present this summary of air sparge confirmation test conducted on January 4, 2016.

1) Selection of testing wells and monitoring wells

   Three air sparge wells (AS-16, AS-6 and AS-8) were selected. See Figure 1 for their locations. Four groundwater monitoring wells (MW-11S, MW-9S, MW-5S, and MW-5D) were used for monitoring groundwater level changes and air pressure changes.

   The distance between AS-16 and MW-11S is approximately 10.5 ft;
   The distance between AS-6 and MW-9S is approximately 23.7 ft;
   The distance between AS-8 and MW-5S is approximately 31.2 ft;
   The distance between AS-8 and MW-9S is approximately 50.9 ft;

2) Testing Method

   a. Depth to water and wellhead air pressure were measured before the test began;
   b. Compressed air was applied at AS-16, AS-6 and AS-8 one well at a time, sequentially. The applied flow rate ranged from approximately 2 to 6 scfm at a pressure of 17 psi;
   c. Depth to water and air pressure were measured at MW-11S, MW-9S, MW-5S, and MW-5D at an interval of approximately 15 minutes;
   d. Measurements were recorded on field data sheets (see attached).

3) Testing Results

   - Both depth to water and air pressure changes were observed at the monitoring wells MW-11S, MW-9S and MW-5S;
   - Little variation of depth to water and air pressure was observed at MW-5D;

Conclusion

The air sparge confirmation test confirmed that the radius of influence at the site from individual air sparge wells at the site exceeds 25 ft.

Based on 25 ft radii, the air sparge plan view coverage is illustrated in Figure 2.

Please contact Aiguo Xu or Philip Goalwin at 916-782-8700, if there are any questions regarding this air sparge confirmation test.

Respectfully,
E_2C Remediation

Aiguo Xu

REGISTERED PROFESSIONAL ENGINEER
AIGUO
XU
No. 72685
Exp. 6/30/2016
CIVIL
STATE OF CALIFORNIA

Aiguo Xu, Ph.D.
Principal Engineer
C.E. # 72685

Attachments: Test Field Data Sheets
Figure 1 Site Plan
Figure 2 Air Sparge Radii of Influence

RADIUS OF INFLUENCE DATA LOG

Job Number: 1950 (LTLW)

Date: 1-4-16

Recorded By: J. Irwin

Instrument Used: Manometer Magnatelic Water TAPe

Time	Well Number	Pressure	DTW	Comments
12:00	MW-11	0	16.10	
	MW-9	0	16.94	Pre-START UP
	MW-5S	0	14.19	
	MW-5D	0	22.94	
12:15	MW-11	+.09"H_2O	14.09	17 PSI 2.5 scfm (AS-16)
	MW-9	0	16.90	
	MW-5S	0	14.15	
	MW-5D	0	22.93	
12:30	MW-11	+.35"H_2O	13.01	17 PSI 3 SCFM (AS-16)
	MW-9	+.01"H_2O	16.83	
	MW-5S	0	14.13	
	MW-5D	0	22.92	
12:45	MW-11	+1.6"H_2O	12.70	17PSI 3.5 scfm (AS-16)
	MW-9	+.01"H_2O	16.78	
	MW-5S	0	14.10	
	MW-5D	0	22.90	
1:00	MW-11	+2.2"H_2O	12.70	17PSI 3.5scfm (AS-16)
	MW-9	+.02"H_2O	16.70	
	MW-5S	0	14.08	
	MW-5D	0	22.89	
1:15	MW-11	+1.1"H_2O	12.78	17PSI 2scfm (AS-6)
	MW-9	+.02"H_2O	16.71	
	MW-5S	0	14.05	
	MW-5D	0	22.89	
1:30	MW-11	+.07"H_2	12.84	17PSI 2SCFM (AS-6)
	MW-9	+.35"H_2O	16.60	
	MW-5S	0	14.03	
	MW-5D	0	22.89	
1:45	MW-11	+.05"H_2O	12.93	17PSI 2scfm (AS-6)
	MW-9	+.67"H_2O	16.31	
	MW-5S	0	14.02	
	MW-5D	0	22.89	
2:00	MW-11	+.04"H_2O	13.01	17PSI 2scfm (AS-6)

Pg 1 of 2

RADIUS OF INFLUENCE DATA LOG

Job Number: 1950 (LTLW)

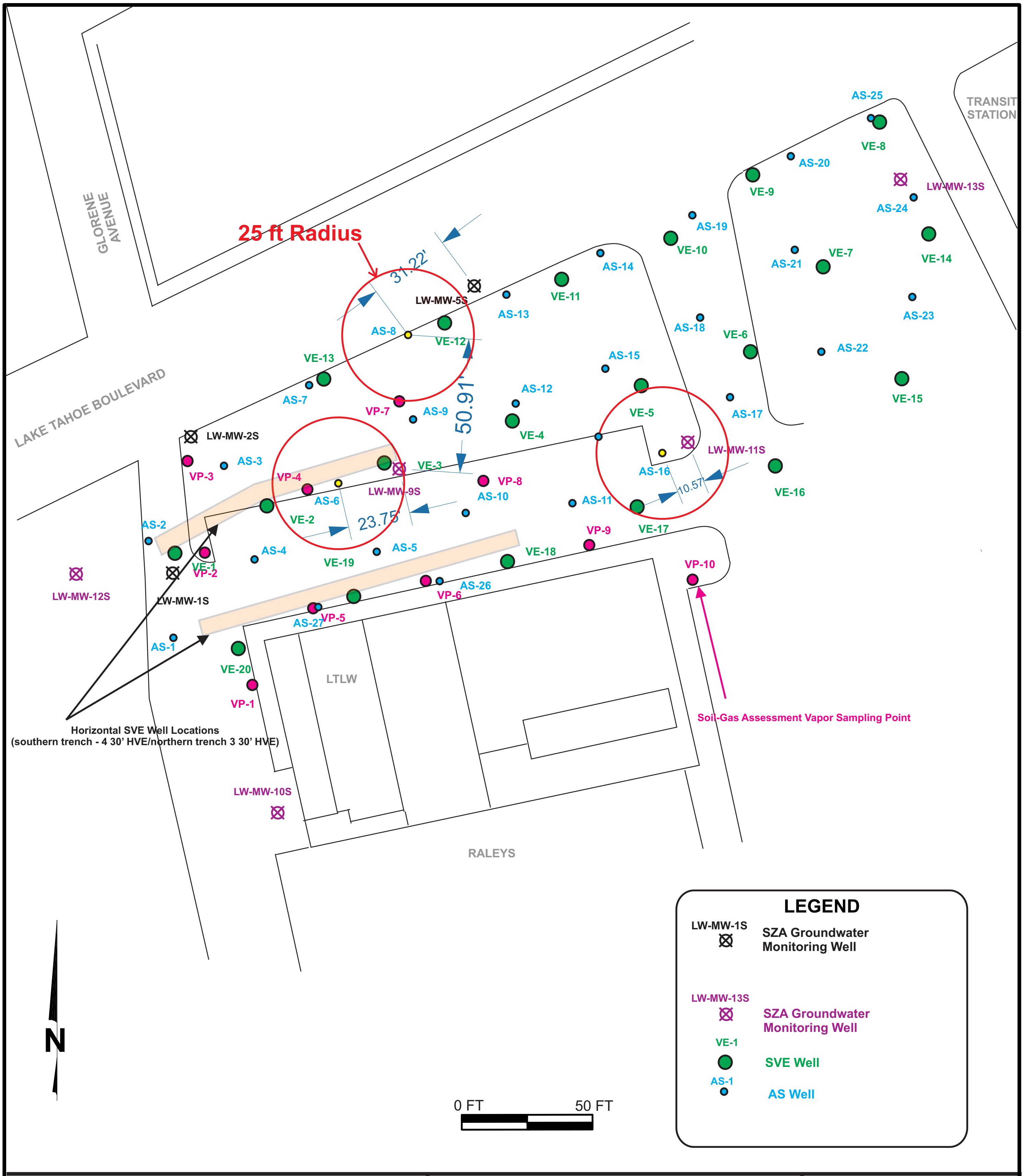
Date: 1-4-16

Recorded By: J. Irwin

Instrument Used: magnahelic mano meter Water tape

Time	Well Number	Vacuum	DTW	Comments
2:00	MW-9	+.90" H_2O	16.12	17 PSI 2 scfm (AS-6)
2:00	MW-5S	0	14.01	17 PSI 2 scfm (AS-6)
	MW-5D	0	22.90	
2:15	MW-11	+.63" H_2O	13.17	17 PSI 2 scfm (AS-6)
〃	MW-9	+1.00" H_2O	15.94	〃 〃
	MW-5S	0	13.99	
	MW-5D	0	22.90	
2:30	MW-11	+.05" H_2O	13.38	17 PSI 2 scfm (AS-6)
〃	MW-9	+1.10" H_2O	15.62	〃 〃
	MW-5S	0	13.97	
	MW-5D	0	22.90	
2:45	MW-11	+.64" H_2O	13.80	17 PSI 2 scfm (AS-8)
〃	MW-9	+4.77" H_2O	12.66	〃 〃
	MW-5S	+.03" H_2O	13.66	
	MW-5D	0	22.90	
3:00	MW-11	+.04" H_2O	14.50	17 PSI 3 scfm (AS-8)
〃	MW-9	+8.10" H_2O	10.47	〃 〃
	MW-5S	+.07" H_2O	13.21	
	MW-5D	0	22.90	
3:15	MW-11	+.05" H_2O	15.02	17 PSI 5 scfm (AS-8)
〃	MW-9	+12.37" H_2O	7.31	〃 〃
	MW-5S	+.10" H_2O	12.87	
	MW-5D	0	22.90	
3:30	MW-11	+.07" H_2O	15.32	17 PSI 6 scfm (AS-8)
〃	MW-9	+16.5" H_2O	4.90	〃 〃
	MW-5S	+.13" H_2O	12.40	
	MW-5D	0	22.90	

Pg. 2 of 2



Environmental
Engineering,
Consulting &
Remediation, Inc.

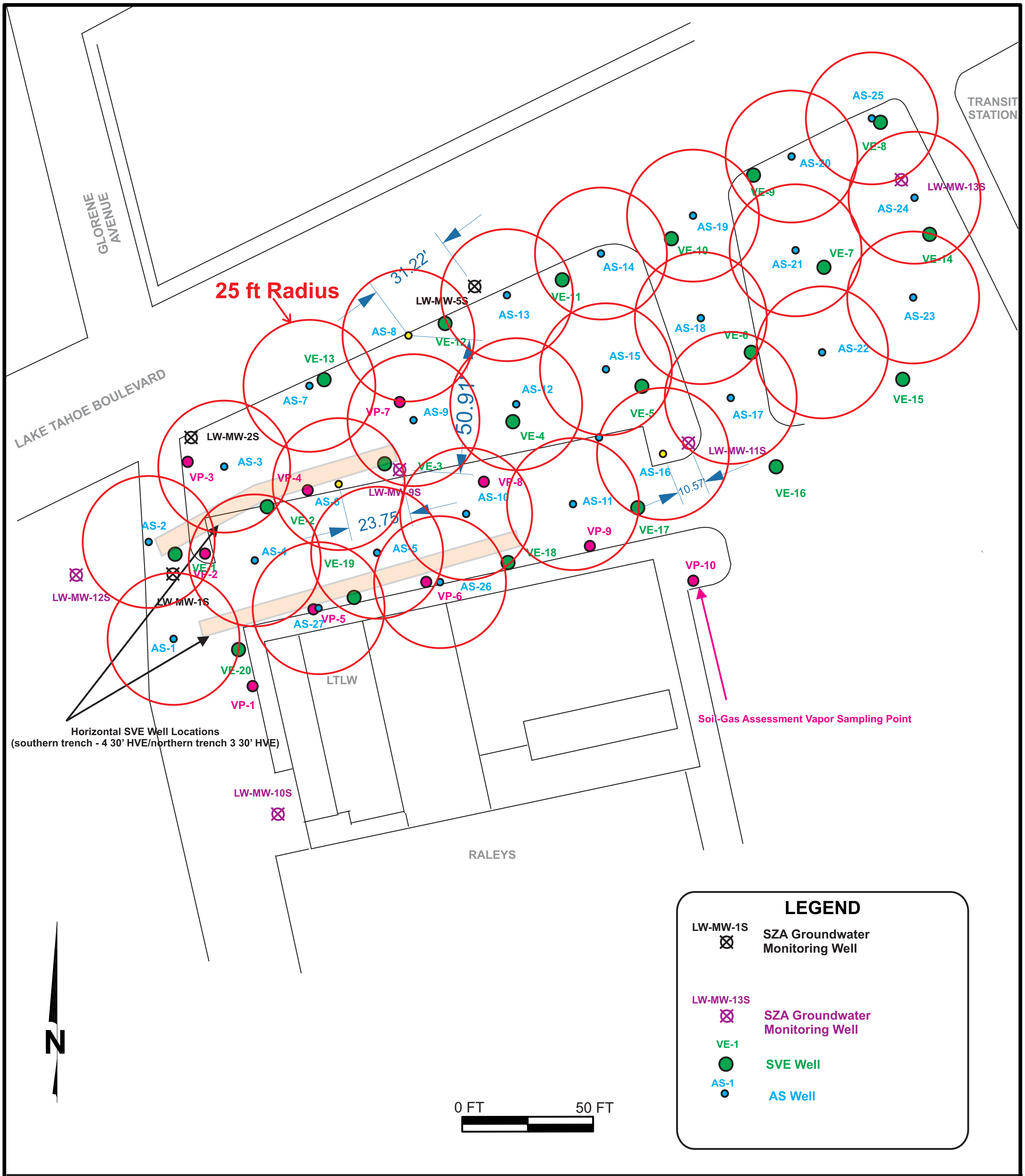
1020 Winding Creek Rd., #110, Roseville, CA 95678
Phone: (916) 782-8700 Fax: (916) 782-8750

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BOULEVARD
SOUTH LAKE TAHOE, CALIFORNIA

SITE PLAN

FIGURE

1



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Phone: (916) 782-8700 Fax: (916) 782-8750

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BOULEVARD
SOUTH LAKE TAHOE, CALIFORNIA

AIR SPARGE RADII OF INFLUENCE

FIGURE

2

EXHIBIT HH

E_2C
REMEDIATION
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,
E_2C Remediation

William Lawson

William A. Lawson
Exp. 8/31/16
No. 7171

William A. Lawson, P.G. #7171
Senior Geologist

1020 Winding Creek Road, Suite 110, Roseville, CA 95678
tel 916.782.8700 fax 916.782.8750

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

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:

E_2C 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 striped 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_2C 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_2C 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_2C 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_2C Remediation (E_2C) 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_2C Remediation (E_2C) 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_2C, 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_2C, 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_2C 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_2C mobilized an ozone sparging unit to the Site and began plumbing the unit to select AS wells. On December 20, 2012, E_2C 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_2C 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_2C 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_2C, 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 [$\mu g/m^3$]) at VP-8 to 8,500 ppbV (57,630 $\mu g/m^3$) (VP-2) (see Figure 7A and 7B);
- Cis-1,2-DCE was reported at two (2) VP wells at concentrations of 250 ppbV (990 $\mu g/m^3$) (VP-2) and 0.27 ppbV (1.07 $\mu g/m^3$) (VP-5);
- TCE was reported at two (2) VP wells at concentrations of 240 ppbV (12,888 $\mu g/m^3$) (VP-2) and 52 ppbV (2,792 $\mu g/m^3$) (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 μg/L (First Quarter 2014) to 130 μg/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_2C 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_2C 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_2C 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 μg/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 μg/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_2C 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$_2$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$_2$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 Lawson

WILLIAM A. LAWSON
Exp. 8/31/16
No. 7171

William A. Lawson, P.G. #7171
Senior Geologist

Reviewed By:

Philip Goal

PHILIP GOALWIN
Exp. 11/30/14
No. 4779

Philip Goalwin, P.G. #4779
Principal Geologist

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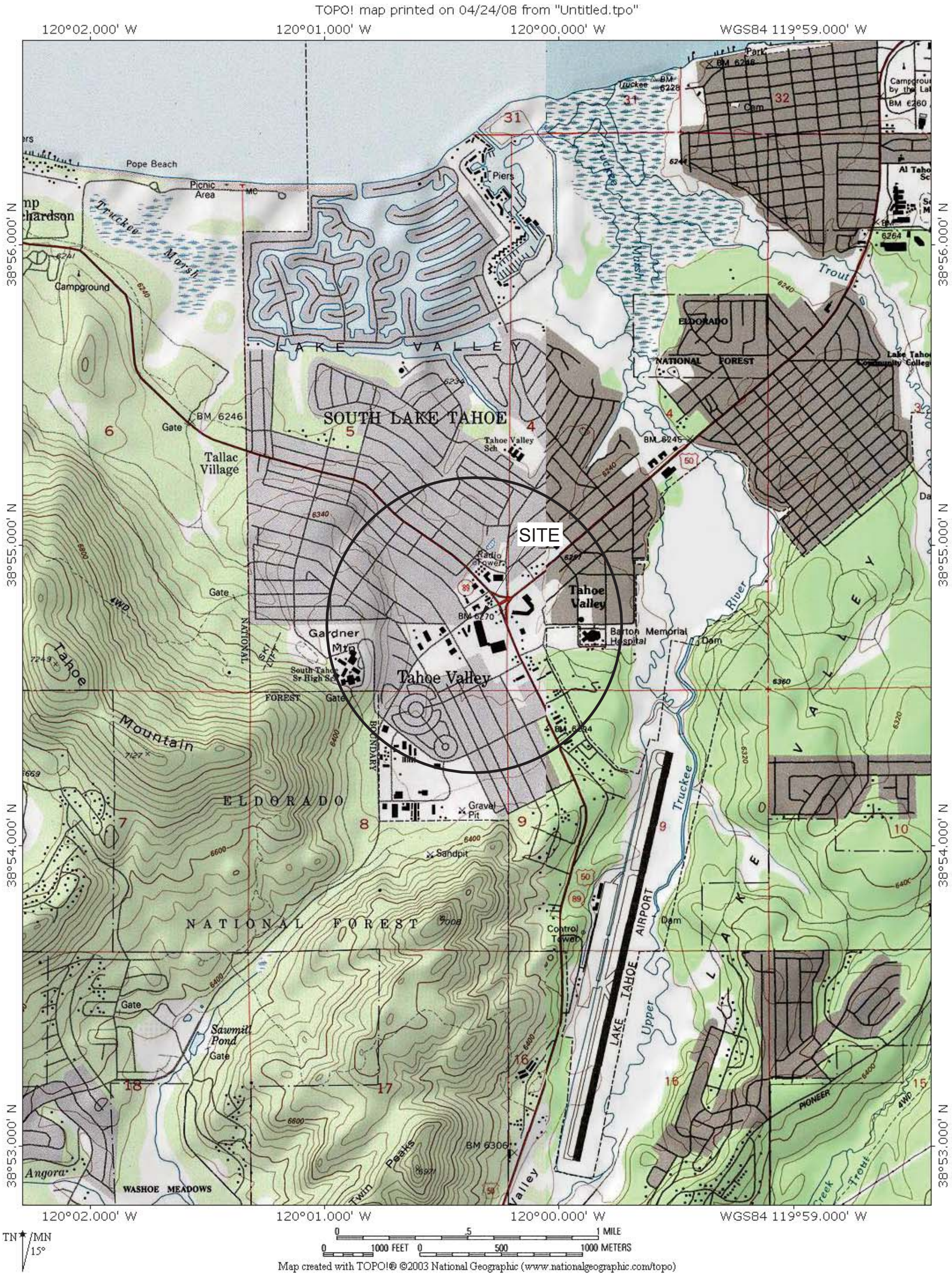
FIGURES



E₂C Remediation
1020 Winding Creek Rd., #110
Roseville, CA 95678

Phone: (916) 782-8700
Fax: (916) 782-8750

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BOULEVARD
SOUTH LAKE TAHOE, CALIFORNIA

SITE LOCATION MAP

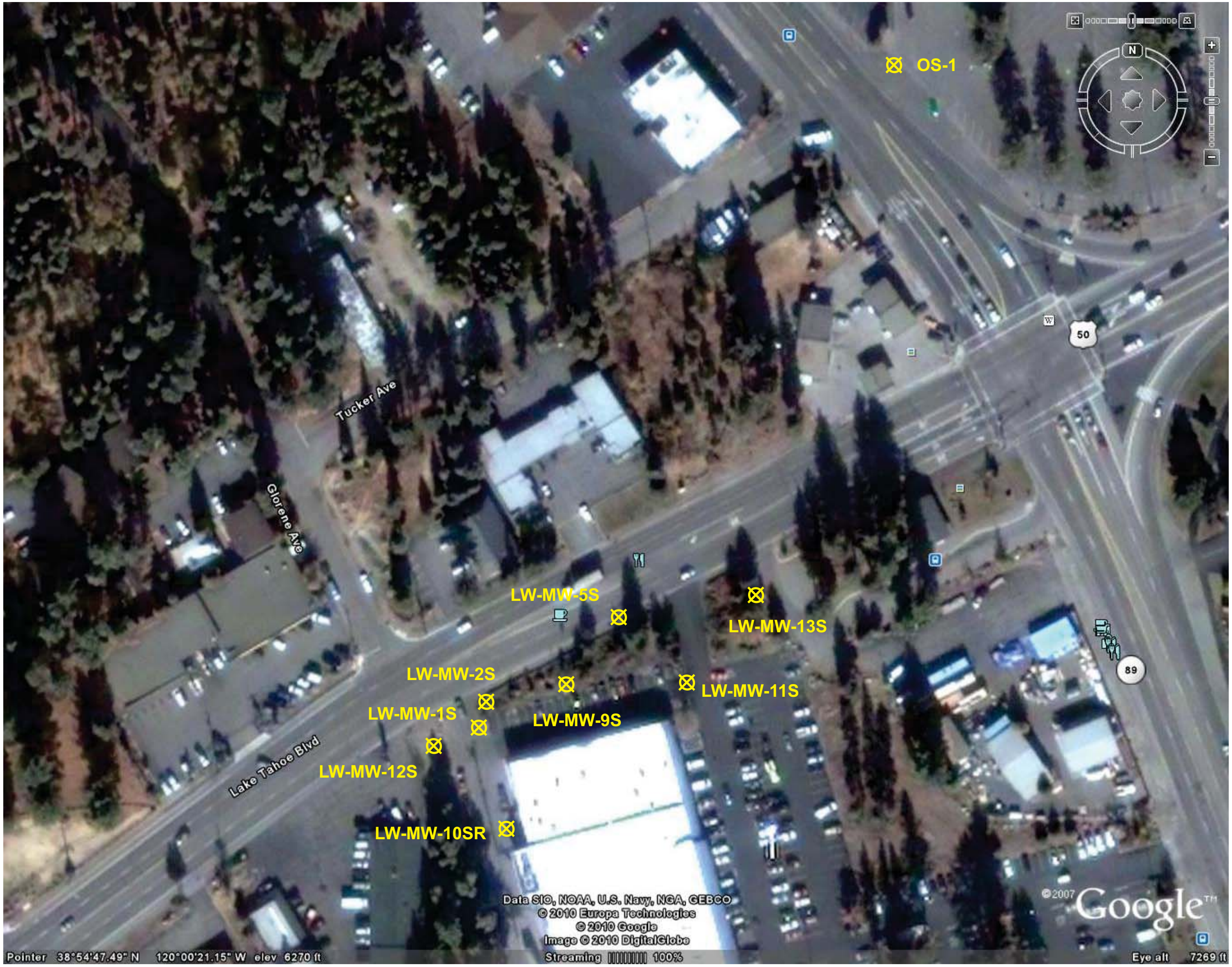
FIGURE

1

LEGEND

☒ Approximate Location of Groundwater Monitoring Well

LW-MW-1S



N

NOT TO SCALE

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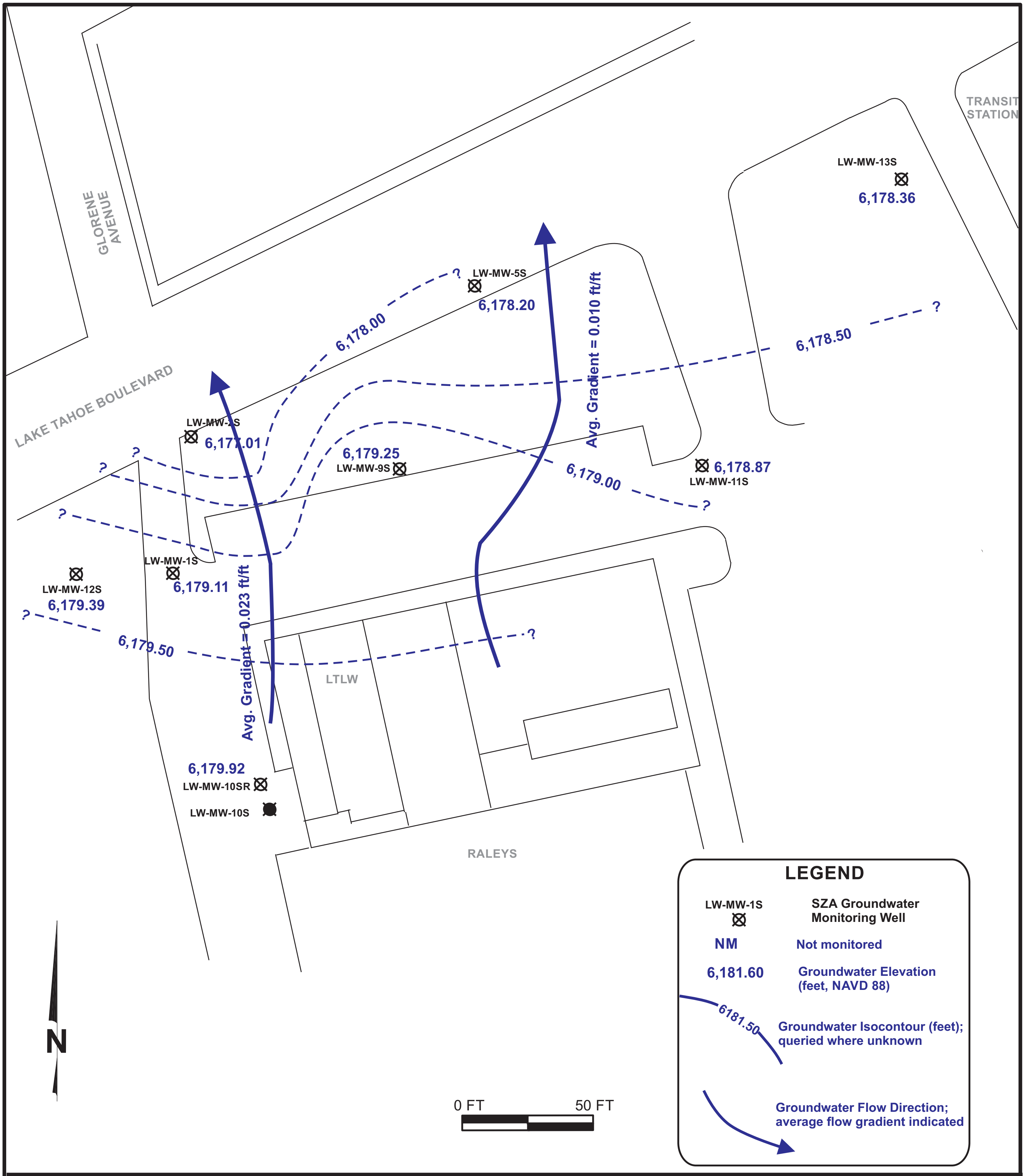
SITE PLAN

FIGURE

2



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Roseville, CA 95678

Phone: (916) 782-8700
Fax: (916) 782-8750

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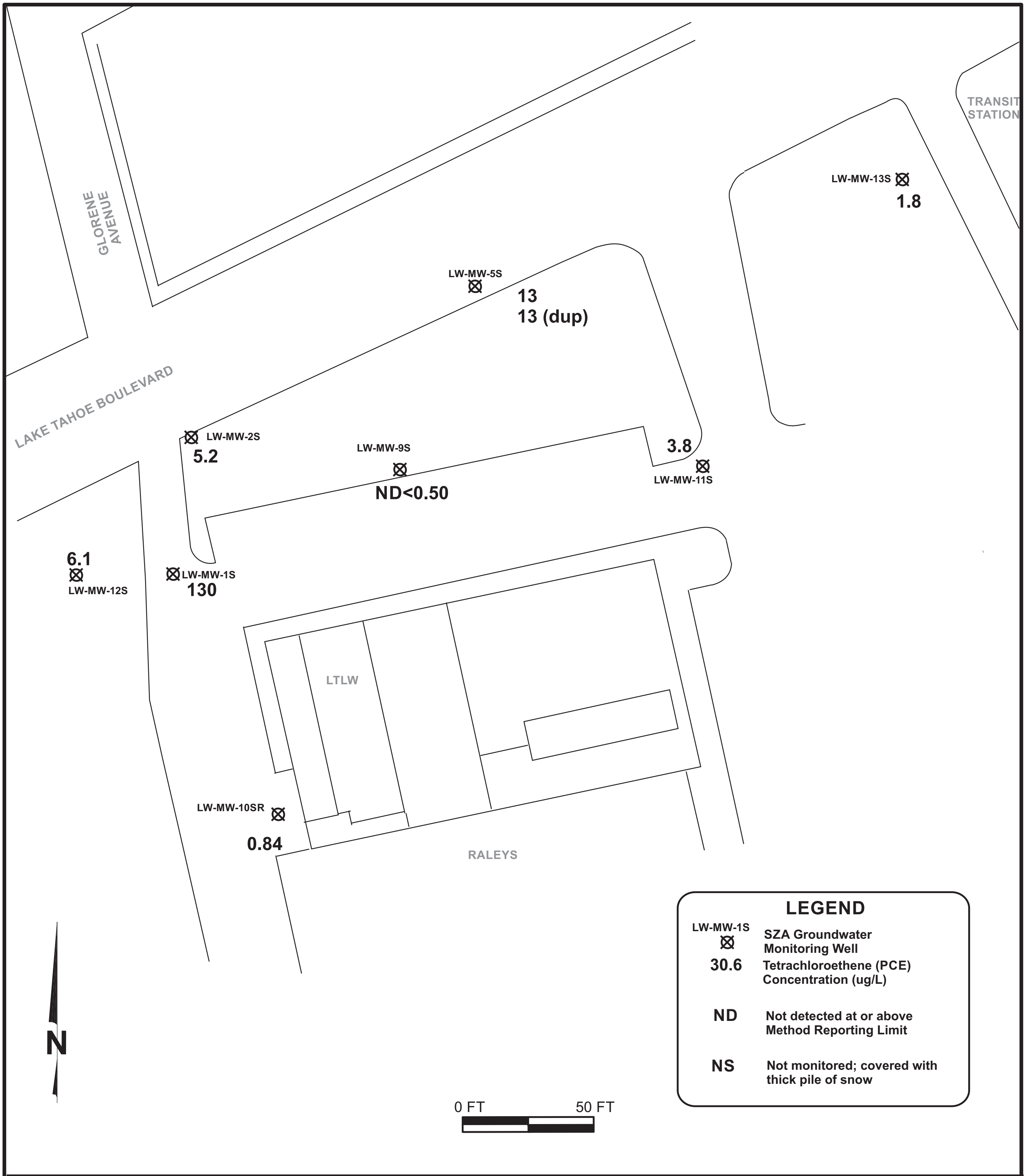
SECOND QUARTER 2014
GROUNDWATER GRADIENT PLOT

FIGURE

3



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Roseville, CA 95678

Phone: (916) 782-8700
Fax: (916) 782-8750

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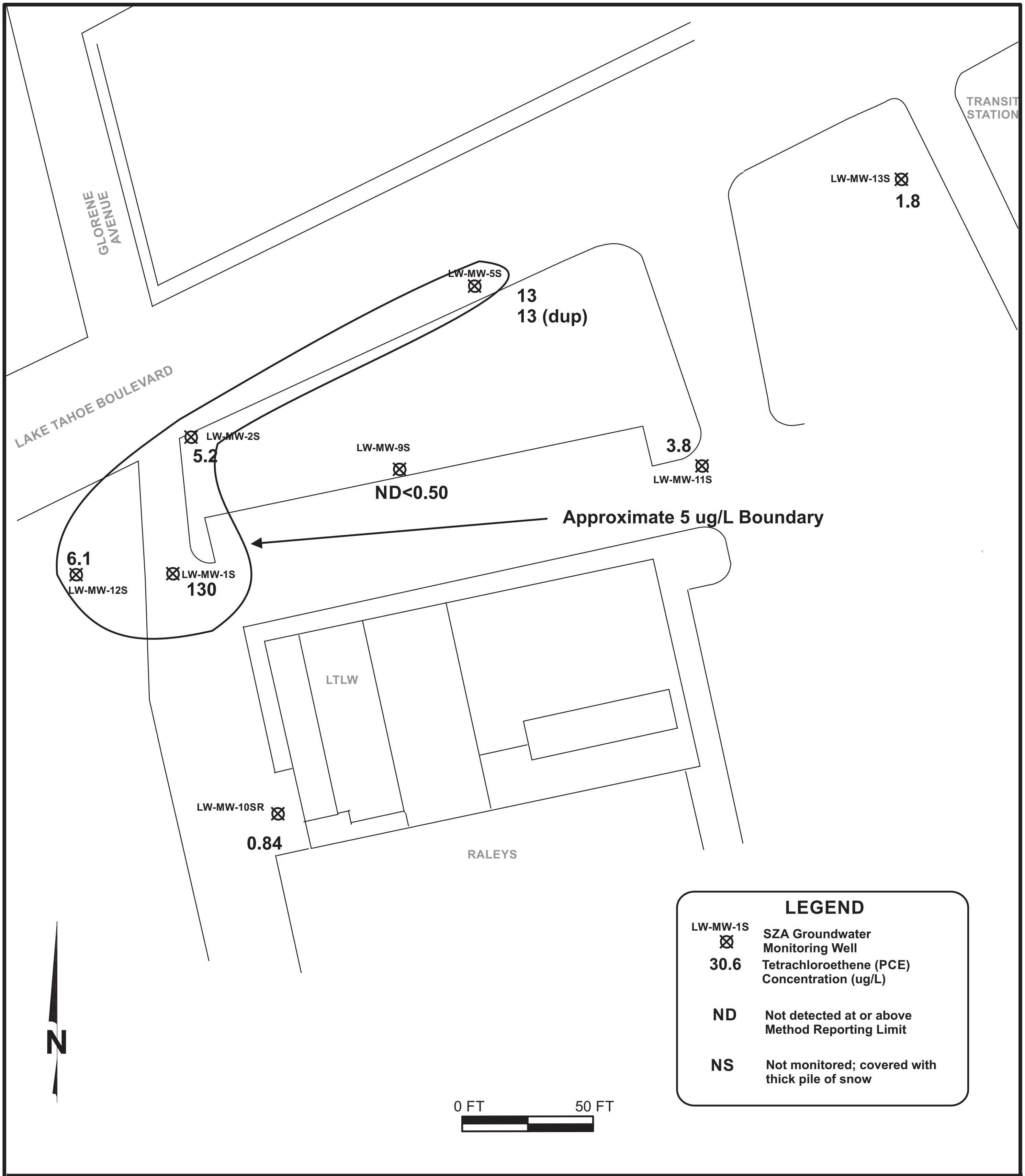
SECOND QUARTER 2014
DISSOLVED-PHASE
PCE DISTRIBUTION PLOT

FIGURE

4



E_2C Remediation

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Roseville, CA 95678

Phone: (916) 782-8700
Fax: (916) 782-8750

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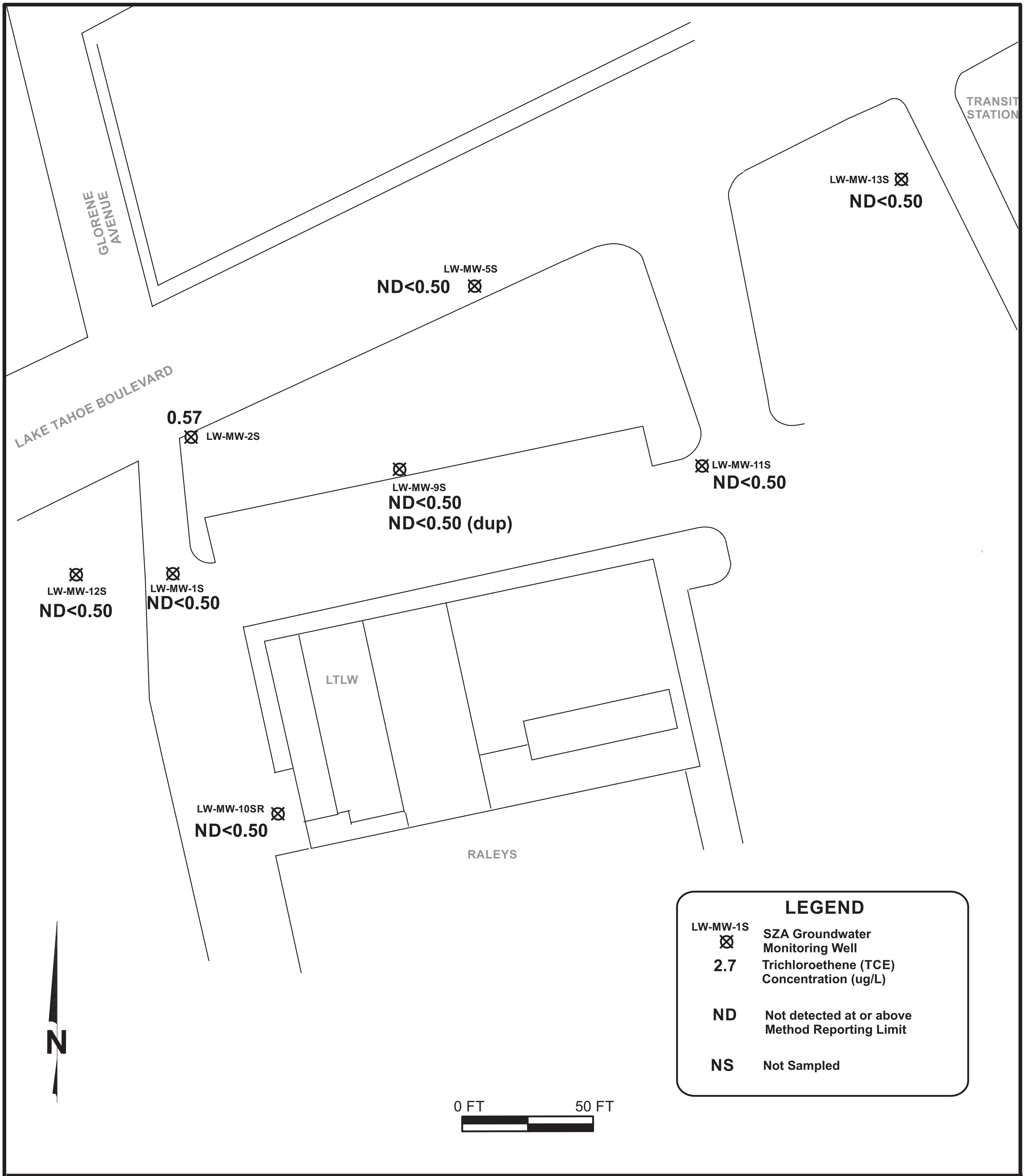
SECOND QUARTER 2014
DISSOLVED-PHASE
PCE 5 ug/L PLOT

FIGURE

4A



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Roseville, CA 95678

Phone: (916) 782-8700
Fax: (916) 782-8750

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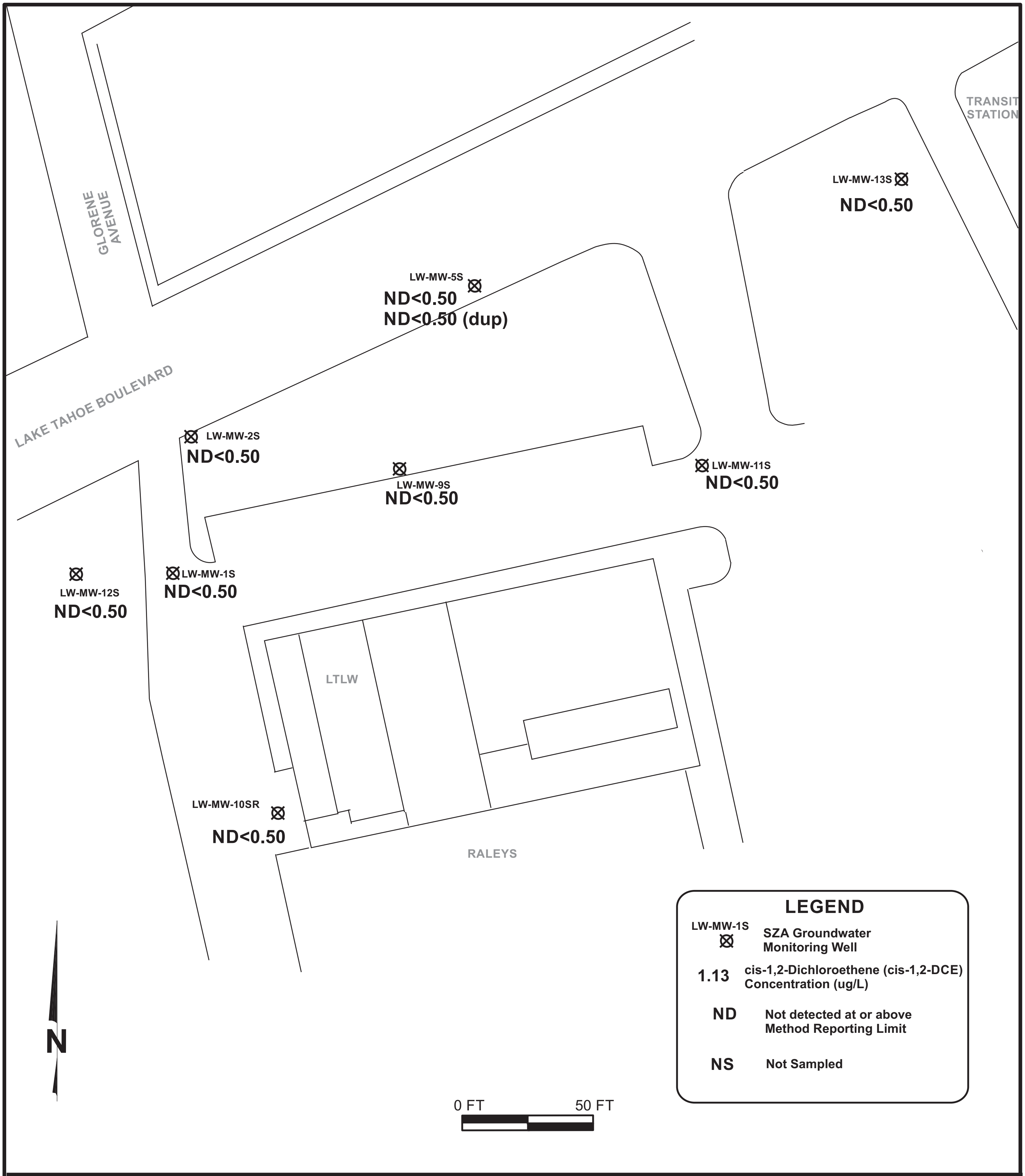
SECOND QUARTER 2014
DISSOLVED-PHASE
TCE DISTRIBUTION PLOT

FIGURE

5



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Roseville, CA 95678

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Fax: (916) 782-8750

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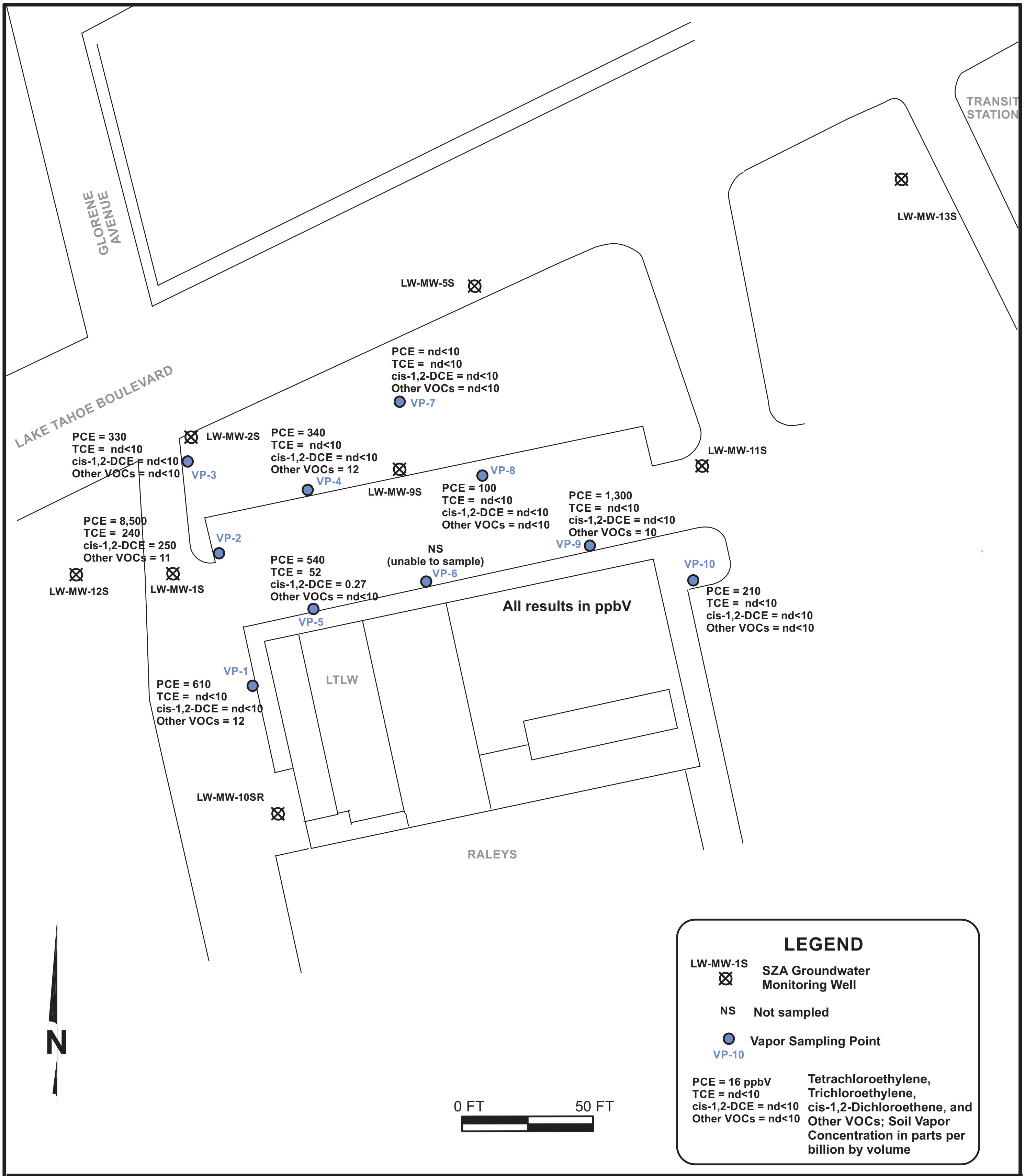
SECOND QUARTER 2014
DISSOLVED-PHASE
cis-1,2-DCE DISTRIBUTION PLOT

FIGURE

6



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1020 Winding Creek Rd., #110
Roseville, CA 95678

Phone: (916) 782-8700
Fax: (916) 782-8750

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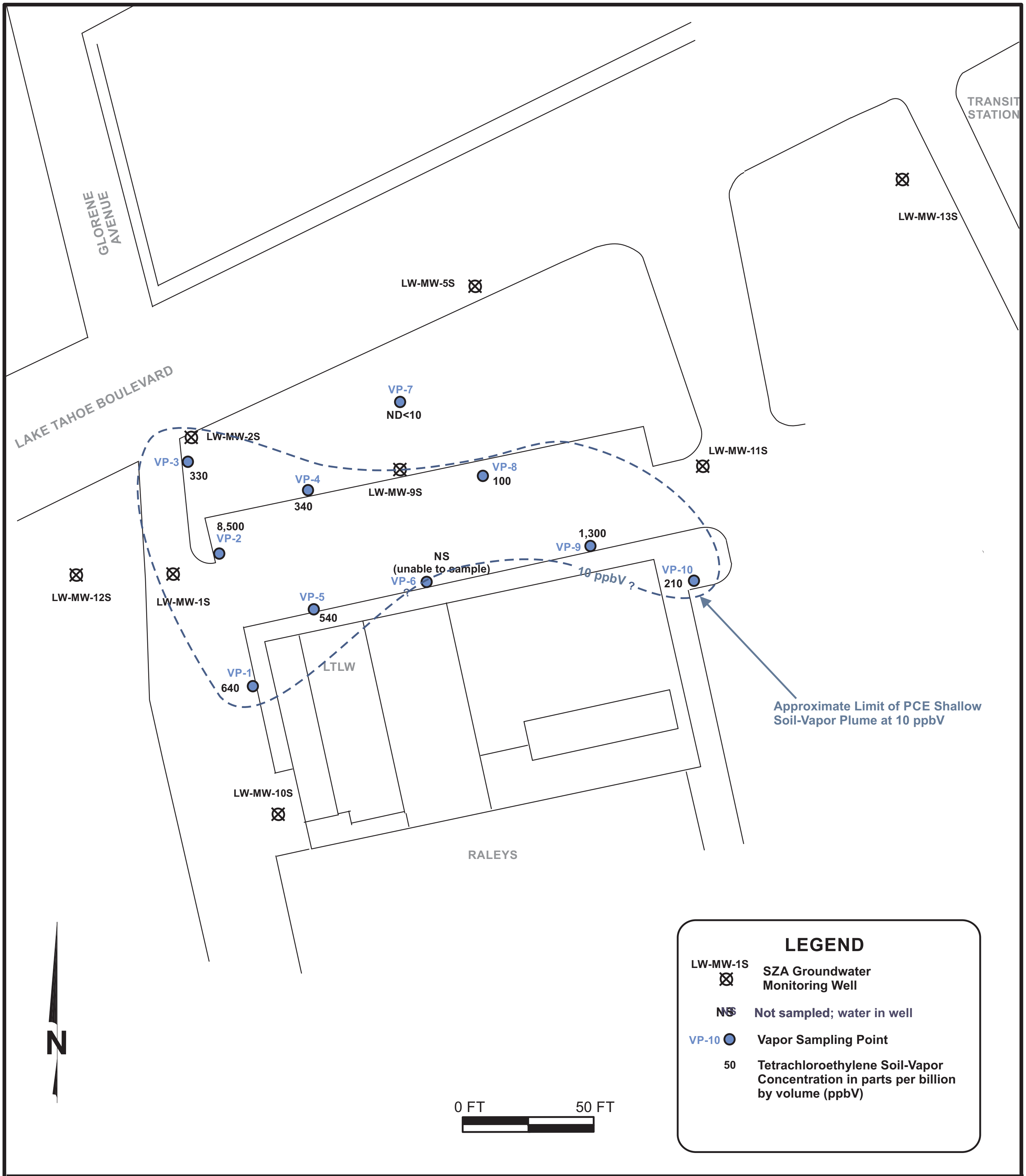
SECOND QUARTER 2014
SHALLOW SOIL VAPOR
DISTRIBUTION PLOT

FIGURE

7A



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Roseville, CA 95678

Phone: (916) 782-8700
Fax: (916) 782-8750

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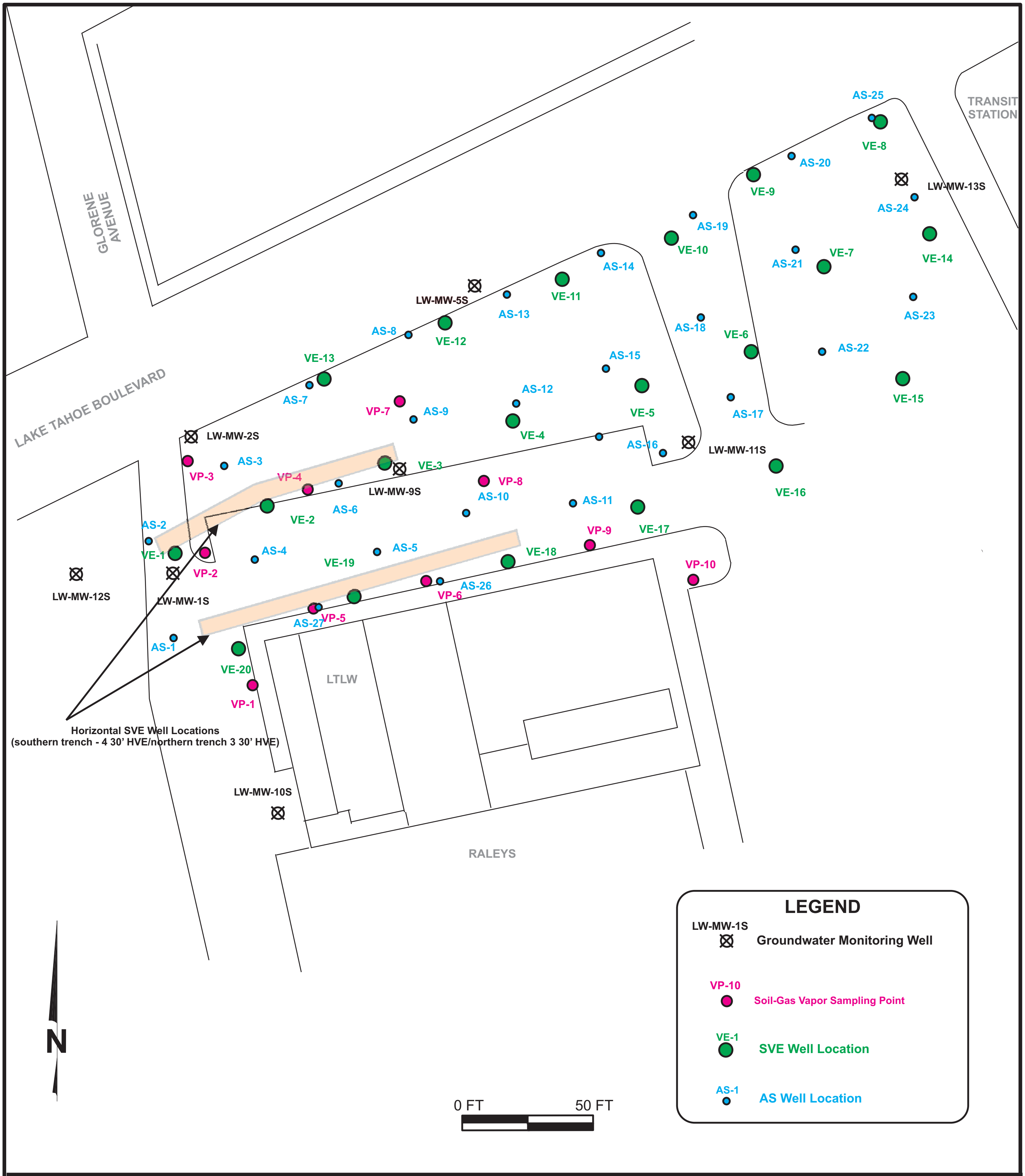
SOUTH LAKE TAHOE, CALIFORNIA

SECOND QUARTER 2014
SHALLOW SOIL VAPOR PCE
DISTRIBUTION PLOT

FIGURE

7B



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1020 Winding Creek Rd, #110
Roseville, CA 95678

Phone: (916) 782-8700
Fax: (916) 782-8750

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REMEDIATION WELL LOCATION PLOT

FIGURE

8

TABLES

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.**	**Depth to GW**	**GW Elevation**	**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**
	(feet rel MSL)	**(feet BTOC)**	**(feet MSL)**	**(µg/L)**																
LW-MW-1S	6,191.41	12.30	6,179.11	**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
LW-MW-2S	6,192.41	15.40	6,177.01	**5.2**	**0.57**	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	**13**	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			**13**	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	**0.84**	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	**1.9**	nd<0.50	nd<0.50	nd<0.50
LW-MW-11S	6,191.67	12.80	6,178.87	**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	**1.1**	nd<0.50	nd<0.50	nd<0.50
LW-MW-12S	6,190.71	11.32	6,179.39	**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
LW-MW-13S	6,190.82	12.46	6,178.36	**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	**0.63**	nd<0.50	nd<0.50	nd<0.50
OS-1	6,188.12	12.71	6,175.41	**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

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-Trichlorethane
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 = Ethlybenzene

LW-MW-14 is the duplicate of LW-MW-10SR 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	-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

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-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

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-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

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
	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

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-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

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-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	**31.0**	nd<0.50	nd<0.50	nd<0.50	na	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	na	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	**0.731**	na	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	**4.07**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	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	**3.14**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	12/16/10	**21.3**	**1.09**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**376**	**11.7**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**5.04**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	09/29/11	**100**	**14**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	**51**	nd<0.50	nd<0.50	**4.6**	nd<0.50	nd<0.50	nd<0.50	**1.6**	nd<0.50	nd<0.50	nd<0.50
	12/09/11	**63.8**	**7.67**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**1.89**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	duplicate	**74.4**	**8.61**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**2.41**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	03/29/12	**23.2**	**3.18**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**1.09**	nd<0.500	**2.14**	nd<0.500	**1.47**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/08/12	**84.8**	**6.94**	nd<0.500	nd<0.500	nd<0.500	**2.69**	nd<0.500	nd<0.500	nd<0.500	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	**44.1**	**3.22**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**1.67**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	CLS-Split	**48**	**2.70**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**1.20**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	CRWQCB	**20.8**	**2.30**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**1.10**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	11/19/12	**1.38**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**0.877**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	03/11/13	**1.11**	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
	07/30/13	**67**	**2.5**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**1.1**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/30/13	**86**	**2.2**	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	**33**	**0.57**	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	**33**	**0.85**	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	**6.2**	**0.90**	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	**5..2**	**0.57**	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	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	**2.00**	nd<0.50	nd<0.50	nd<0.50	na	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	na	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	**38.2**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**0.778**	na	**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	**29.0**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	09/08/10	**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	**1.07**	nd<0.500	na	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	nd<0.500	nd<0.500	na	nd<0.500
	12/16/10	not sampled; covered with 5 feet of snow																
	05/11/11	**625**	**2.74**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**1.13**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	09/29/11	**750**	**14**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	**44**	**0.19**	nd<0.50	**8.4**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
	duplicate	**600**	**13**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	**37**	nd<0.50	nd<0.50	**6.7**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
	12/09/11	**964**	**23.6**	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
	03/29/12	**225**	**4.81**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**2.23**	nd<0.500	**4.04**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	06/08/12	**931**	**37.6**	nd<0.500	nd<0.500	nd<0.500	**37.8**	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
	08/21/12	**5.06**	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
	CLS-Split	**6.2**	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
	CRWQCB	**3.1**	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
	11/19/12	**6.99**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**3.72**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	duplicate	**2.57**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**59**	**1.7**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**0.93**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500
	09/30/13	**81**	**2.1**	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	**150**	**2.1**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	**0.82**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50
	03/06/14	**2.6**	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
	06/26/14	**13**	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	**13**	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

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Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
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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	**324**	**12.7**	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	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	**7.78**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	06/15/10	**162**	**7.57**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	na	nd<0.500
	duplicate	**172**	**8.04**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	na	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	na	nd<0.500
	12/16/10	**89.8**	**4.64**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**17.4**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	duplicate	**89.6**	**4.51**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**18.4**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	na	nd<0.500
	05/11/11	**30.6**	**0.509**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**64**	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	**7.64**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**1.15**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**0.66**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**0.596**	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
	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	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**5.3**	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
	09/30/13	**4.9**	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	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	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	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-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	na	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	na	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	na	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	na	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	na	nd<0.500
	12/16/10	**7.57**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**2.09**	nd<0.500	na	nd<0.500
	05/11/11	**8.59**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**4.93**	nd<0.500	na	nd<0.500
	09/29/11	**13**	**0.18**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	**56**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	nd<0.50	**0.32**	nd<0.50	nd<0.50	nd<0.50
	12/09/11	**6.82**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**1.42**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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	**3.56**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**3.08**	nd<0.500	nd<0.500	nd<0.500
	08/21/12	**2.02**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	**4.45**	nd<0.500	nd<0.500	nd<0.500
	11/19/12	**WELL FOUND TO BE DESTROYED ON ATTEMPT TO MONITOR**																
LW-MW-10SR	07/30/13	**0.89**	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	**3.7**	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	**4.1**	nd<0.50	nd<2.0	nd<0.50
	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	**4.3**	nd<0.50	nd<2.0	nd<0.50
	12/10/13	**0.65**	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	**3.4**	nd<0.50	nd<0.50	nd<0.50
	03/06/14	**1.4**	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	**0.62**	nd<0.50	nd<0.50	nd<0.50
	duplicate	**1.5**	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
	06/26/14	**0.84**	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	**1.9**	nd<0.50	nd<0.50	nd<0.50

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-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	**36**	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	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	**0.547**	nd<0.500	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	**3.97**	nd<0.500	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	**2.4**	nd<0.500	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	**2.0**	nd<0.50	nd<2.0	nd<0.50
	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	**2.0**	nd<0.50	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	**0.70**	nd<0.50	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	**1.1**	nd<0.50	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	**105**	**0.651**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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
	duplicate	**95.4**	**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	na	nd<0.500
	09/29/11	**23**	**0.35**	nd<0.50	nd<0.50	nd<0.50	nd<0.50	**54**	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<0.50	nd<2.0	nd<0.50
	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

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	**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	**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
	duplicate	**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
	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	**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<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
	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	**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	**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
	duplicate	**11.20**	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	nd<0.500	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
	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<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
	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
	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

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-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

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^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**
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^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**
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**	**3,573**	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	**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	**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	unable to sample - water in well									
	5/11/11	unable to sample - water in well									
	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	**Unable to collect sample; well covered with snow**									
	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	**Sample Collected - Sample Holding Time Expired, not analyzed**									
	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	unable to sample - water in well									
	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	**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	**3,700**	**25,000**	**480**	**25,776**	**2,500**	**9,900**	nd<13	nd<74	**505**	nc
	12/10/13	**Not Sampled - not accessible**									
	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^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)
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	nc
	12/9/11	**1.44**	**9.8**	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	3/29/12	**1.77**	**12.0**	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	6/8/12	**39.3**	**266.5**	nd<1.0	nd<5.37	**4.95**	**20**	nd<1.0	nd<5.61	**5.85**	nc
	9/13/12	**50**	**339.0**	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	**93**	**631**	**6.3**	**338**	**21**	**83**	nd<1.3	nd<7.5	**61.5**	nc
	12/10/13	nd<10	nd<67.8	nd<10	nd<53.7	nd<10	nd<39.6	nd<10	nd<56.1	**11**	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	**64**	**433.9**	nd	nd	nd	nd	nd	nd	nd	nc
	12/16/10	**32**	**217.0**	nd	nd	nd	nd	nd	nd	**247**	nc
	5/11/11	**73**	**494.9**	nd	nd	nd	nd	nd	nd	nd	nc
	9/29/11	**2.0**	**13.6**	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	**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	nc
	6/8/12	**125**	**847.5**	nd<1.0	nd<5.37	nd<1.0	nd<3.96	nd<1.0	nd<5.61	nd	nc
	9/13/12	**60**	**406.8**	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	**5.03**	**34.1**	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	**110**	**746**	nd<1.3	nd<6.8	**2.5**	**10**	nd<1.3	nd<7.1	**27.2**	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^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**	**(ppbV)**	**(ug/m^3)**
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

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^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)

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^3 = 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		Tetrahydrofuran		Chloroform		Ethanol		Acetone		MC		Benzene		Toluene		Ethylbenzene		Total Xylenes		4-Ethyltoluene		1,3,5-TMB		1,2,4-TMB		Naphthalene	
		(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)
VP-1	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	5/11/11	unable to sample - water in well																																					
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	nd<1.0	nd<3.77	nd<1.0	nd<4.34	nd<1.0	nd<4.34	**4.59**	**22.56**	nd<1.0	nd<4.91	nd<1.0	nd<4.91	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**Unable to collect sample; well tubing filled with ice**																																					
	2/14/13	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/25/13	**Sample Collected - Sample Holding Time Expired, Not Analyzed**																																					
	9/30/13	na	na	nd<1.2	nd<3.1	nd<1.2	nd<4.23	na	na	nd<1.2	nd<4.8	nd<1.2	nd<6.6	**1.4**	**4.0**	nd<1.2	nd<5.9	**5.0**	**9.4**	**15**	**36**	**13**	**44**	nd<1.2	nd<3.8	nd<1.2	nd<4.5	nd<1.2	nd<5.2	**1.3**	**5.7**	nd<1.2	nd<5.9	nd<1.2	nd<5.9	nd<1.2	nd<5.9	na	na
	12/10/13	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	**18**	**63**	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	3/6/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	**11**	**27**	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	**12**	**62.9**
VP-2	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**186**	**1,015**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	5/11/11	unable to sample - water in well																																					
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	**87.8**	**478.7**	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	**33.9**	**86.6**	nd<1.0	nd<3.52	nd<1.0	nd<2.46	**459**	**2,470**	**405**	**2,210**	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	nd<1.0	nd<3.77	**7.26**	**31.5**	**91.2**	**396**	**133**	**652**	**35.4**	**174**	**137**	**673**	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	**108**	**589**	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	nd<1.0	nd<3.77	nd<1.0	nd<4.34	**50**	**217**	**50**	**246**	nd<1.0	nd<4.91	nd<1.0	nd<4.91	nd<10	nd<52.4
	11/19/12	**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	na	na	**1,500**	**3,800**	nd<660	nd<2,300	na	na	nd<660	nd<2,600	nd<660	nd<3,600	nd<660	nd<1,900	nd<660	nd<3,200	nd<2,600	nd<5,000	nd<6,600	nd<16,000	nd<6,660	nd<66,000	**nd<660**	**nd<2,100**	**1,200**	**2,500**	nd<660	nd<2,900	nd<660	nd<2,900	nd<660	nd<3,200	nd<660	nd<3,200	nd<660	nd<3,200	na	na
	12/10/13	**Not Sampled - not accessible**																																					
	3/6/14	**Not Sampled - not accessible**																																					
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
VP-3	4/9/10	unable to sample - water in well																																					
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	unable to sample - water in well																																					
	5/11/11	unable to sample - water in well																																					
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	**1.98**	**10.8**	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	**3.18**	**17.3**	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	nd<1.0	nd<3.77	nd<1.0	nd<4.34	**10.9**	**47.3**	**17.0**	**83.6**	**3.84**	**18.9**	**17.3**	**85**	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**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	na	na	nd<26	nd<66	nd<26	nd<91	na	na	nd<26	nd<100	nd<26	nd<140	nd<26	nd<76	nd<26	nd<120	nd<100	nd<190	nd<260	nd<610	nd<260	nd<900	nd<26	nd<82	nd<26	nd<97	nd<26	nd<110	nd<26	nd<110	nd<26	nd<130	nd<26	nd<130	nd<26	nd<130	na	na
	12/10/13	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	3/6/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4

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		Tetrahydrofuran		Chloroform		Ethanol		Acetone		MC		Benzene		Toluene		Ethylbenzene		Total Xylenes		4-Ethyltoluene		1,3,5-TMB		1,2,4-TMB		Naphthalene	
		(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)
VP-4	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	unable to sample - water in well																																							
	5/11/11	unable to sample - water in well																																							
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**Unable to collect sample; well covered with snow**																																							
	2/14/13	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/25/13	**Sample Collected - Sample Holding Time Expired, Not Analyzed**																																							
	9/30/13	na	na	nd<17	nd<44	nd<17	nd<61	na	na	nd<17	nd<68	nd<17	nd<94	nd<17	nd<51	nd<17	nd<84	nd<69	nd<130	nd<170	nd<410	nd<170	nd<600	nd<17	nd<55	**21**	**78**	nd<17	nd<75	nd<17	nd<75	nd<17	nd<84	nd<17	nd<84	nd<17	nd<84	na	na
	12/10/13	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	3/6/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	**12**	**41.6**	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
VP-5	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	5/11/11	unable to sample - water in well																																							
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	**15.8**	**86.15**	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	**23.3**	**87.8**	**9.3**	**40.4**	**101**	**438**	**77.1**	**379**	**24.2**	**120**	**96.9**	**476**	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	**23.0**	**125.5**	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	nd<1.0	nd<3.52	nd<1.0	nd<2.46	nd<1.0	nd<3.96	**40.0**	**218.0**	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**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	na	na	nd<13	nd<34	nd<13	nd<46	na	na	nd<13	nd<52	nd<13	nd<72	nd<13	nd<39	nd<13	nd<64	nd<53	nd<99	nd<130	nd<310	nd<130	nd<460	nd<13	nd<42	nd<13	nd<50	nd<13	nd<57	nd<13	nd<57	nd<13	nd<65	nd<13	nd<65	nd<13	nd<65	na	na
	12/10/13	**Not Sampled - not accessible**																																							
	3/6/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
VP-6	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/8/12	**5.85**	**20.55**	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**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 Comprimised, Not Analyzed**																																							
	9/30/13	na	na	nd<1.3	nd<3.4	nd<1.3	nd<4.7	na	na	nd<1.3	nd<5.3	nd<1.3	nd<7.3	nd<1.3	nd<3.9	nd<1.3	nd<6.5	**15**	**28**	**29**	**69**	nd<130	nd<460	**1.6**	**5.2**	**1.5**	**5.8**	nd<1.3	nd<5.8	**1.9**	**8.3**	nd<1.3	nd<6.6	nd<1.3	nd<6.6	nd<1.3	nd<6.6	na	na
	12/10/13	nd<1.0	nd<3.52	nd<1.0	nd<2.56	nd<1.0	nd<3.52	**11**	**27**	nd<10	nd	nd<10	nd	nd<10	nd	nd<10	nd	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	nd	nd	nd	nd	nd	nd	**247**	**607.15**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**Unable to collect sample; well box filled with ice**																																							
	2/14/13	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/25/13	**Sample Collected - Sample Holding Time Expired, Not Analyzed**																																							
	9/30/13	na	na	nd<1.3	nd<2.8	nd<1.3	nd<2.4	na	na	nd<1.3	nd<5.0	nd<1.3	nd<6.9	nd<1.3	nd<6.7	nd<1.3	nd<6.2	**9.2**	**17**	**18**	**44**	nd<1.3	nd<44	nd<1.3	nd<4.0	nd<1.3	nd<4.8	nd<1.3	nd<5.5	nd<1.3	nd<5.5	nd<1.3	nd<6.2	nd<1.3	nd<6.2	nd<1.3	nd<6.2	na	na
	12/10/13	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	3/6/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4

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		Tetrahydrofuran		Chloroform		Ethanol		Acetone		MC		Benzene		Toluene		Ethylbenzene		Total Xylenes		4-Ethyltoluene		1,3,5-TMB		1,2,4-TMB		Naphthalene	
		(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)	(ppbV)	(ug/m^3)
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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	**3.33**	**11.7**	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**Unable to collect sample; well box filled with ice**																																					
	2/14/13	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/25/13	**Sample Collected - Sample Holding Time Expired, Not Analyzed**																																					
	9/30/13	na	na	nd<2.2	nd<5.5	nd<2.2	nd<7.6	na	na	nd<2.2	nd<8.6	nd<2.2	nd<12	nd<2.2	nd<6.4	**2.9**	**14**	**13**	**25**	**41**	**98**	nd<22	nd<75	**8.7**	**28**	**30**	**110**	**3.5**	**15**	**25.6**	**110**	**4.9**	**24**	nd<2.2	nd<11	**4.1**	20	na	na
	12/10/13	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	**12**	**29**	**13**	**45**	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	3/6/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	**27**	**66**	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	nd	nd	nd	nd	nd	nd	**111**	**272.8**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	**15**	**52.8**	nd<1.0	nd<2.46	nd<1.0	nd<3.96	nd<1.0	nd<5.45	nd<1.0	nd<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**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	na	na	nd<12	nd<32	nd<12	nd<44	na	na	nd<12	nd<49	nd<12	nd<68	nd<12	nd<36	nd<12	nd<60	nd<50	nd<93	nd<120	nd<290	nd<120	nd<430	nd<12	nd<40	nd<12	nd<47	nd<12	nd<54	nd<12	nd<54	nd<12	nd<61	nd<12	nd<61	nd<12	nd<61	na	na
	12/10/13	nd<10	nd<35.2	nd<10	nd<25.6	**11**	**39**	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	**12**	**45**	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	3/6/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	**10**	**52.4**
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	**10**	**52.4**
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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	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	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	12/16/10	nd	nd	nd	nd	nd	nd	**183**	**449.8**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	5/11/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	na
	9/29/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	na	na
	12/9/11	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	3/29/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/8/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	8/21/12	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<10	nd<52.4
	11/19/12	**Unable to collect sample; well box filled with ice**																																					
	2/14/13	nd<1.0	nd<3.52	nd<1.0	nd<2.56	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<2.95	nd<1.0	nd<4.88	nd<1.0	nd<1.88	nd<1.0	nd<2.375	nd<1.0	nd<3.47	nd<1.0	nd<3.95	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	nd<1.0	nd<5.24
	6/25/13	**Sample Collected - Sample Holding Time Expired, Not Analyzed**																																					
	9/30/13	na	na	nd<2.5	nd<6.4	nd<2.5	nd<8.9	na	na	nd<2.5	nd<10	nd<2.5	nd<140	nd<2.5	nd<7.4	**3.0**	**15**	nd<10	nd<19	nd<25	nd<60	nd<25	nd<88	nd<2.5	nd<8.0	**4.8**	**18**	nd<2.5	nd<11	**5.4**	**24**	nd<2.5	nd<12	nd<2.5	nd<12	nd<2.5	nd<12	na	na
	12/10/13	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd	**13**	**45**	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	3/6/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	**18**	**43**	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4
	6/26/14	nd<10	nd<35.2	nd<10	nd<25.6	nd<10	nd<35.2	nd<10	nd<24.6	nd<10	nd<39.6	nd<10	nd<54.5	nd<10	nd<29.5	nd<10	nd<48.8	na	na	nd<10	nd<23.75	nd<10	nd<34.7	nd<10	nd<39.5	nd<10	nd<37.7	nd<10	nd<43.4	nd<10	nd<43.4	nd<10	nd<49.2	nd<10	nd<49.1	nd<10	nd<49.1	nd<10	nd<52.4

Notes:

1,1-DCE = 1,1-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
MC` = Methylene Chloride
na = not analyzed for this compound
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^3 = micrograms per cubic meter

Notes: 6/8/12- Ethyl Acetate= 2.63 ppbV; 1,1-dichloroethane= 3.12 ppbV (VP-8)

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-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

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-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

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-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		Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted (lbs)
						System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total	
						(in-Hg)			(ppmV)	(ppmV)	(ppmV)				(lbs/hr)				
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 (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent (ppmV)				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	
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	0.00	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	Vacuum		Influent Oxygen Content	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted
						System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total	
					(scfm)	(in-Hg)		(%)	(ppmV)	(ppmV)	(ppmV)				(lbs/hr)				(lbs)
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	n m	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 (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent (ppmV)				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	
											Average Extraction Rate (Lbs/Hr)				0.031	0.00066	0.00055	0.032	

Notes: **System shut down for ozone sparging on 11/30/12; system restarted on 11/5/13 per CRWQCB directive, dated 11/1/13**

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

-- = 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)

** = 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
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

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 (in-Hg)		Influent Oxygen Content (%)	Field Vapor Total VOCs		Lab Vapor Influent (ppmV)				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	

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-plumed 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, recorde 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-pressxure in GAC; restsarted, 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-presxsure in GAC; restarted, recorded parameters; had to leave off, could not keep running

6/26/14 - System off on arrival, same back-presxsure problem; restart and record measurements; left off on departure

8/4/14 - Replumbed to discharge directly to atmosphere; restarted syhstem; cleaned compound

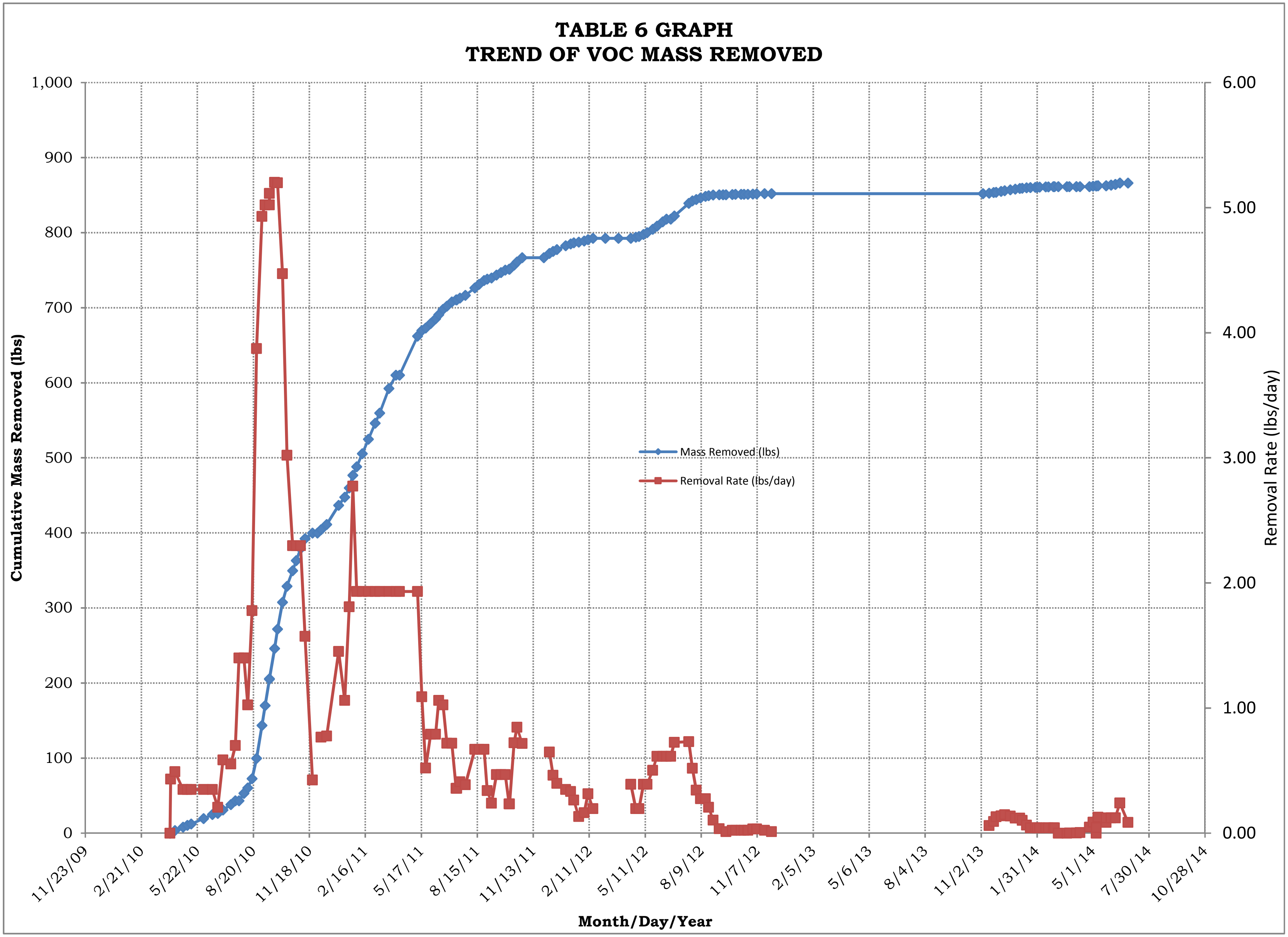


TABLE 6 GRAPH
TREND OF VOC MASS REMOVED
Cumulative Mass Removed (lbs)
Removal Rate (lbs/day)
Month/Day/Year
Mass Removed (lbs)
Removal Rate (lbs/day)
1,000
900
800
700
600
500
400
300
200
100
0
6.00
5.00
4.00
3.00
2.00
1.00
0.00
11/23/09
2/21/10
5/22/10
8/20/10
11/18/10
2/16/11
5/17/11
8/15/11
11/13/11
2/11/12
5/11/12
8/9/12
11/7/12
2/5/13
5/6/13
8/4/13
11/2/13
1/31/14
5/1/14
7/30/14
10/28/14

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
4/6/10	varying well configurations																																													
4/7/10	varying well configurations																																													
4/8/10	varying well configurations																																													
4/9/10	varying well configurations																																													
4/16/10	O	O	O	O	O	O	O	O	O	PO	O	PO	O	O	O	O	O	O	O	O	O	O	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
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
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
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
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
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
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
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
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	C	O	C	C	1/2	O	1/2	1/2	C	1/2	C	C	O	0	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	C	O	C	C	1/2	O	1/2	1/2	C	1/2	C	C	O	0	O	O	O	O	O
8/5/10	1/2	1/2	1/2	1/2	1/2	O	O	O	O	O	1/2	1/2	1/2	O	C	C	1/2	C	C	C	C	C	C	C	O	O	O	C	O	O	O	C	O	C	1/2	C	1/2	C	O	O	0	O	1/2	1/2	O	O
8/11/10	1/2	1/2	1/2	1/2	1/2	O	O	O	O	O	1/2	1/2	1/2	O	C	C	1/2	C	C	C	C	C	C	C	O	O	O	C	O	O	O	C	O	C	1/2	C	1/2	C	O	O	0	O	1/2	1/2	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	1/2	1/2	O	C	C	C	C	O	1/2	O	O	O	O	1/2	1/2	O	C	O	C
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	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	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	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	C	1/2	1/2	O	1/2	C	C	C	C	C	C	1/2	1/2	O	1/2	C	1/2	C	20%	O	O	O	O
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	C	1/2	1/2	O	1/2	C	C	C	C	C	C	C	C	O	C	C	1/2	C	C	O	O	O	O
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	C	1/2	1/2	O	1/2	C	C	C	C	C	1/2	C	C	O	C	C	1/2	C	C	O	O	O	O
10/13/10	20%	1/2	20%	O	20%	1/2	C	20%	20%	O	20%	1/2	10%	O	C	C	C	C	C	C	C	C	C	C	20%	20%	20%	1/2	20%	20%	C	20%	O	O	20%	20%	20%	20%	20%	20%	C	10%	20%	C	O	20%
10/28/10	1/2	1/2	1/2	O	1/2	1/2	C	O	20%	O	1/2	O	20%	C	C	C	C	C	C	C	C	C	C	C	1/2	1/2	20%	20%	20%	1/2	C	20%	O	O	O	O	O	O	1/2	20%	C	C	1/2	C	1/2	20%
11/4/10	1/2	1/2	1/2	O	1/2	1/2	C	O	20%	O	1/2	O	20%	C	C	C	C	C	C	C	C	C	C	C	1/2	1/2	20%	20%	20%	1/2	C	20%	O	O	O	O	O	O	1/2	20%	C	C	1/2	C	1/2	20%
11/11/10	1/2	1/2	1/2	O	1/2	1/2	C	O	20%	O	1/2	O	20%	C	C	C	C	C	C	C	C	C	C	C	1/2	1/2	20%	20%	20%	1/2	C	20%	O	O	O	O	O	O	1/2	20%	C	C	1/2	C	1/2	20%
11/23/10	1/2	1/2	1/2	O	1/2	1/2	C	O	20%	O	1/2	O	20%	C	C	C	C	C	C	C	C	C	C	C	1/2	1/2	20%	20%	20%	1/2	C	20%	O	O	O	O	O	O	1/2	20%	C	C	1/2	C	1/2	20%
12/1/10	1/2	1/2	1/2	O	1/2	1/2	C	O	20%	O	1/2	O	20%	C	C	C	C	C	C	C	C	C	C	C	1/2	1/2	20%	20%	20%	1/2	C	20%	O	O	O	O	O	O	1/2	20%	C	C	1/2	C	1/2	20%
12/7/10	1/2	1/2	1/2	O	1/2	1/2	C	O	20%	O	1/2	O	20%	C	C	C	C	C	C	C	C	C	C	C	1/2	1/2	20%	20%	20%	1/2	C	20%	O	O	O	O	O	O	1/2	20%	C	C	1/2	C	1/2	20%
12/16/10	1/2	1/2	1/2	O	1/2	1/2	C	O	20%	O	1/2	O	20%	C	C	C	C	C	C	C	C	C	C	C	1/2	1/2	20%	20%	20%	1/2	C	20%	O	O	O	O	O	O	1/2	20%	C	C	1/2	C	1/2	20%
1/4/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
1/14/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
1/27/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
2/2/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
2/21/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
3/4/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
3/11/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
3/26/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
4/6/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	O
4/12/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
5/11/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
5/18/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6/1/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6/9/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6/14/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6/21/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6/27/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
7/5/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
7/12/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
7/13/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
7/27/11	O	O	O	O	O	O	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C
8/11/11	O	O	O	O	O	O	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C
8/18/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
8/26/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
8/31/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
9/7/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
9/15/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
9/22/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
9/29/11	C	C	C	C	C	C	O	C	O	C	C	C	O	C	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	C	C	C	C	C	C	C	O	C	O	C	O	C	O	C
10/5/11	System off on arrival and left off due to high water																																													
10/13/11	C	C	C	C	C	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C
10/18/11	C	C	C	C	C	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C
11/30/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	50%	C	C	50%	50%	50%	50%	50%	O	O	C	O	O	O	O	O	50%	50%	C	C	C	C	O	O	O	O	O	C	O	C

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
12/9/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	50%	C	C	50%	50%	50%	50%	50%	O	O	C	O	O	O	O	O	50%	50%	C	C	C	C	O	O	O	O	O	C	O	C
12/15/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	50%	C	C	50%	50%	50%	50%	50%	O	O	C	O	O	O	O	O	50%	50%	C	C	C	C	O	O	O	O	O	C	O	C
12/21/11	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	50%	C	C	50%	50%	50%	50%	50%	O	O	C	O	O	O	O	O	50%	50%	C	C	C	C	O	O	O	O	O	C	O	C
1/4/12	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	50%	C	C	50%	50%	50%	50%	50%	O	O	C	O	O	O	O	O	50%	50%	C	C	C	C	O	O	O	O	O	C	O	C
1/12/12	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	50%	C	C	50%	50%	50%	50%	50%	O	O	C	O	O	O	O	O	50%	50%	C	C	C	C	O	O	O	O	O	C	O	C
1/17/12	25%	25%	25%	25%	10%	10%	O	O	O	25%	O	O	25%	O	25%	25%	50%	50%	O	O	50%	50%	50%	50%	O	O	50%	O	O	O	O	O	50%	50%	25%	25%	50%	50%	25%	O	O	25%	O	O	O	50%
1/25/12	25%	25%	25%	25%	10%	10%	O	O	O	25%	O	O	25%	O	25%	25%	50%	50%	O	O	50%	50%	50%	50%	O	O	50%	O	O	O	O	O	50%	50%	25%	25%	50%	50%	25%	O	O	25%	O	O	O	50%
2/3/12	25%	25%	25%	25%	10%	10%	O	O	O	25%	O	O	25%	O	25%	25%	50%	50%	O	O	50%	50%	50%	50%	O	O	50%	O	O	O	O	O	50%	50%	25%	25%	50%	50%	25%	O	O	25%	O	O	O	50%
2/9/12	25%	25%	25%	25%	10%	10%	O	O	O	25%	O	O	25%	O	25%	25%	50%	50%	O	O	50%	50%	50%	50%	O	O	50%	O	O	O	O	O	50%	50%	25%	25%	50%	50%	25%	O	O	25%	O	O	O	50%
2/17/12	25%	25%	25%	25%	10%	10%	O	O	O	25%	O	O	25%	O	25%	25%	50%	50%	O	O	50%	50%	50%	50%	O	O	50%	O	O	O	O	O	50%	50%	25%	25%	50%	50%	25%	O	O	25%	O	O	O	50%
3/8/12	25%	25%	25%	25%	10%	10%	O	O	O	25%	O	O	25%	O	25%	25%	50%	50%	O	O	50%	50%	50%	50%	O	O	50%	O	O	O	O	O	50%	50%	25%	25%	50%	50%	25%	O	O	25%	O	O	O	50%
3/29/12	25%	25%	25%	25%	10%	10%	O	O	O	25%	O	O	25%	O	25%	25%	50%	50%	O	O	50%	50%	50%	50%	O	O	50%	O	O	O	O	O	50%	50%	25%	25%	50%	50%	25%	O	O	25%	O	O	O	50%
4/18/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	PO	C	PO	C	O	C	O	C	O	C	O	C	O	C	O	C	PO	C	O	C	O	C	O	C	PO	C	PO	C	O	C	O	C
4/26/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	PO	C	PO	C	O	C	O	C	O	C	O	C	O	C	O	C	PO	C	O	C	O	C	O	C	PO	C	PO	C	O	C	O	C
5/1/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	PO	C	PO	C	O	C	O	C	O	C	O	C	O	C	O	C	PO	C	O	C	O	C	O	C	PO	C	PO	C	O	C	O	C
5/8/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	PO	C	C	C	C	C	C	C	C	C	C	C	O	C	O	C	PO	C	C	C	C	C	C	C	PO	C	PO	C	O	C	O	C
5/14/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	PO	C	C	C	C	C	C	C	C	C	C	C	O	C	O	C	PO	C	C	C	C	C	C	C	PO	C	PO	C	O	C	O	C
5/23/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	PO	C	C	C	C	C	C	C	C	C	C	C	O	C	O	C	PO	C	C	C	C	C	C	C	PO	C	PO	C	O	C	O	C
5/30/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	C	C	C	C	O	C	O	C	O	C	O	C	O	C	O	C	PO	C	O	C	O	C	O	C	C	C	PO	C	O	C	O	C
6/8/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	C	C	C	C	O	C	O	C	O	C	O	C	O	C	O	C	PO	C	C	C	C	C	C	C	C	C	PO	C	O	C	O	C
6/14/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	C	C	C	C	O	C	O	C	O	C	O	C	O	C	O	C	PO	C	C	C	C	C	C	C	C	C	PO	C	O	C	O	C
6/21/12	O	O	O	O	O	O	PO	C	PO	C	PO	C	O	C	C	C	C	C	O	C	O	C	O	C	O	C	O	C	O	C	PO	C	C	C	C	C	C	C	C	C	PO	C	O	C	O	C
6/27/12	O	O	O	O	C	C	O	C	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	C	O	C	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7/20/12	O	O	O	O	C	C	O	C	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	C	O	C	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7/26/12	O	O	O	O	C	C	O	C	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	C	O	C	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8/1/12	O	O	O	O	C	C	O	PO	O	PO	C	C	C	C	C	C	C	C	C	C	PO	C	C	PO	C	C	O	PO	O	PO	O	PO	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8/8/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	50%	C	C	50%	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8/16/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	50%	C	C	50%	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8/21/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	50%	C	C	50%	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8/28/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9/7/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9/13/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9/18/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9/28/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10/3/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10/12/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10/17/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10/23/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10/31/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11/6/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11/19/12	O	O	O	O	C	C	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	50%	O	50%	O	50%	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11/30/12	System off to start ozone sparging through AS wells																																													
11/5/13	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11/15/13	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11/22/13	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11/26/13	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12/4/13	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12/10/13	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12/19/13	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12/27/13	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
1/3/14	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
1/7/14	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
1/14/14	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
1/20/14	O	O	O	O	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	O	C	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C
1/28/14	O	O	O	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	O	C
1/31/14	O	O	O	C	C	C	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	O	O	O	O	O	O	C	C	C	C	C	C	C	C	C	C	C	C	O	C
2/4/14	O	O	O	C	C	C	O	O	O	O	O	O	O	O	C	C	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	O	O
2/14/14	O	O	O	C	C	C	O	O	O	O	O	O	O	O	C	C	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	O	O
2/18/14	O	O	O	C	C	C	O	O	O	O	O	O	O	O	C	C	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	O	O
2/26/14	O	O	O	C	C	C	O	O	O	O	O	O	O	O	C	C	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	O	O
2/28/14	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
3/6/14	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
3/20/14	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
3/24/14	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
4/4/14	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

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
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
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
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
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
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
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
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
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
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
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

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% = 2O percent open
1/2 = One-half open
1/4 = 1/4 open
C = Closed
O = Fully open
PO = Partially Open

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**
		ppmV				
Influent	4/8/10	**0.680**	**0.031**	**0.041**	nd<0.01	nd<0.01
	4/9/10 - Test 9	**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	**6.61**	**0.281**	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**
	10/6/10	**11.8**	**0.104**	**0.033**	nd<0.041	**0.112**
	11/11/10	**2.7**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/16/10	**2.18**	**0.39**	nd<0.01	nd<0.01	nd<0.01
	1/21/11	**11.30**	**0.228**	**0.028**	nd<0.025	**0.241**
	5/18/11	**0.795**	nd<0.01	nd<0.01	nd<0.01	**0.049**
	6/14/11	**4.23**	nd<0.027	nd<0.027	nd<0.027	**1.181**
	7/18/11	**0.332**	nd<0.01	nd<0.01	nd<0.01	**0.419**
	8/31/11	**0.028**	nd<0.01	nd<0.01	nd<0.01	**0.015**
	10/13/11	**2.95**	**0.187**	nd<0.01	nd<0.01	**0.0197**
	12/9/11	**1.61**	**0.024**	nd<0.01	nd<0.01	**29.6**
	1/4/12	**0.997**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	2/9/12	**1.24**	**0.0124**	nd<0.01	nd<0.01	nd<0.01
	5/14/12	**1.24**	nd<0.01	nd<0.01	nd<0.01	**0.056**
	6/27/12	**2.66**	nd<0.01	nd<0.01	nd<0.01	**0.03**
	7/26/12	**1.31**	**0.013**	nd<0.01	nd<0.01	nd<0.01
	8/21/12	**0.441**	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	**0.145**	nd<0.01	nd<0.01	nd<0.01	**0.233**
	11/30/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	11/22/13	**0.39**	nd<0.010	nd<0.010	nd<0.010	**1.7**
	12/10/13	**0.49**	nd<0.010	nd<0.010	nd<0.010	**0.09**
	1/7/14	**0.27**	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	**0.025**
	3/20/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	**0.048**
	4/10/14	**0.022**	nd<0.010	nd<0.010	nd<0.010	**0.011**
	5/9/14	**0.54**	nd<0.010	nd<0.010	nd<0.010	nd<0.010
	6/26/14	**1.0**	**0.013**	nd<0.010	nd<0.010	**0.014**
	8/4/14	**3.5**	**0.095**	**0.028**	nd<0.010	**0.017**
Operational Average		**3.056**	**0.209**	**0.513**	**0.000**	**1.796**

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**
		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	**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**
	10/6/10	**1.5**	**0.034**	nd<2.00	nd<2.00	**0.032**
	11/11/10	**2.52**	nd<2.00	nd<2.00	nd<2.00	**0.024**
	1/21/11	**1.35**	nd<0.025	nd<0.025	nd<0.025	nd<0.025
	5/18/11	**1.00**	nd<0.01	nd<0.01	nd<0.01	**0.026**
	6/14/11	**2.00**	**0.109**	**0.128**	nd<0.029	**0.626**
	7/18/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	**0.195**
	8/31/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/13/11	**0.142**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/9/11	**1.61**	**0.024**	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	**0.297**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
Operational Average		**1.811**	**0.100**	**0.144**	**0.000**	**0.201**

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
		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	**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
	10/6/10	**0.206**	nd<0.01	**0.024**	nd<0.01	nd<0.01
	11/11/10	**2.93**	**0.263**	nd<2.00	nd<0.01	**0.286**
	12/16/10	**0.948**	**0.067**	nd<2.00	nd<0.01	nd<0.01
	1/21/11	**3.68**	**0.233**	**0.081**	nd<0.027	**0.249**
	5/18/11	**0.106**	nd<0.01	nd<0.01	nd<0.01	**0.152**
	6/14/11	nd<0.029	nd<0.029	nd<0.029	nd<0.029	nd<0.029
	7/18/11	**0.187**	nd<0.01	nd<0.01	nd<0.01	**0.176**
	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	**0.633**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/27/12	**0.04**	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	**0.287**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	9/13/12	**0.346**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/31/12	**0.117**	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	**0.13**	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	**0.128**
	3/20/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	**1.5**
	4/10/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	**0.024**
	5/9/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	**0.019**
	6/26/14	**0.019**	nd<0.010	nd<0.010	nd<0.010	nd<0.010
Operational Average		**0.801**	**0.188**	**0.139**	**0.00**	**0.359**

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
		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

Date	~PCE Plume Area	Average PCE Concentration	Estimated Mass	Change
	(square feet)	(ug/L)	(pounds)	(+/-)
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:

TABLE 9B
6/26/14 - RESIDUAL PCE MASS IN SOIL-VAPOR CALCULATIONS
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Area Encompassed by all VP Wells within the 1 ppbV Plume Boundary Limit

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)	**1,328.89**	**9,009.87**	**9.010**

For conservative estimate assumes 10-foot thick soil column and Area ~ 15,100 sf

As concervative 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

Residual PCE Mass

Area in square feet (sf) - Estimated from Figure 7B	**15,100**
Impacted Column (ft)	**10**
Impacted Volume in cubic feet (cf)	**151,000**
Volume of soil gas, using 30% porosity (cf)	**45,300**
Soil gas volume in cubic meters	**1,283**
PCE in Mass in Soil Gas (µg)	**11,557,434**
PCE in Mass in Soil Gas (g)	**11.56**
PCE in Mass in Soil Gas (lbs)	**0.025**

Notes:
ppbV = parts per billion by volume
PCE = Tetrachloroethene (a.k.a. perchloroethene)
ug/L = micrograms per liter
ug/m3 = micrograms per cubic meter

TABLE 10A
SUMMARY OF RESIDUAL DISSOLVED-PHASE PCE MASS ESTIMATES
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

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)	**31.62**

For conservative estimate assumes 10-foot aquifer thickness

Residual PCE Mass

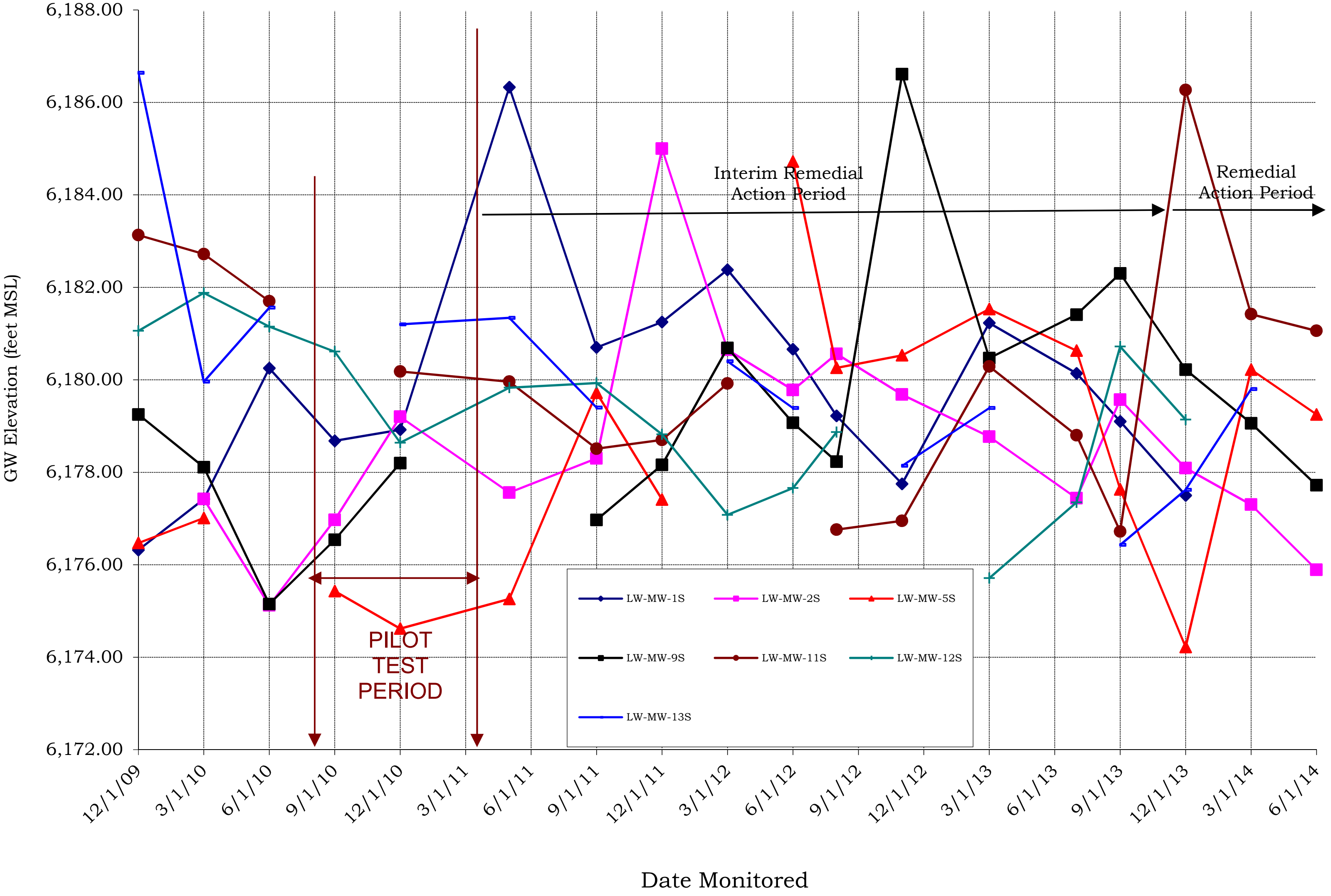
Area in square feet (sf) - From Figure 4	**2,750**	
Impacted Column (ft)	**10**	
Impacted GW Volume in cubic feet (cf)	**27,500**	multiply area by column
Aqueous volume using 30% porosity (cf)	**8,250**	
Groundwater Volume (GWV) in Liters	**233,982**	multiply GW volume (gal) by 3.78541178 liters per gal
GW PCE Mass (ug)	**7,398,523**	multiply GWV by avg concentration in ug/L
GW PCE Mass in grams (g)	**7.399**	divide by (1000 ug/mg)*1000 mg/g)
GW PCE Mass in pounds (lbs)	**0.02**	multiply by 0.00220462 lbs/g

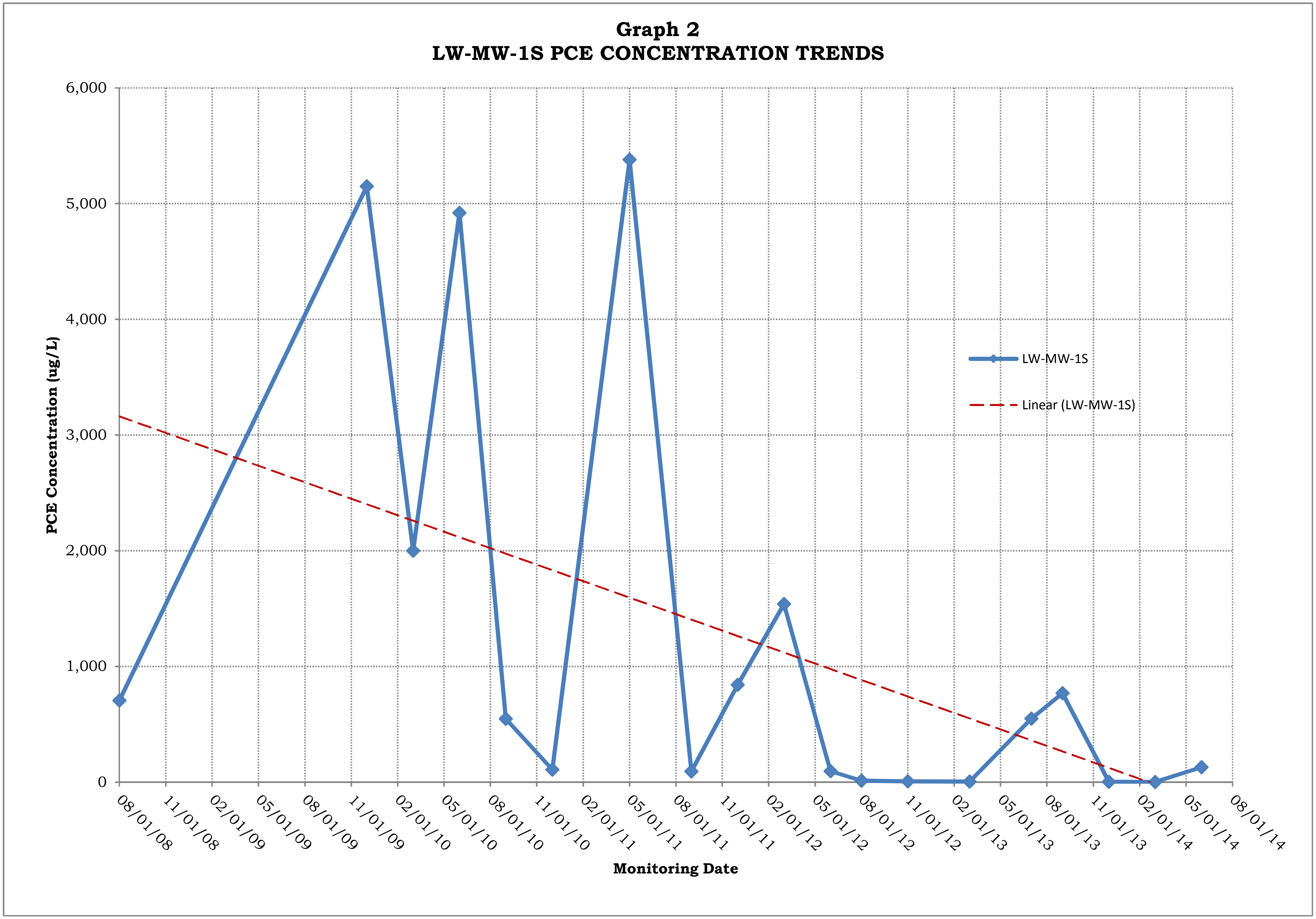
Notes:

PCE = Tetrachloroethene (a.k.a. perchloroethene)
ug/L = micrograms per liter (equivalent to parts per billion, or ppb)

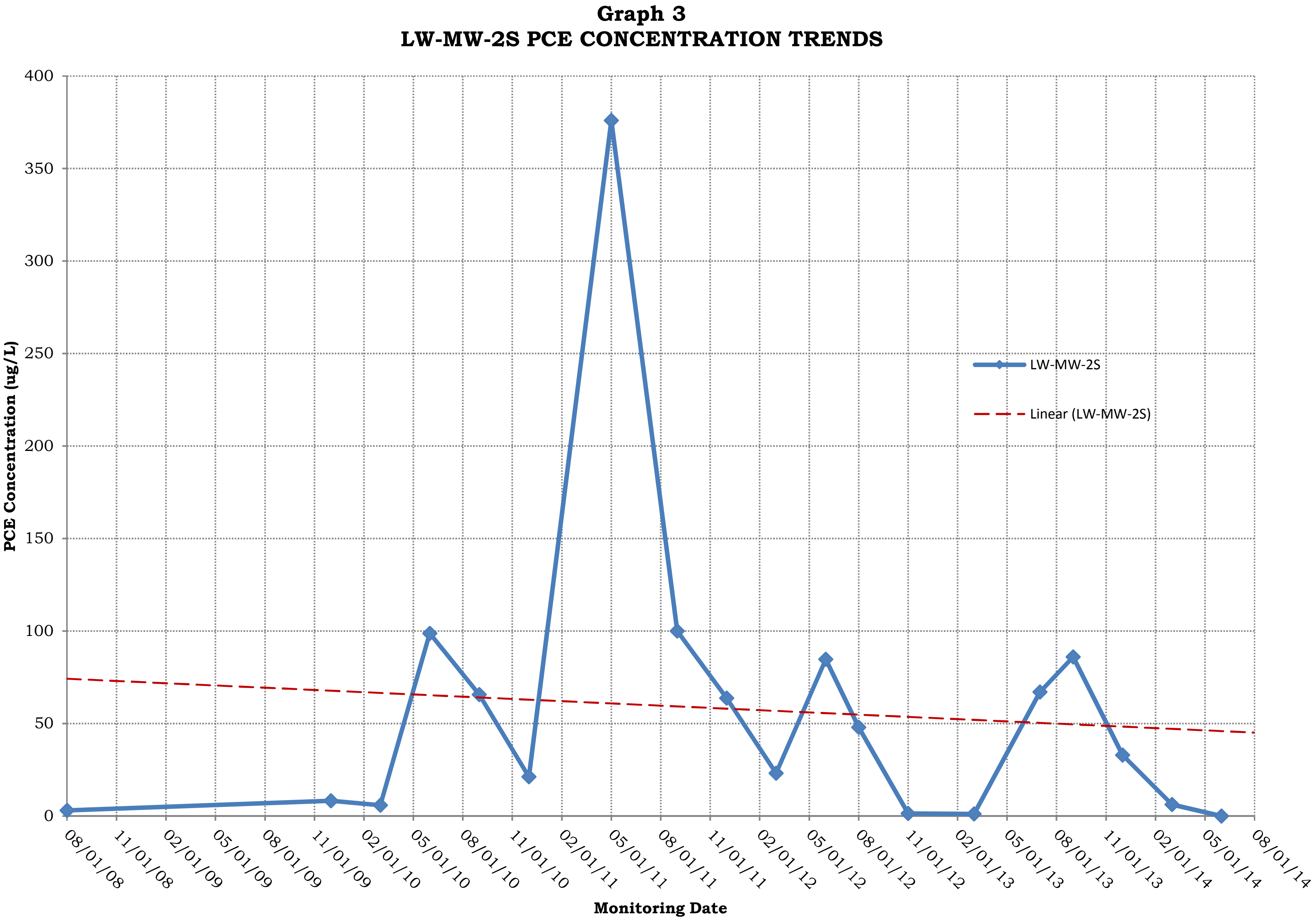
GRAPHS

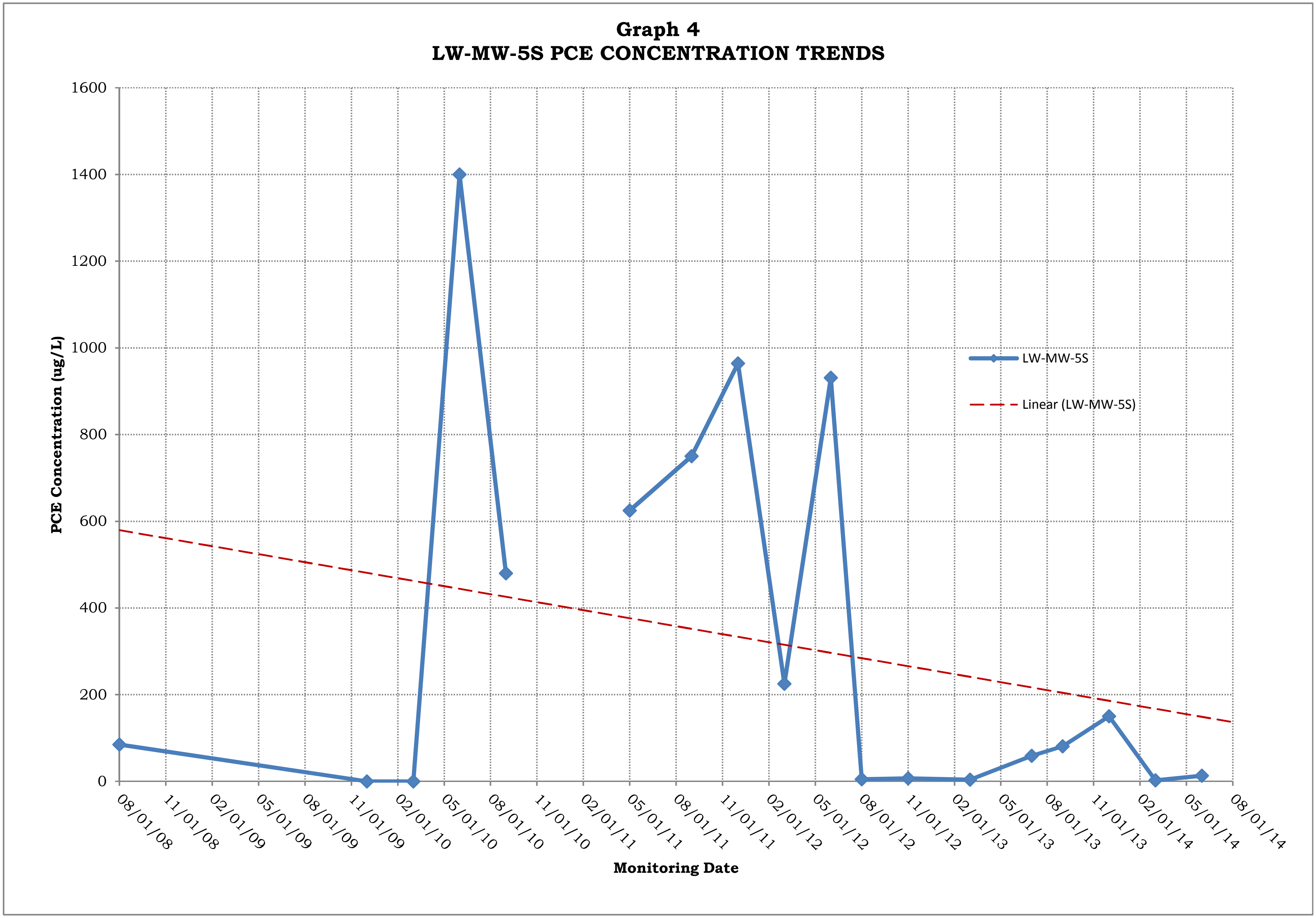
GRAPH 1
LAKE TAHOE LAUNDRY WORKS
HYDROGRAPH - 12/4/09 - Current



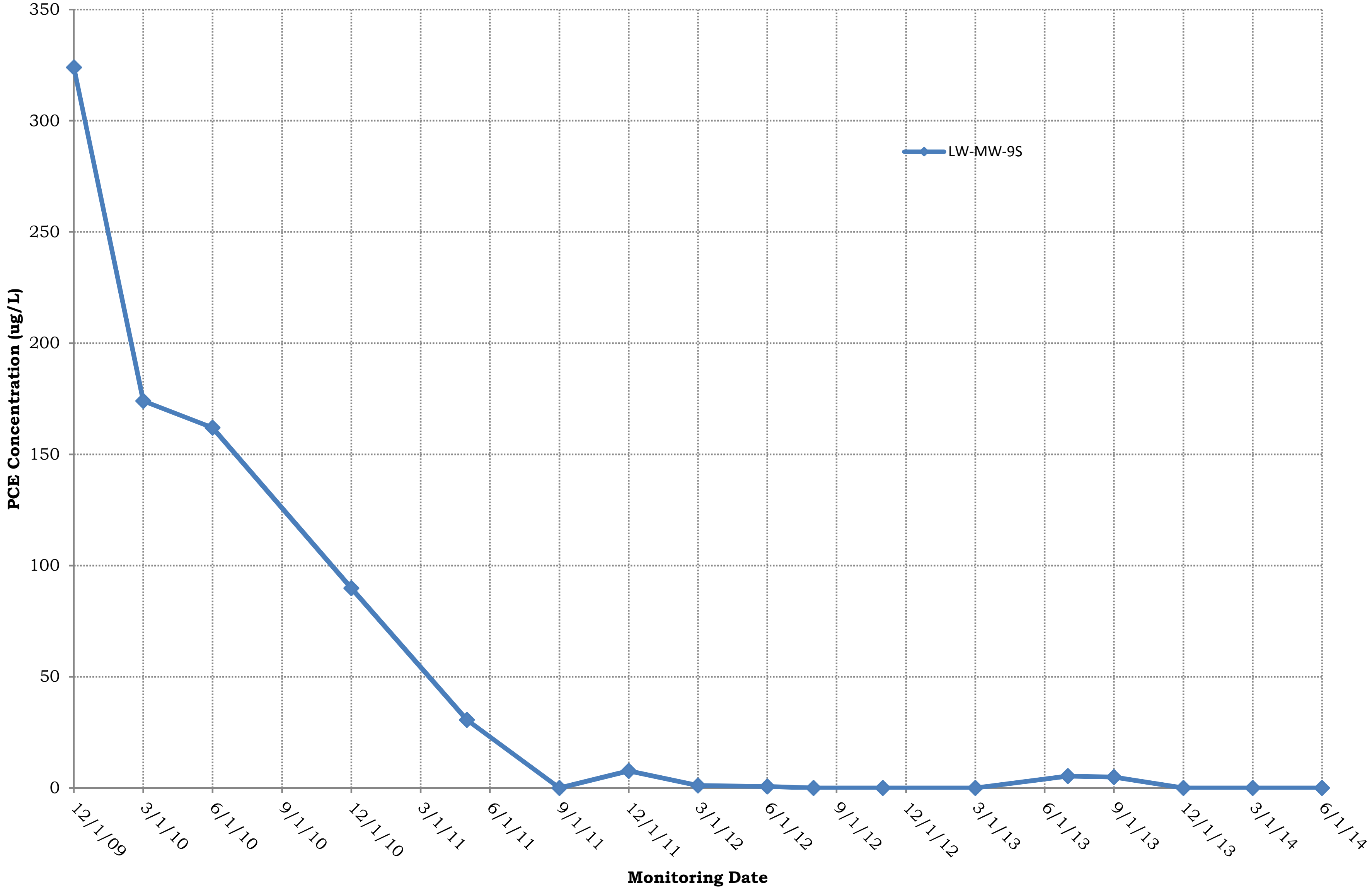


Graph 2
LW-MW-1S PCE CONCENTRATION TRENDS
PCE Concentration (ug/L)
6,000
5,000
4,000
3,000
2,000
1,000
0
LW-MW-1S
Linear (LW-MW-1S)
08/01/08
11/01/08
02/01/09
05/01/09
08/01/09
11/01/09
02/01/10
05/01/10
08/01/10
11/01/10
02/01/11
05/01/11
08/01/11
11/01/11
02/01/12
05/01/12
08/01/12
11/01/12
02/01/13
05/01/13
08/01/13
11/01/13
02/01/14
05/01/14
08/01/14
Monitoring Date

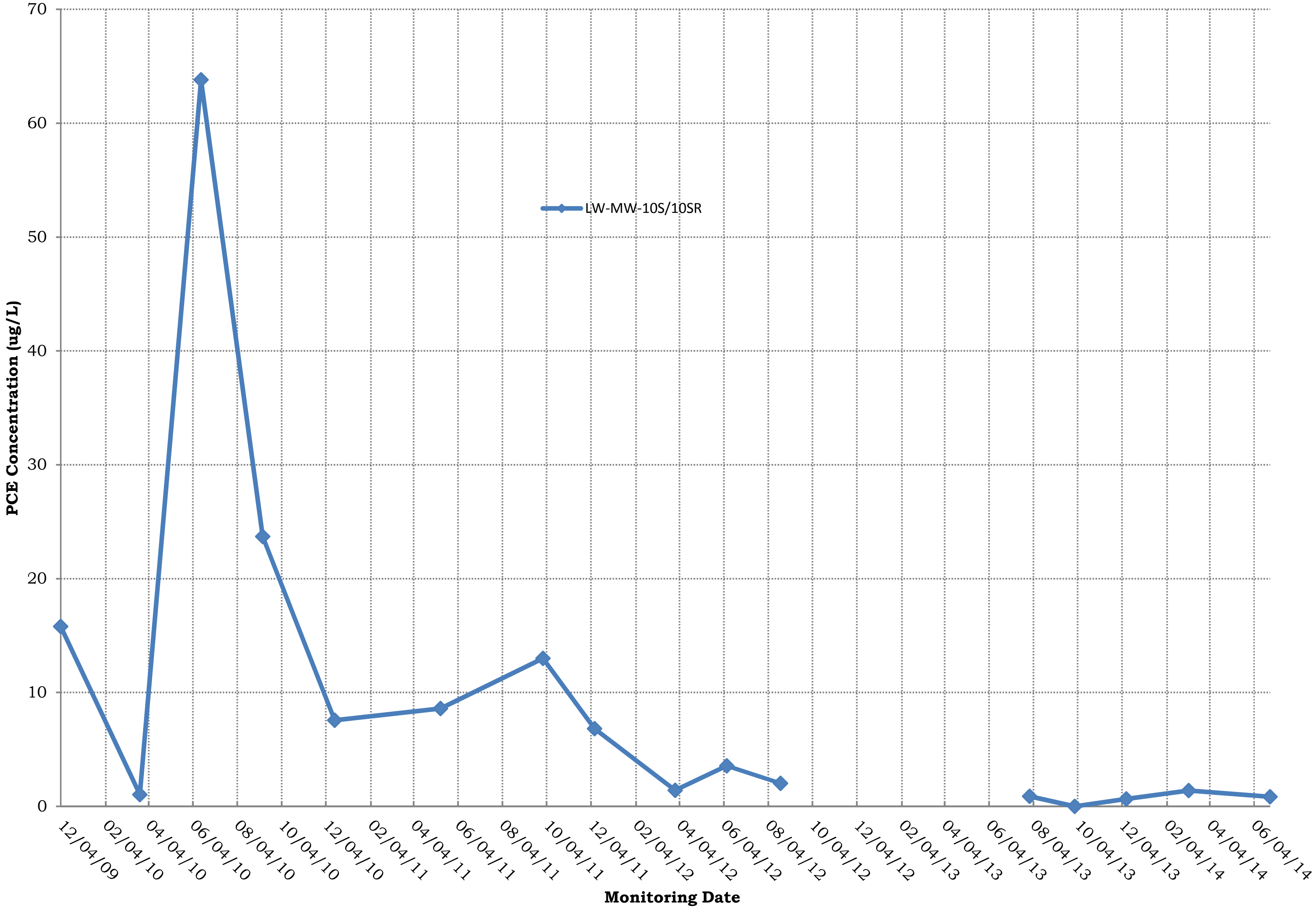

Graph 3
LW-MW-2S PCE CONCENTRATION TRENDS
PCE Concentration (ug/L)
400
350
300
250
200
150
100
50
0
LW-MW-2S
Linear (LW-MW-2S)
08/01/08
11/01/08
02/01/09
05/01/09
08/01/09
11/01/09
02/01/10
05/01/10
08/01/10
11/01/10
02/01/11
05/01/11
08/01/11
11/01/11
02/01/12
05/01/12
08/01/12
11/01/12
02/01/13
05/01/13
08/01/13
11/01/13
02/01/14
05/01/14
08/01/14
Monitoring Date


Graph 4
LW-MW-5S PCE CONCENTRATION TRENDS
PCE Concentration (ug/L)
1600
1400
1200
1000
800
600
400
200
0
08/01/08
11/01/08
02/01/09
05/01/09
08/01/09
11/01/09
02/01/10
05/01/10
08/01/10
11/01/10
02/01/11
05/01/11
08/01/11
11/01/11
02/01/12
05/01/12
08/01/12
11/01/12
02/01/13
05/01/13
08/01/13
11/01/13
02/01/14
05/01/14
08/01/14
Monitoring Date
LW-MW-5S
Linear (LW-MW-5S)

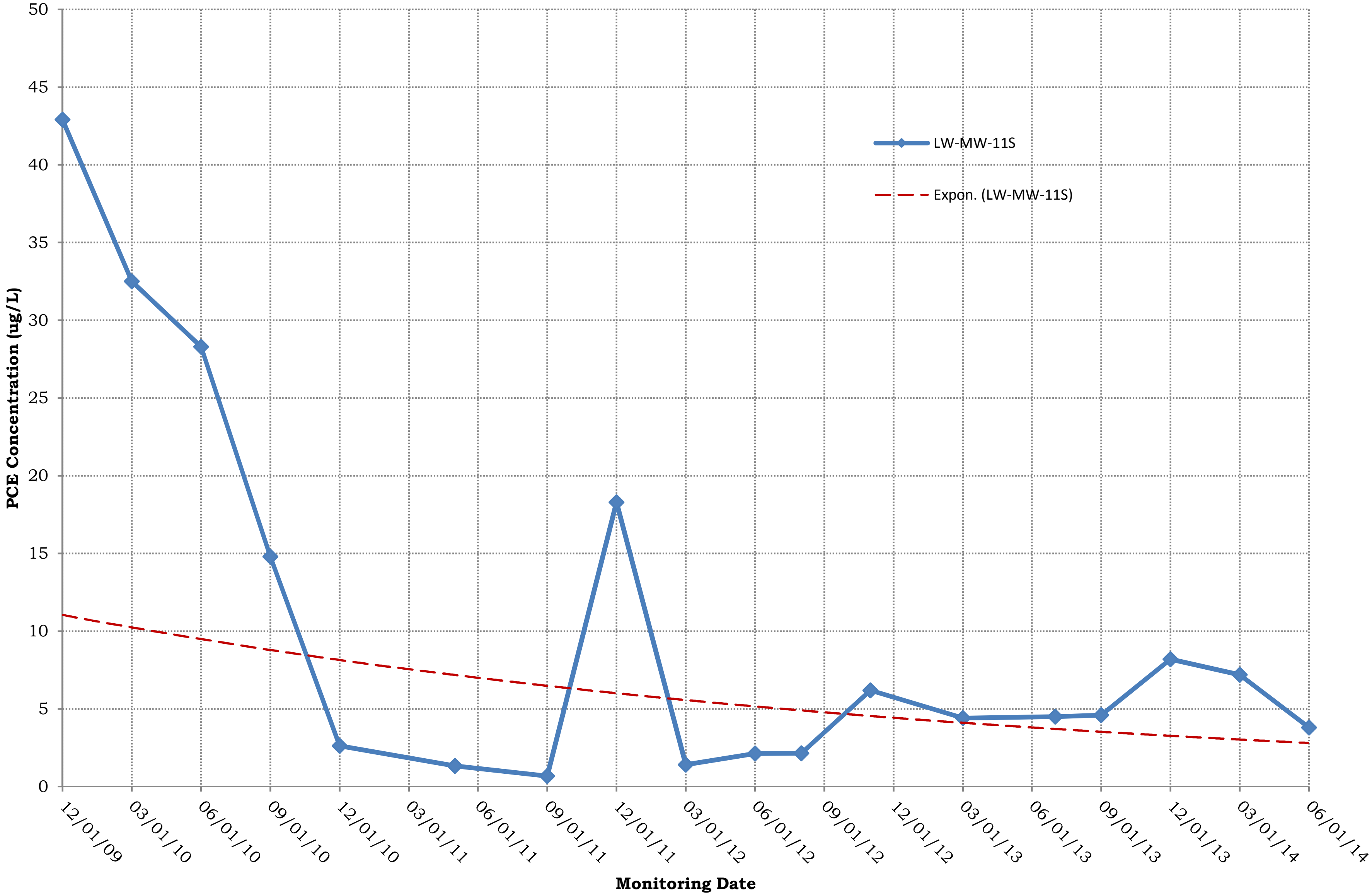
Graph 5
LW-MW-9S PCE CONCENTRATION TRENDS



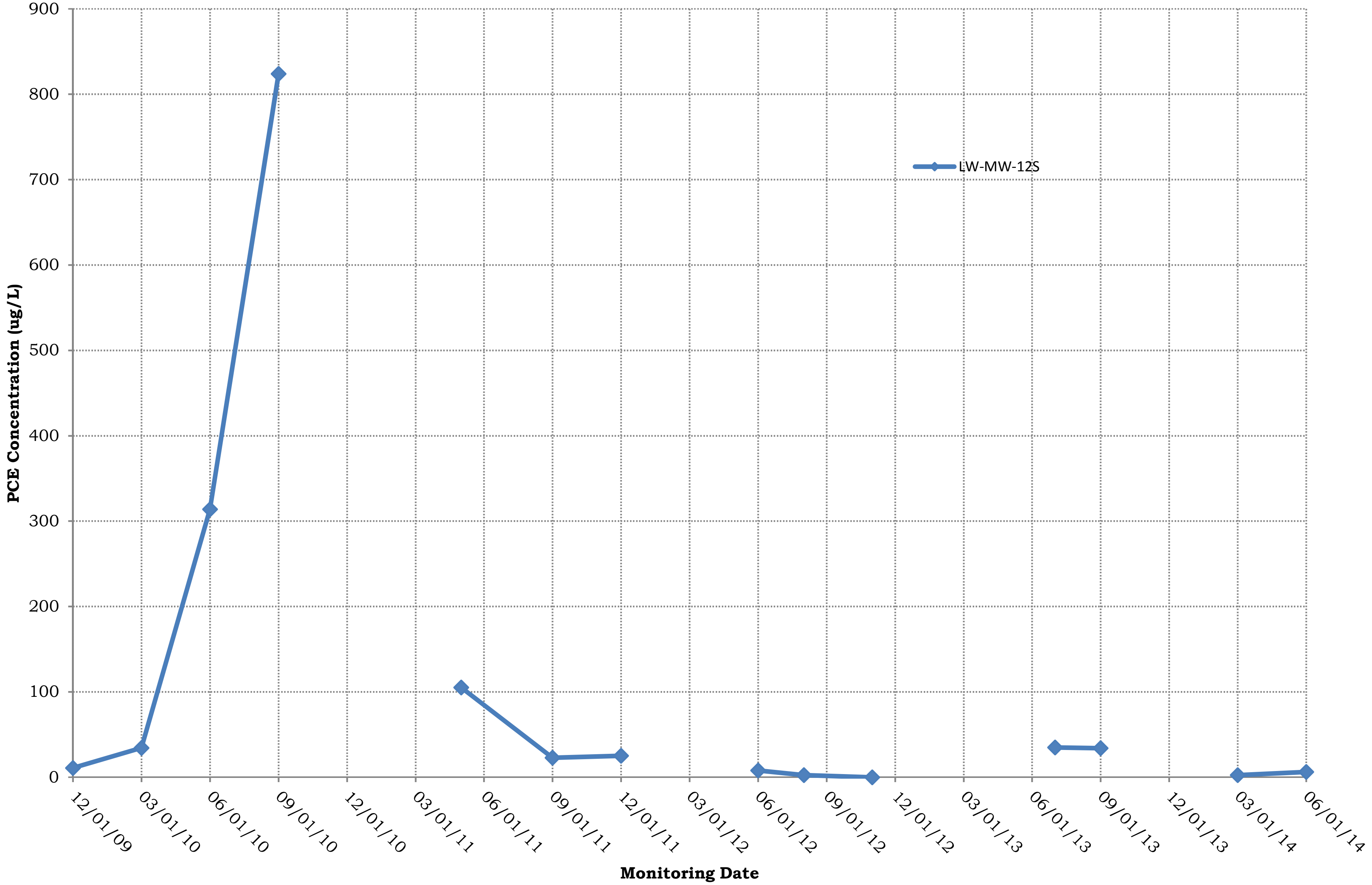
Graph 6
LW-MW-10S/10SR PCE CONCENTRATION TRENDS



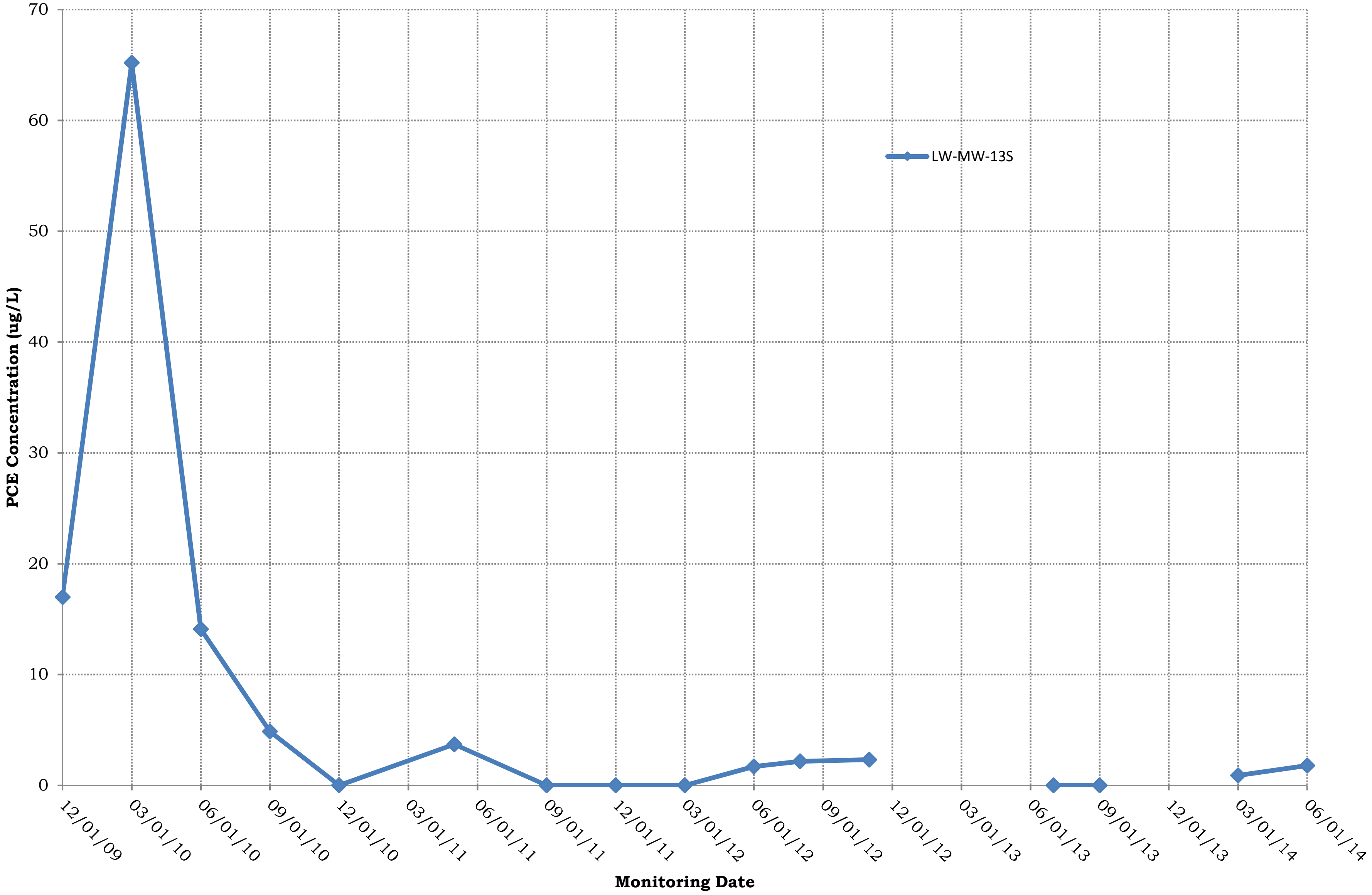
Graph 7
LW-MW-11S PCE CONCENTRATION TRENDS



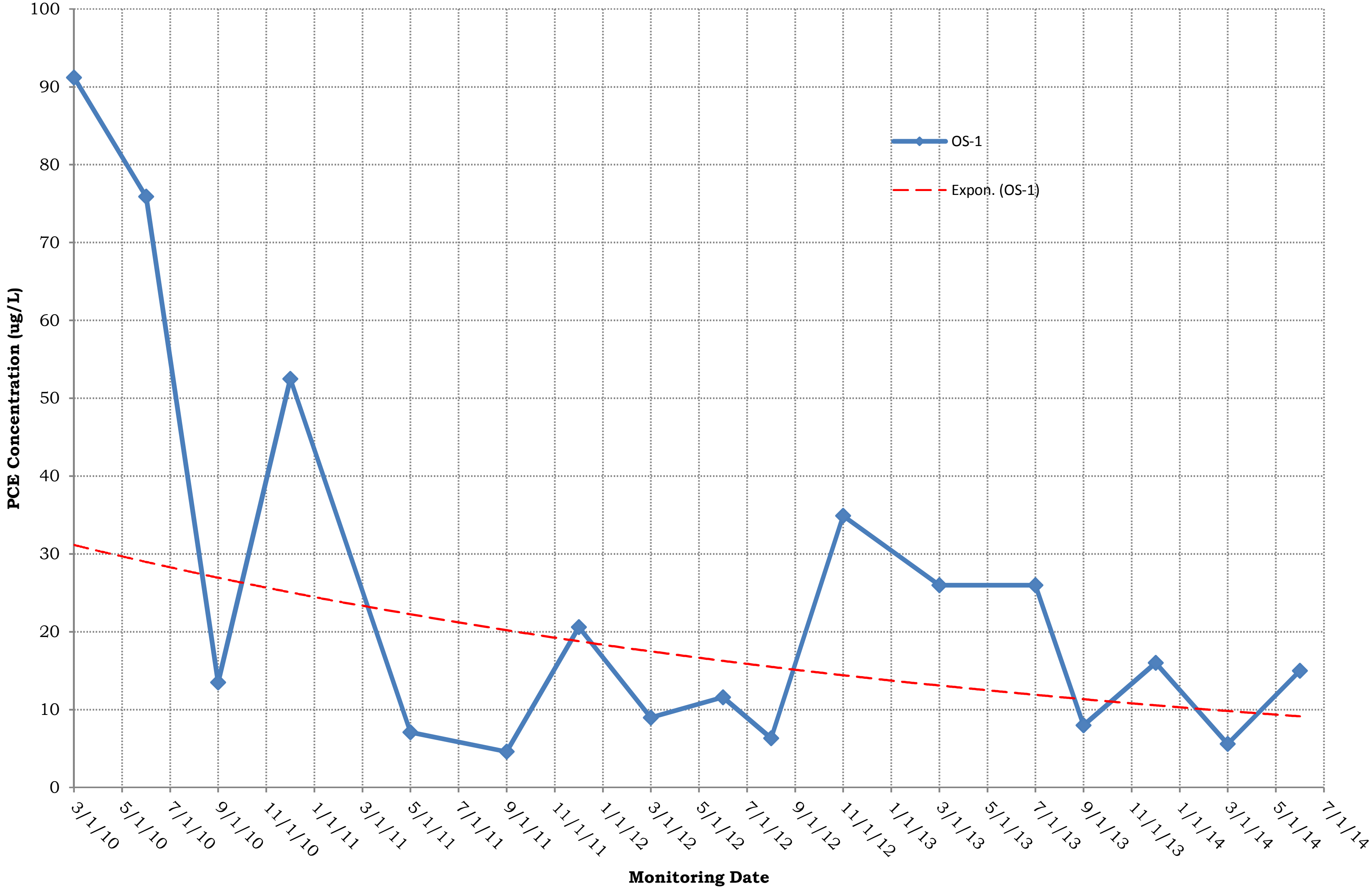
Graph 8
LW-MW-12S PCE CONCENTRATION TRENDS



Graph 9
LW-MW-13S PCE CONCENTRATION TRENDS



Graph 10
OS-1 PCE CONCENTRATION TRENDS



APPENDICES

APPENDIX A

Groundwater Monitoring Field Data Sheets

E$_2$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-9s

E$_2$C REM. PROJECT #: 1950 RV-15

PROJECT NAME: LTLW

DATE SAMPLED: 6-26-14

SAMPLED BY: G. Brandon / J. Irwin

DEPTH TO WATER: 13.73

TOTAL DEPTH OF WELL: 24.25

WELL DIAMETER: 2"

CASING VOLUME: N/A

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					
11:15		250 mL/m			53.4	9.71	.33	—	Clear, No Odor
11:17					53.1	9.74	.29	—	Lt. Brn, No Odor
11:19					52.8	9.73	.26	1.1	Clearing, No Odor
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 Centrigrade ORP measured after sample collected

E_2C 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-13s
E_2C REM. PROJECT #: 1950 RV-15
PROJECT NAME: LTLW
DATE SAMPLED: 6-26-14
SAMPLED BY: G. BRANDIN / J. IRWIN

DEPTH TO WATER: 12.46
TOTAL DEPTH OF WELL: 24.78
WELL DIAMETER; 2"
CASING VOLUME: N/A
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					
11:40		250 mL/m			53.1	7.49	.31	–	Clear, No Odor
11:42					529	7.51	.31	–	Clear, No Odor
11:44					52.6	7.53	.31	0.3	Clear, No Odor
11:49	Sample								

Well Capacity:
2" - 0.1632 gallon/linear foot
4" - 0.6528 gallon/linear foot
6" - 1.4688 gallon/linear foot

ORP = 262

SAMPLED AT ______ FT. FINAL DEPTH TO WATER: ______ FT. 3 CASING VOLUMES = ______ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centrigrade ORP measured after sample collected

E_2C 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-10SR

E_2C REM. PROJECT #: 1950 RV-15

PROJECT NAME: LTLW

DATE SAMPLED: 6-26-14

SAMPLED BY: G. Brandin / J. Irwin

DEPTH TO WATER: 11.99

TOTAL DEPTH OF WELL: 24.65

WELL DIAMETER: 2"

CASING VOLUME: N/A

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					
12:00		250 ml/m			54.2	7.46	.67	–	Clear, No Odor
12:02					54.0	7.48	.68	–	Clear, No Odor
12:04					53.7	7.44	.68	0.4	Clear, No Odor
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 Centrigrade ORP measured after sample collected

E_2C 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-12S

E_2C REM. PROJECT #: 1950 RV-15

PROJECT NAME: LTLW

DATE SAMPLED: 6-26-14

SAMPLED BY: G. BRANDIN / J. IRWIN

DEPTH TO WATER: 11.32

TOTAL DEPTH OF WELL: 23.80

WELL DIAMETER; 2"

CASING VOLUME: N/A

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					
12:35		250ML/m			54.6	6.11	.56	–	Cloudy No Odor
12:37					54.3	6.08	.56	–	Cloudy No Odor
12:39					53.8	6.05	.56	0.4	Cloudy, No Odor
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 Centrigrade ORP measured after sample collected

E$_2$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-5S
E$_2$C REM. PROJECT #: 1950 RV-15
PROJECT NAME: LTLW
DATE SAMPLED: 6-26-14
SAMPLED BY: G. Brandin / J. Irwin

DEPTH TO WATER: 11.27
TOTAL DEPTH OF WELL: 29.73
WELL DIAMETER; 2"
CASING VOLUME: N/A
PURGE METHOD: Low Flow

TIME	PURGE CHARACTERISTICS				TEMP (F$^{\circ}$)	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 ml/m			53.6	6.24	.20	–	Clear, No Odor
12:58					53.1	6.21	.21	–	Clear, No Odor
1:00					52.9	6.19	.21	1.2	Clear, No Odor
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 Centrigrade ORP measured after sample collected

* LW-MW-14 is a duplicate of 5S (1:28)

E_2C 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-1S
E_2C REM. PROJECT #: 1950 RV-15
PROJECT NAME: LTLW
DATE SAMPLED: 6-26-14
SAMPLED BY: G. Brandin / J. Irwin

DEPTH TO WATER: 12:30
TOTAL DEPTH OF WELL: 23.15
WELL DIAMETER; 2"
CASING VOLUME: N/A
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					
1:38		~250 mL/m			54.1	7.11	.35	—	Clear, No Odor
1:40					54.0	7.06	.34	—	Clear, No Odor
1:42					53.8	7.04	.34	1.3	Clear, No Odor
1:47	Sample								

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 Centrigrade ORP measured after sample collected

E_2C 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
E_2C REM. PROJECT #: 1950 RV-15
PROJECT NAME: LTLW
DATE SAMPLED: 6-26-14
SAMPLED BY: G. Brandin / J. Irwin

DEPTH TO WATER: 15.40
TOTAL DEPTH OF WELL: 34.85
WELL DIAMETER; 2"
CASING VOLUME: N/A
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 ml/m			53.2	4.91	.20	–	Clear, No Odor
2:02					52.9	4.89	.22	–	Clear, No Odor
204					52.9	4.86	.23	1.0	Clear No Odor
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 Centrigrade ORP measured after sample collected

E_2C 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-11S

E_2C REM. PROJECT #: 1950 RV-15

PROJECT NAME: LTLW

DATE SAMPLED: 6-26-14

SAMPLED BY: G. Brandin / J. Irwin

DEPTH TO WATER: 12.80

TOTAL DEPTH OF WELL: 24.02

WELL DIAMETER: 2"

CASING VOLUME: N/A

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					
2:22		250 ml/m			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
4" - 0.6528 gallon/linear foot
6" - 1.4688 gallon/linear foot

ORP = 217

SAMPLED AT ______ FT. FINAL DEPTH TO WATER: ______ FT. 3 CASING VOLUMES = ______ GALS.

NOTES: Sample labeled and placed in cooler maintained at 4 Degrees Centrigrade ORP measured after sample collected

E_2C 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 #: OS-1
E_2C REM. PROJECT #: 1950 RV-15
PROJECT NAME: LTLW
DATE SAMPLED: 6-26-14
SAMPLED BY: G. Brandin / J. Irwin

DEPTH TO WATER: 12.71
TOTAL DEPTH OF WELL: 24.00
WELL DIAMETER; 2"
CASING VOLUME: N/A
PURGE METHOD: ~~Low Flow~~ Bailer

TIME	PURGE CHARACTERISTICS INTAKE DEPTH	RATE (GPM)	CUM. VOL (GAL)	WELL VOL PUMPED	TEMP (F°)	pH (UNITS)	SEC (mmhos/cm)	DO (mg/L)	REMARKS (COLOR, TURBIDITY, ETC.)
2:48		250 ml/m			56.4	6.80	1.36	-	Cloudy, No Odor
2:50					56.0	6.76	1.33	-	Clearing, No Odor
2:52					55.7	6.73	1.33	0.3	Clearing, No Odor
2:57	Sampled								

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 Centrigrade 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

Compounds:	**Concentration ug/L (ppb)**	**Reporting Limit ug/L (ppb)**	**Dilution Factor**
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-Dichlorpropane	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
Ethlybenzene	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

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

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
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-Dichlorpropane	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
Ethlybenzene	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-9s
Matrix: Aqueous
Date Sampled: 06/26/14
Date Analyzed: 07/01/14

Client: E2C Remediation
Project: Lake Tahoe-LW 2Q14 GWM
Lab ID: 14063001-02
Instrument: GCMS#1
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

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
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-Dichlorpropane	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
Ethlybenzene	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
Matrix: Aqueous
Date Sampled: 06/26/14
Date Analyzed: 07/01/14

Client: E2C Remediation
Project: Lake Tahoe-LW 2Q14 GWM
Lab ID: 14063001-04
Instrument: GCMS#1
Operator: Roy Diaz

Compounds:	**Concentration ug/L (ppb)**	**Reporting Limit ug/L (ppb)**	**Dilution Factor**
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-Dichlorpropane	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
Ethlybenzene	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

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

Compounds:	**Concentration ug/L (ppb)**	**Reporting Limit ug/L (ppb)**	**Dilution Factor**
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-Dichlorpropane	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
Ethlybenzene	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

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%*

RD

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

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
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-Dichlorpropane	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
Ethlybenzene	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%*

RD

Report Date: 7/9/2014

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**
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-Dichlorpropane	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
Ethlybenzene	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

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%*

RD

Report Date: 7/9/2014

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
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-Dichlorpropane	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
Ethlybenzene	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

Compounds:	Concentration ug/L (ppb)	Reporting Limit ug/L (ppb)	Dilution Factor
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-Dichlorpropane	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
Ethlybenzene	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

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**
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-Dichlorpropane	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
Ethlybenzene	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
Matrix: Aqueous
Date Sampled: 06/26/14
Date Analyzed: 07/01/14

Client: E2C Remediation
Project: Lake Tahoe-LW 2Q14 GWM
Lab ID: 14063001-10
Instrument: GCMS#1
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%*

RD

Report Date: 7/9/2014

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
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-Dichlorpropane	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
Ethlybenzene	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

Analysis For Volatile Compounds by EPA Method 8260B

Client Sample ID: OS-1
Matrix: Aqueous
Date Sampled: 06/26/14
Date Analyzed: 07/01/14

Client: E2C Remediation
Project: Lake Tahoe-LW 2Q14 GWM
Lab ID: 14063001-11
Instrument: GCMS#1
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

ProVera
Analytical Laboratories, Inc.

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%

PROVERA ANALYTICAL LABORATORIES

Chain of Custody Form

Client Name: E2C REMEDIATION

Project Name 1024 LAKE TAHOE BLVD.

Client Address: 1020 Winding Creek Road Ste.110 Roseville, CA

Project Manager: Phil Goalwin

Sampler Name: G. BALDWIN / J. IRWIN

Sample Matrix:
☒ Aqueous
☐ Soil
☒ Acidified

Sample Date	Sample Time	Sample Description and Container Type	BTEX (EPA 8021b)	MTBE (EPA 8021b)	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)		Comments
6-26-14	7:30	TRIP BLANK 1-VOA					X							1406301 -01
	11:24	LW-MW-9s 3-VOA's												-02
	11:49	LW-MW-13s												-03
	12:10	LW-MW-10sR												-04
	12:44	LW-MW-12s												-05
	1:05	LW-MW-5s												-06
	1:28	LW-MW-14												-07
	1:47	LW-MW-1s												-08
	2:09	LW-MW-2s												-09
	2:31	LW-MW-11s												-10
	2:57	OS-1 3-VOAs					X							-11

Sampling Event: 2ND QTR GWM EDF Type: GW Monitoring Other 3°C

Turnaround Time Requested: 24 Hour ___ 48 Hour ___ 5-Day ___ Standard [✓]

Relinquished By:	Date: 6-26-14	Relinquished By:	Date:
Received By:	Date: 6-30-14	Received By:	Date:

APPENDIX C

GeoTracker Upload Confirmation Reports

UPLOADING A EDF FILE

SUCCESS

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Type:	EDF
Report Title:	1Q 2014 Groundwater Monitoring Report and Current Site Remediation Status Report
Report Type:	Monitoring Report - Quarterly
Facility Global ID:	SL0601754315
Facility Name:	LAKE TAHOE LAUNDRY WORKS
File Name:	EDFCL.zip
Organization Name:	E2C Remediation, LLC
Username:	E2C REMEDIATION, LLC
IP Address:	66.60.184.162
Submittal Date/Time:	8/4/2014 4:08:52 PM
Confirmation Number:	5039582729

VIEW QC REPORT

VIEW DETECTIONS REPORT

UPLOADING A GEO_REPORT FILE

SUCCESS

Your GEO_REPORT file has been successfully submitted!

Submittal Type:	GEO_REPORT
Report Title:	1Q 2014 Groundwater Monitoring Report and Current Site Remediation Status Report
Report Type:	Monitoring Report - Quarterly
Report Date:	7/30/2014
Facility Global ID:	SL0601754315
Facility Name:	LAKE TAHOE LAUNDRY WORKS
File Name:	LTLW 1Q14 QMR_RSR (7-30-14).pdf
Organization Name:	E2C Remediation, LLC
Username:	E2C REMEDIATION, LLC
IP Address:	66.60.184.162
Submittal Date/Time:	8/4/2014 2:08:41 PM
Confirmation Number:	9612810254

UPLOADING A GEO_WELL FILE

SUCCESS

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Type: GEO_WELL
Report Title: GEO_WELL 3-6-14
Facility Global ID: SL0601754315
Facility Name: LAKE TAHOE LAUNDRY WORKS
File Name: GEO_WELL.zip
Organization Name: E2C Remediation, LLC
Username: E2C REMEDIATION, LLC
IP Address: 66.60.184.162
Submittal Date/Time: 8/4/2014 2:13:17 PM
Confirmation Number: 2480042934

APPENDIX D

Shallow Soil Vapor Sampling Field Data Sheets

E$_2$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: G. BRANDIN
S. IRWIN

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$_2$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-2 @ 3:12 pm

FIELD CREW: G. BRANDIN
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$_2$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: G. BRANDIN
S. IRWIN

PURGE DATA

Purge Method: SYRINGE (60ml)

Purge Duration: 3 min

Purge Volume: 600 ml

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_2C 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: G. BRANDIN
S. IRWIN

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 MIN

Final Vacuum in Canister: 1" Hg

E$_2$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: G. BRANDIN
S. IRWIN

PURGE DATA

Purge Method: SYRINGE (60ml)

Purge Duration: 3 min

Purge Volume: 600 ml

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$_2$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-6

FIELD CREW: G. BRANDIN
S. IRWIN

PURGE DATA

Purge Method: SYRINGE

Purge Duration: min

Purge Volume * SAMPLE NOT COLLECTED - ONLY ABLE TO COLLECT A PARTIAL SAMPLE DUE TO VAC in WELL +/- 13" Hg

SAMPLING

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$_2$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-7 @ 4:32pm

FIELD CREW: G. BRANDIN
S. IRWIN

PURGE DATA

Purge Method: SYRINGE (60ml)

Purge Duration: 3 min

Purge Volume: 600 ml

SAMPLING

Summa Canister Serial #: 83756

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$_2$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-8 @ 4:48pm

FIELD CREW: G. BALDWIN
S. IRWIN

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$_2$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 @ 5:06pm

FIELD CREW: G. BAUDOIN
S. IRWIN

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$_2$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-10 @ 5:20pm

FIELD CREW: G. BRANDIN
S. IRWIN

PURGE DATA

Purge Method: SYRINGE (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

S-G Monitoring Table of Contents

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_2C will make raw data available to California Regional Water Quality Control Board – Lahontan Region, South Lake Tahoe Branch (CRWQCB) staff, as requested. E_2C 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 (μg/L)], in accordance with the Active Soil Gas Investigation (ASGI) guidance (LARWQCB, 1997). E_2C 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_2C 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_2C 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_2C will utilize a coring machine to penetrate the surface material.

At the bottom of the boring, E_2C 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_2C 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_2C 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_2C 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_2C 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_2C 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_2C 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.

E.7.b Documentation of VP Well Sampling Protocol

E_2C 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 handled and analyzed in accordance with the most recent ASGI. E_2C 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_2C 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 (μg/m$^{3)}$	Parts per billion – volume (ppbV)	Micrograms per liter (μg/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 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.

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-AGSI-targeted compounds detected, will be included in the status reports. If TICs, or non-ASGI targeted compounds are identified, E$_2$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

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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

ProVera
Analytical Laboratories, Inc.

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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-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	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

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: 7/11/2014 Analysis Type: **EPA Method TO-15**

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 Cloride	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 Dicloroethene	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	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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-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	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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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5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

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5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly System Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

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E2C Remediation	Project:	**Lake Tahoe-Laundry Works**	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Soil Vapor Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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%

Roy Diaz

Senior Analytical Chemist: Roy Diaz

PROVERA ANALYTICAL LABORATORIES

Chain of Custody Form

Client Name: E2C Remediation
Project Name 1024 Lake Tahoe Blvd.
Client Address: 1020 Winding Creek Road Ste.110 Roseville CA
Project Manager: Phil Goalwin
Sampler Name: G. Brandin / J. Irwin

Sample Matrix
☒ Air
☐
☐

Analysis Requested

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		14063002 Summa #	Comments	
6-26-14	3:00	VP-1 1-Summa					X						9313	Final Vac = 1" Hg	-01
	3:12	VP-2											837354	Final Vac = 1" Hg	-02
	3:24	VP-3											251	Final Vac = 1" Hg	-03
	3:45	VP-4											83794	Final Vac = 1" Hg	-04
	3:58	VP-5											83796	Final Vac = 1" Hg	-05
	Not Sampled	~~VP-6~~											Not Sampled Unable to Collect		
	4:32	VP-7											83756	Final Vac = 1" Hg	-06
	4:48	VP-8											83624	Final Vac = 1" Hg	-07
	5:06	VP-9											83790	Final Vac = 1" Hg	-08
	5:20	VP-10					X						83797	Final Vac = 1" Hg	-09

Sampling Event: 2nd Qtr SVE Sampling EDF Type: ______ Other ______

Turnaround Time Requested: 24 Hour ____ 48 Hour ____ 5-Day ____ Standard X

Relinquished By:	Date: 6-26-14	Relinquished By:	Date:
Received By:	Date: 6-30-14	Received By:	Date:

APPENDIX G

SVE/GASS Influent and Effluent Vapor Analytical Laboratory Reports

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	8/18/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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 Cloride	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 Dicloroethene	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-Tricloroethane	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	

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	8/18/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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	

Roy Diaz

Senior Analytical Chemist: Roy Diaz

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	8/18/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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%

Roy Diaz

Senior Analytical Chemist: Roy Diaz

PROVERA ANALYTICAL LABORATORIES

Chain of Custody Form

Client Name: E2C Remediation
Project Name: LTLW
Client Address: 5300 Woodmere Dr. Suite 105 Bakersfield, CA
Project Manager: Phil Goalwin
Sampler Name: J. Irwin N. Jensen

Sample Matrix
☒ Air
☐
☐

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			Comments
8-4-14	3:30	VES-EFF (summa					X							14080502 -01

Sampling Event: monthly air sample **EDF Type:** GW Monitoring ___ Other X

Turnaround Time Requested: 24 Hour ___ 48 Hour ___ 5-Day ___ Standard X

Relinquished By:	Date: 8-4-14	Relinquished By:	Date:
Received By:	Date: 8-5-14	Received By:	Date:

E2C Remediation	Project:	1024 Lake Tahoe Blvd., LW	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LAB ID: 14063004-01 Sample ID: **Effluent** 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 Cloride	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 Dicloroethene	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

E2C Remediation	Project:	1024 Lake Tahoe Blvd., LW	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LAB ID: 14063003-01 Sample ID: **Effluent** 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	0.019	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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

E2C Remediation	Project:	1024 Lake Tahoe Blvd., LW	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LAB ID: 14063003-02 Sample ID: **Influent** 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 Cloride	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	0.014	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 Dicloroethene	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

E2C Remediation	Project:	1024 Lake Tahoe Blvd., LW	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LAB ID: 14063003-02 Sample ID: **Influent** 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	0.013	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	1.0	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

Roy Diaz

Senior Analytical Chemist: Roy Diaz

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E2C Remediation	Project:	**Lake Tahoe-Laundry Works**	Report Date:	7/11/2014
5300 Woodmere Dr. Suite 105		Monthly O&M Air Samples	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

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%

Roy Diaz

Senior Analytical Chemist: Roy Diaz

PROVERA ANALYTICAL LABORATORIES

Chain of Custody Form

Client Name: E2C Remediation

Project Name 1524 Lake Tahoe Blvd

Client Address: 1020 Winding Creek Road Ste.110 Roseville CA

Project Manager: Phil Goalwin

Sampler Name: G. Beardin / J. Tervin

Analysis Requested

Sample Matrix: ☒ Air ☐ ☐

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		14063004 Summa #	Comments	
6-26-14	4:40	Effluent	1-Summa					X						83622	Final Vac = 1" Hg	-01
	4:50	Influent	1-Summa					X						5150	Final Vac = 1" Hg	-02

Sampling Event: Monthly O&M Sampling EDF Type: ______ Other ______

Turnaround Time Requested: 24 Hour ____ 48 Hour ____ 5-Day ____ Standard X

Relinquished By:	Date: 6-26-14	Relinquished By:	Date:
Received By:	Date: 6-30-14	Received By:	Date:

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	5/29/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LAB ID: 14052202-01 Sample ID: **Effluent** Date Sampled: 5/9/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	4/18/2014	
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	4/18/2014	
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	4/18/2014	
Chloromethane	ND	0.010	ppmV	4/18/2014	
Vinyl Cloride	ND	0.010	ppmV	4/18/2014	
1,3 Butadiene	ND	0.010	ppmV	4/18/2014	
Bromomethane	ND	0.010	ppmV	4/18/2014	
Chloroethane	ND	0.010	ppmV	4/18/2014	
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	4/18/2014	
Isopropyl alcohol	ND	0.010	ppmV	4/18/2014	
Freon 113	ND	0.010	ppmV	4/18/2014	
1,1 Dichloroethene	ND	0.010	ppmV	4/18/2014	
Acetone	ND	0.010	ppmV	4/18/2014	
Carbon Disulfide	ND	0.010	ppmV	4/18/2014	
Methylene Chloride	0.019	0.010	ppmV	4/18/2014	
MTBE	ND	0.010	ppmV	4/18/2014	
trans-1,2 Dicloroethene	ND	0.010	ppmV	4/18/2014	
n-Hexane	ND	0.010	ppmV	4/18/2014	
Vinyl acetate	ND	0.010	ppmV	4/18/2014	
1,1-Dichloroethane	ND	0.010	ppmV	4/18/2014	
Methyl Ethyl Ketone	ND	0.010	ppmV	4/18/2014	
cis-1,2 Dichloroethene	ND	0.010	ppmV	4/18/2014	
Tetrahydrofuran	ND	0.010	ppmV	4/18/2014	
Chloroform	ND	0.010	ppmV	4/18/2014	
1,1,1-Tricloroethane	ND	0.010	ppmV	4/18/2014	
Cyclohexane	ND	0.010	ppmV	4/18/2014	
Carbon Tetrachloride	ND	0.010	ppmV	4/18/2014	
Ethyl Acetate	ND	0.010	ppmV	4/18/2014	
Benzene	ND	0.010	ppmV	4/18/2014	
1,2-Dichloroethane	ND	0.010	ppmV	4/18/2014	

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	5/29/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LAB ID: 14052202-01 Sample ID: **Effluent** Date Sampled: 5/9/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	4/18/2014	
Trichloroethylene	ND	0.010	ppmV	4/18/2014	
1,2-Dichloropropane	ND	0.010	ppmV	4/18/2014	
1,4 Dioxane	ND	0.010	ppmV	4/18/2014	
Bromodichloromethane	ND	0.010	ppmV	4/18/2014	
cis-1,3 Dichloropropene	ND	0.010	ppmV	4/18/2014	
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	4/18/2014	
Toluene	ND	0.010	ppmV	4/18/2014	
trans-1,3 Dichloropropene	ND	0.010	ppmV	4/18/2014	
1,1,2-Trichloroethane	ND	0.010	ppmV	4/18/2014	
MBK	ND	0.010	ppmV	4/18/2014	
Tetrachloroethylene	ND	0.010	ppmV	4/18/2014	
Dibromochloromethane	ND	0.010	ppmV	4/18/2014	
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	4/18/2014	
Chlorobenzene	ND	0.010	ppmV	4/18/2014	
Ethylbenzene	ND	0.010	ppmV	4/18/2014	
m,p-Xylene	ND	0.010	ppmV	4/18/2014	
o-Xylene	ND	0.010	ppmV	4/18/2014	
Styrene	ND	0.010	ppmV	4/18/2014	
Bromoform	ND	0.010	ppmV	4/18/2014	
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	4/18/2014	
4-Ethyltoluene	ND	0.010	ppmV	4/18/2014	
1,3,5-Trimethylbenzene	ND	0.010	ppmV	4/18/2014	
1,2,4-Trimethylbenzene	ND	0.010	ppmV	4/18/2014	
1,3-Dichlorobenzene	ND	0.010	ppmV	4/18/2014	
1,4-Dichlorobenzene	ND	0.010	ppmV	4/18/2014	
Benzyl chloride	ND	0.010	ppmV	4/18/2014	
1,2-Dichlorobenzene	ND	0.010	ppmV	4/18/2014	
1,2,4-Trichlorobenzene	ND	0.010	ppmV	4/18/2014	
Hexachloro-1,3-butadiene	ND	0.010	ppmV	4/18/2014	
Naphthalene	ND	0.010	ppmV	4/18/2014	

Roy Diaz

Senior Analytical Chemist: Roy Diaz

E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	5/29/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LAB ID: 14052202-02 Sample ID: **Influent** Date Sampled: 5/9/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
Propylene	ND	0.010	ppmV	4/18/2014	
Dichlorodifluoromethane (Freon 12)	ND	0.010	ppmV	4/18/2014	
1,2-Dichlorotetrafluoroethane(F-114)	ND	0.010	ppmV	4/18/2014	
Chloromethane	ND	0.010	ppmV	4/18/2014	
Vinyl Cloride	ND	0.010	ppmV	4/18/2014	
1,3 Butadiene	ND	0.010	ppmV	4/18/2014	
Bromomethane	ND	0.010	ppmV	4/18/2014	
Chloroethane	ND	0.010	ppmV	4/18/2014	
Trichlorofluoromethane (F 11)	ND	0.010	ppmV	4/18/2014	
Isopropyl alcohol	ND	0.010	ppmV	4/18/2014	
Freon 113	ND	0.010	ppmV	4/18/2014	
1,1 Dichloroethene	ND	0.010	ppmV	4/18/2014	
Acetone	ND	0.010	ppmV	4/18/2014	
Carbon Disulfide	ND	0.010	ppmV	4/18/2014	
Methylene Chloride	ND	0.010	ppmV	4/18/2014	
MTBE	ND	0.010	ppmV	4/18/2014	
trans-1,2 Dicloroethene	ND	0.010	ppmV	4/18/2014	
n-Hexane	ND	0.010	ppmV	4/18/2014	
Vinyl acetate	ND	0.010	ppmV	4/18/2014	
1,1-Dichloroethane	ND	0.010	ppmV	4/18/2014	
Methyl Ethyl Ketone	ND	0.010	ppmV	4/18/2014	
cis-1,2 Dichloroethene	ND	0.010	ppmV	4/18/2014	
Tetrahydrofuran	ND	0.010	ppmV	4/18/2014	
Chloroform	ND	0.010	ppmV	4/18/2014	
1,1,1-Tricloroethane	ND	0.010	ppmV	4/18/2014	
Cyclohexane	ND	0.010	ppmV	4/18/2014	
Carbon Tetrachloride	ND	0.010	ppmV	4/18/2014	
Ethyl Acetate	ND	0.010	ppmV	4/18/2014	
Benzene	ND	0.010	ppmV	4/18/2014	
1,2-Dichloroethane	ND	0.010	ppmV	4/18/2014	

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	5/29/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LAB ID: 14052202-02 Sample ID: **Influent** Date Sampled: 5/9/2014

Analyte	Result	Reporting Limit	Units	Analysis Date	Notes
n-Heptane	ND	0.010	ppmV	4/18/2014	
Trichloroethylene	ND	0.010	ppmV	4/18/2014	
1,2-Dichloropropane	ND	0.010	ppmV	4/18/2014	
1,4 Dioxane	ND	0.010	ppmV	4/18/2014	
Bromodichloromethane	ND	0.010	ppmV	4/18/2014	
cis-1,3 Dichloropropene	ND	0.010	ppmV	4/18/2014	
MIBK (Methyl Isobutyl Ketone)	ND	0.010	ppmV	4/18/2014	
Toluene	ND	0.010	ppmV	4/18/2014	
trans-1,3 Dichloropropene	ND	0.010	ppmV	4/18/2014	
1,1,2-Trichloroethane	ND	0.010	ppmV	4/18/2014	
MBK	ND	0.010	ppmV	4/18/2014	
Tetrachloroethylene	0.54	0.010	ppmV	4/18/2014	
Dibromochloromethane	ND	0.010	ppmV	4/18/2014	
1,2-Dibromoethane (1,2 EDB)	ND	0.010	ppmV	4/18/2014	
Chlorobenzene	ND	0.010	ppmV	4/18/2014	
Ethylbenzene	ND	0.010	ppmV	4/18/2014	
m,p-Xylene	ND	0.010	ppmV	4/18/2014	
o-Xylene	ND	0.010	ppmV	4/18/2014	
Styrene	ND	0.010	ppmV	4/18/2014	
Bromoform	ND	0.010	ppmV	4/18/2014	
1,1,2,2-Tetrachloroethane	ND	0.010	ppmV	4/18/2014	
4-Ethyltoluene	ND	0.010	ppmV	4/18/2014	
1,3,5-Trimethylbenzene	ND	0.010	ppmV	4/18/2014	
1,2,4-Trimethylbenzene	ND	0.010	ppmV	4/18/2014	
1,3-Dichlorobenzene	ND	0.010	ppmV	4/18/2014	
1,4-Dichlorobenzene	ND	0.010	ppmV	4/18/2014	
Benzyl chloride	ND	0.010	ppmV	4/18/2014	
1,2-Dichlorobenzene	ND	0.010	ppmV	4/18/2014	
1,2,4-Trichlorobenzene	ND	0.010	ppmV	4/18/2014	
Hexachloro-1,3-butadiene	ND	0.010	ppmV	4/18/2014	
Naphthalene	ND	0.010	ppmV	4/18/2014	

Roy Diaz

Senior Analytical Chemist: Roy Diaz

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E2C Remediation	Project:	Lake Tahoe-Laundry Works	Report Date:	2/29/2014
5300 Woodmere Dr. Suite 105		Monthly O&M	Analysis Type:	**EPA Method TO-15**
Bakersfield CA 93313	Project Mgr.	PHIL GOALWIN		

LABORATORY CONTROL STANDARD

Analyte	Result	Units	Spike level	Method	Analysis Date	Percent Recovery
1,1 Dichloroethene	10.2	ppbV	12.5	TO-15	5/21/2014	82%
Benzene	9.89	ppbV	12.5	TO-15	5/21/2014	79%
Trichloroethylene	9.56	ppbV	12.5	TO-15	5/21/2014	76%
Toluene	9.87	ppbV	12.5	TO-15	5/21/2014	79%
Chlorobenzene	10.1	ppbV	12.5	TO-15	5/21/2014	81%

Roy Diaz

Senior Analytical Chemist: Roy Diaz

PROVERA ANALYTICAL LABORATORIES

Chain of Custody Form

Client Name: E2C Remediation

Project Name 1024 LAKE TAHOE BLVD.

Client Address: 1020 Winding Creek Road Ste.110 Roseville CA

Project Manager: Phil Goalwin

Sampler Name: G. BRANDIN

Sample Matrix
☒ Air
☐
☐

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		14052202 SUMMA #	Comments
5-9-14	1:35	EFFLUENT 1-Summa					X						83794	Final Vac = 1" Hg -01
	1:45	INFLUENT 1-Summa					X						83622	Final Vac = 1" Hg -02

Sampling Event: MONTHLY O&M EDF Type: ______ Other ______

Turnaround Time Requested: 24 Hour ____ 48 Hour ____ 5-Day ____ Standard X

Relinquished By:	Date: 5-9-14	Relinquished By:	Date:
Received By:	Date: 5-15-14	Received By:	Date:

APPENDIX H

SVE/GASS Field Data Sheets

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 4-10-14

TECHNICIAN: G. BRANDIN

ARRIVAL TIME: 11:00 Am

DEPARTURE TIME: 12:35pm

PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? [✓ YES] / NO IF NO:

RUNNING UPON DEPARTURE? YES / [✓ NO] IF NO: Shut System down for cycling 2-week's off / 2-week's on

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	See Curve	
OPERATING TIME	(hr:mm)	2,995.1	2,996.5 (TIME) 12:35pm
ELECTRICAL USAGE	(KWhr)	22,029 KWH	—
WELL FIELD VACUUM	("Hg)	.80" Hg	
SYSTEM VACUUM	("Hg)	1.44" Hg	System Off
Blower Temp	°F	188°F	
AIR COMPRESSOR DUTY CYCLE	(seconds)	Always [✓ ON] OFF	ON OFF
AIR COMPRESSOR SETTING	(psi)	46 PSI	
AIR COMPRESSOR HOURS	(hr:mm)	39,506	39,507

VAPOR CONCENTRATIONS OVA Instrument used: [✓ PID] / FID Calibrated: [✓ YES] NO Mini Rae

INFLUENT (PRE-OXIDIZER)	(ppmv)	0.8 ppm	MID = 0 ppm
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED	INFLUENT :	[✓ YES] NO	EFFLUENT : [✓ YES] NO
		Serial # 83789	Serial # 83621

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 21 psi @ 4 scfm
CLEAN UP COMPOUND	✓		3 = 15 psi @ 11 scfm
			4 = 16.5 psi @ 12 scfm
AIR COMPRESSOR MOTOR BELT CHECKED	✓		9 = 18 psi @ 4 scfm
CLEAN AIR FILTER		✓	1 = 15 psi @ 10 scfm
INSPECT SPARGE WELLS		✓	8 = 17 psi @ 8 scfm
OTHER (specify)			7 = 18.5 psi @ 2 scfm
			AS-13 = 17.5 psi @ 2 scfm

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		✓	Pressure Readings:
AIR COMPRESSOR OIL CHANGED		✓	Blower to Carbon #1 = 3.25 psi
AIR COMPRESSOR MOTOR LUBED		✓	Mid = 0.85 psi
CONTROL PANEL INSPECTED/CLEANED	✓		Exhaust = .27 psi
OTHER (specify) * Service AC Before ReStart			* +/- 200 Gal of H2O in Tank

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 4-25-14 TECHNICIAN: G. Brandin

ARRIVAL TIME: 2:30pm DEPARTURE TIME: 3:40pm PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES [✓ NO] *IF NO:* Systom was off for cycling

RUNNING UPON DEPARTURE? [✓ YES] / NO *IF NO:* Restarted units for 2 weeks of operation —

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	N/A	See Curve
OPERATING TIME	(hr:mm)	2996.5	2,997.6 (TIME) 3:30pm
ELECTRICAL USAGE	(KWhr)	—	22036 KWH
WELL FIELD VACUUM	("Hg)	System Off	.85" Hg
SYSTEM VACUUM	("Hg)		1.50" Hg
Blower Temp	°F		187°F
AIR COMPRESSOR DUTY CYCLE	(seconds)	ON / OFF	Always [✓ ON] OFF
AIR COMPRESSOR SETTING	(psi)		47 psi
AIR COMPRESSOR HOURS	(hr:mm)	39,507	39,508

Pressure Reading's — Blower → Carb 1 = 3.25 psi / Mid = .88 psi / Exhaust = .28 psi

VAPOR CONCENTRATIONS	OVA Instrument used: [✓ PID] / FID		Calibrated: [✓ YES] / NO MiniRae
INFLUENT (PRE-OXIDIZER)	(ppmv)	1.1 ppm	Mid = 0 ppm
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED	INFLUENT :	YES / [✓ NO]	EFFLUENT : YES / [✓ NO]

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 22 psi @ 4 scfm
CLEAN UP COMPOUND		✓	3 = 18 psi @ 10 scfm
			4 = 16.5 psi @ 11.5 scfm
AIR COMPRESSOR MOTOR BELT CHECKED	✓		9 = 18.5 psi @ 4 scfm
CLEAN AIR FILTER	✓		1 = 17 psi @ 9 scfm
INSPECT SPARGE WELLS		✓	8 = 18 psi @ 8.5 scfm
OTHER (specify)			7 = 19 psi @ 2 scfm
			AS-13 = 18.5 @ 3 scfm

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED	✓		
AIR COMPRESSOR OIL CHANGED Added oil —		✓	* Took DTW's of Piezo's
AIR COMPRESSOR MOTOR LUBED		✓	For PES See Back —
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			+/- 200 Gal of H2O in Poly Tank —

WELL I.D.	DTW
PZ-1 =	13.64
PZ-2 =	14.23
PZ-3 =	13.99
PZ-4 =	13.03

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 4-4-14

TECHNICIAN: Brandon N. Jonson

ARRIVAL TIME: 11:00 am

DEPARTURE TIME: 1:00 pm

PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES [✓ NO] IF NO: Power Outage w/ Recent Storm's — System ran for Approx 258.6 hrs or 10.7 day's —

RUNNING UPON DEPARTURE? [✓ YES] / NO IF NO:

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	See Curve	See Curve
OPERATING TIME	(hr:mm)	2850.6	28,52.2 (TIME) 1:00pm
ELECTRICAL USAGE	(KWhr)	—	21,991 KWH
WELL FIELD VACUUM	("Hg)	—	.78" Hg
SYSTEM VACUUM	("Hg)	System	1.4" Hg
Blower Temp	°F	OFF	175 °F
AIR COMPRESSOR DUTY CYCLE	(seconds)	ON OFF	Alway's [✓ ON] OFF
AIR COMPRESSOR SETTING	(psi)		45 psi
AIR COMPRESSOR HOURS	(hr:mm)	39,477	39,480

X No changes to the Manifold —

VAPOR CONCENTRATIONS OVA Instrument used: [✓ PID] / FID Calibrated: [✓ YES] / NO

INFLUENT (PRE-OXIDIZER)	(ppmv)	1.3ppm	Mrs - 0ppm
EFLUENT (STACK)	(ppmv)	-0- ppm	
VAPOR SAMPLED		INFLUENT: YES / [✓ NO]	EFFLUENT: YES / [✓ NO]

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 22.5psi @ 4 scfm
CLEAN UP COMPOUND	✓		3 = 15 psi @ 11 scfm
			4 = 16.5 psi @ 12 scfm
AIR COMPRESSOR MOTOR BELT CHECKED	✓		9 = 19 psi @ 4 scfm
CLEAN AIR FILTER	✓		1 = 15 psi @ 10 scfm
INSPECT SPARGE WELLS		✓	8 = 17.5 psi @ 8 scfm
OTHER (specify)			7 = 20 psi @ 2 scfm
			AS-13 = 18.5 psi @ 2 scfm

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		✓	Blower to Carbon #1 = 3.24 psi
AIR COMPRESSOR OIL CHANGED Checked	Level -	OK	Mid = 0.84 psi
AIR COMPRESSOR MOTOR LUBED Service	Soon -	✓	Exhaust - 0.25 psi
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			+/- 200 Gal of H2O in 1000 Gal Poly Tank

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 5/1/14 TECHNICIAN: NICK JENSEN

ARRIVAL TIME: DEPARTURE TIME: PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES / [✓ NO] IF NO: POWER OUTAGE

RUNNING UPON DEPARTURE? [✓ YES] / NO IF NO:

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)		SEE BLOWER CURVE
OPERATING TIME	(hr:mm)	SYSTEM OFF	3137.9 (TIME)
ELECTRICAL USAGE	(KWhr)		22082 KWH
WELL FIELD VACUUM	~~("Hg)~~		-10.2 INWC
SYSTEM VACUUM	~~("Hg)~~		-17.9 INWC
BLOWER TEMP	(F°)		170°
AIR COMPRESSOR DUTY CYCLE	(seconds)	ON OFF	ON OFF
AIR COMPRESSOR SETTING	(psi)	N/A	35-40 PSI
AIR COMPRESSOR HOURS	(hr:mm)		39538

VAPOR CONCENTRATIONS	OVA Instrument used: [✓ PID] / FID		Calibrated: [✓ YES] / NO
INFLUENT (PRE-OXIDIZER)	(ppmv)	N/A	INFLUENT = 5 ppm 20.4% MIO = 0 ppm
EFLUENT (STACK)	(ppmv)		EFFLUENT = 0 ppm 20.8%
VAPOR SAMPLED	INFLUENT : YES / [✓ NO]		EFFLUENT : YES / [✓ NO]

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AIR SPARGE: AS-2 = 24 PSI / 4 CFM
CLEAN UP COMPOUND	X		AS-3 = 17 PSI / 11 CFM
			AS-4 = 18 PSI / 11 CFM
AIR COMPRESSOR MOTOR BELT CHECKED	X		AS-9 = 21 PSI / 4 CFM
CLEAN AIR FILTER	X		AS-1 = 17 PSI / 9 CFM
INSPECT SPARGE WELLS	X		AS-8 = 18 PSI / 7 CFM
OTHER (specify)			AS-7 = 21 PSI / 4 CFM
			AS-13 = 20 PSI / 4 CFM

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		X	
AIR COMPRESSOR OIL CHANGED		X	(APPROX 225 GALLONS H2O IN TANK)
AIR COMPRESSOR MOTOR LUBED		X	
CONTROL PANEL INSPECTED/CLEANED	X		NO CHANGES MADE TO VAPOR MANIFOLD OR
OTHER (specify)			AIR SPARGE MANIFOLD

CARBON PRESSURE: BEFORE 1st CARBON = 3.3 PSI
BETWEEN CARBONS = 1.7 PSI
AFTER CARBON (EXHAUST) = 0.5 PSI

LAKE TAHOE LAUNDRY WORKS

1024 LAKE TAHOE BLVD., LAKE TAHOE, CA

VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG

GENERAL MAINTENANCE LOG

DATE: 5-22-14 TECHNICIAN: G. Brandin

ARRIVAL TIME: 11:50Am DEPARTURE TIME: 3:30pm PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES [✓ NO] IF NO: System was shut down for cycling 2-Well's on / 2-Well's off -

RUNNING UPON DEPARTURE? [✓ YES] NO IF NO:
* Completed full service on AC unit & started system

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	—	See Blower Curve
OPERATING TIME	(hr:mm)	3331.5	3333.1 (TIME) 3:30pm
ELECTRICAL USAGE	(KWhr)	—	22,095 KWH
WELL FIELD VACUUM	("Hg)		1.50" Hg
SYSTEM VACUUM	("Hg)	System Off	2.15" Hg
			188°F
AIR COMPRESSOR DUTY CYCLE	(seconds)	~~ON OFF~~	Always [✓ ON] OFF
AIR COMPRESSOR SETTING	(psi)		47 PSI
AIR COMPRESSOR HOURS	(hr:mm)	39,544	39,546

VAPOR CONCENTRATIONS OVA Instrument used: [✓ PID] / FID Calibrated: [✓ YES] / NO (Mini Rae)

INFLUENT (PRE-OXIDIZER)	(ppmv)	1.3ppm	MID = 0ppm
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED	INFLUENT: YES / [✓ NO]		EFFLUENT: YES / [✓ NO]

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2: 22 psi @ 3scfm
CLEAN UP COMPOUND	✓		3: 16.5 psi @ 11 scfm
			4: 18 psi @ 10 scfm
AIR COMPRESSOR MOTOR BELT CHECKED	✓		9: 21.5 psi @ 4.5 scfm
CLEAN AIR FILTER	✓		1: 16 psi @ 10.5 scfm
INSPECT SPARGE WELLS		✓	8: 18 psi @ 10 scfm
OTHER (specify)			7: 21.5 psi @ 2.5 scfm
			AS-13: 20.5 psi @ 3 scfm

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED	✓		+/- 200-250 Gal of H2O in Tank
AIR COMPRESSOR OIL CHANGED	✓		
AIR COMPRESSOR MOTOR LUBED	✓		No Changes to the Manifold —
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 5-30-14 TECHNICIAN: G. BRANDIN

ARRIVAL TIME: 2:30 pm DEPARTURE TIME: 4:30 pm PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES / [✓ NO] IF NO: UNKNOWN SHUT DOWN — ONLY 1 HR OF OPERATION ON AC & 191 ON UNIT — POSSIBLY LOSING A LOT OF POWER CAUSING UNIT TO STOP BUT HR. METER STILL RUNS — WILL

RUNNING UPON DEPARTURE? [✓ YES] / NO IF NO:

INVESTIGATE FURTHER & DISCUSS W/ JACK — POSSIBLE THERMAL PROTECTION SHUT OFF MAY BE THE CAUSE —

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	—	SEE CURVE
OPERATING TIME	(hr:mm)	3524.7	3526.1 (TIME) 4:30pm
ELECTRICAL USAGE	(KWhr)	—	22,101 KWH
WELL FIELD VACUUM	("Hg)	SYSTEM OFF	1.53" Hg
SYSTEM VACUUM	("Hg)		2.20" Hg
BLOWER TEMP	°F		190 °F
AIR COMPRESSOR DUTY CYCLE	(seconds)	ON ~~OFF~~	ALWAYS [✓ ON] OFF
AIR COMPRESSOR SETTING	(psi)		47 PSI
AIR COMPRESSOR HOURS	(hr:mm)	39,547	39,548

VE-1,2,3,4,5,10,11,12,13 SHALLOW & DEEP & ALL HORIZONTAL WELLS ARE OPEN 100%

VAPOR CONCENTRATIONS	OVA Instrument used: [✓ PID] / FID	Calibrated: [✓ YES] / NO	MINI RAE
INFLUENT (PRE-OXIDIZER)	(ppmv)	0.6 ppm	MID = 0 ppm
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED	INFLUENT:	YES / [✓ NO]	EFFLUENT: YES / [✓ NO]

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 21.5 psi @ 3 scfm
CLEAN UP COMPOUND	✓		AS-3 = 16 psi @ 11 scfm
			AS-4 = 18 psi @ 10.5 scfm
AIR COMPRESSOR MOTOR BELT CHECKED	✓		AS-9 = 18.5 psi @ 4 scfm
CLEAN AIR FILTER		✓	AS-1 = 16.5 psi @ 9.5 scfm
INSPECT SPARGE WELLS		✓	AS-8 = 18 psi @ 9 scfm
OTHER (specify)			AS-7 = 19.5 psi @ 2 scfm
			AS-13 = 18.5 psi 3 scfm

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		✓	200-250 GA of H2O in TANK
AIR COMPRESSOR OIL CHANGED	CHECKED - LEVEL GOOD		
AIR COMPRESSOR MOTOR LUBED		✓	& NO CHANGE TO THE MANIFOLD
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			

P.E.S. DTW's

PZ-1 = 13.68

PZ-2 = 14.25

PZ-3 = 13.98

PZ-4 = 13.08

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 5-6-14

TECHNICIAN: G. BRANDIN

ARRIVAL TIME: 12:30pm

DEPARTURE TIME: 2:00pm

PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES / [✓ NO] IF NO: UNKNOWN - POWER OUTAGE

RUNNING UPON DEPARTURE? [✓ YES] / NO IF NO:

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	—	SEE CURVE
OPERATING TIME	(hr:mm)	3258.1	3259.3 (TIME) 2:00pm
ELECTRICAL USAGE	(KWhr)	—	22084 KWH
WELL FIELD VACUUM	("Hg)	SYSTEM OFF	70
SYSTEM VACUUM	("Hg)		1.25" H2O
Blower Temp	°F		183 °F
AIR COMPRESSOR DUTY CYCLE	(seconds)	~~ON OFF~~	Always [✓ ON] OFF
AIR COMPRESSOR SETTING	(psi)		38 PSI
AIR COMPRESSOR HOURS	(hr:mm)	39,539	39,540

VAPOR CONCENTRATIONS OVA Instrument used: [✓ PID] / FID Calibrated: [✓ YES] / NO MIN RATE

INFLUENT (PRE-OXIDIZER)	(ppmv)	3.6 ppm	MIN = 0 ppm
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED	INFLUENT YES [✓ NO]		EFFLUENT YES [✓ NO]

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 20.5 PSI @ 3 SCFM
CLEAN UP COMPOUND	✓		AS-3 = 16 PSI @ 11 SCFM
			AS-4 = 17 PSI @ 11 SCFM
AIR COMPRESSOR MOTOR BELT CHECKED	✓		AS-9 = 18.5 PSI @ 3 SCFM
CLEAN AIR FILTER	✓		AS-1 = 16 PSI @ 8.5 SCFM
INSPECT SPARGE WELLS		✓	AS-8 = 17.5 PSI @ 5 SCFM
OTHER (specify)			AS-7 = 19 PSI @ 3 SCFM
			AS-12 = 18.5 PSI @ 3 SCFM

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		✓	+/- 250 GAL of H2O in 1000 GAL TANK
AIR COMPRESSOR OIL CHANGED CHECKED LEVEL - OIL		✓	
AIR COMPRESSOR MOTOR LUBED		✓	NO CHANGES MADE TO THE WELLFIELD
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 5-9-14

TECHNICIAN: G Brandin

ARRIVAL TIME: 1:15pm

DEPARTURE TIME: 2:15

PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? [✓ YES] NO IF NO: AC Had Shut Down - High Disc Temp - Perform Service Before Restarting in 2-Weeks-

RUNNING UPON DEPARTURE? YES [✓ NO] IF NO: Shut System Down for Cycling - 2WKS -

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	See Curve	See Curve
OPERATING TIME	(hr:mm)	3330.4	3331.5 (TIME) 2:15pm
ELECTRICAL USAGE	(KWhr)	———	22092 KWH
WELL FIELD VACUUM	("Hg)	1.75"Hg	System OFF
SYSTEM VACUUM	("Hg)	2.30"Hg	
Blower Temp	°F	188°F	
AIR COMPRESSOR DUTY CYCLE	(seconds)	Always [✓ ON] OFF	ON OFF
AIR COMPRESSOR SETTING	(psi)	39 PSI	
AIR COMPRESSOR HOURS	(hr:mm)	39,543	39,544

VAPOR CONCENTRATIONS OVA Instrument used: [✓ PID] FID Calibrated: [✓ YES] NO Mini Rae

INFLUENT (PRE-OXIDIZER)	(ppmv)	4.8 ppm	MVO = 0 ppm
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED		INFLUENT : [✓ YES] NO	EFFLUENT : [✓ YES] NO
		Serial# 83622	Serial# 83794

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 20 PSI @ 3 SCFM
CLEAN UP COMPOUND	✓		AS-3 = 16 PSI @ 10.5 SCFM
			AS-4 = 16.5 PSI @ 10.5 SCFM
AIR COMPRESSOR MOTOR BELT CHECKED	✓		AS-9 = 18 PSI @ 3.5 SCFM
CLEAN AIR FILTER	✓		AS-1 = 16 PSI @ 8.5 SCFM
INSPECT SPARGE WELLS		✓	AS-8 = 16.5 PSI @ 6 SCFM
OTHER (specify)			AS-7 = 18 PSI @ 3 SCFM
			AS-13 = 18 PSI @ 3 SCFM

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		✓	+/- 250 Gal in H2O Tank -
AIR COMPRESSOR OIL CHANGED Checked	Level - OK	✓	
AIR COMPRESSOR MOTOR LUBED		✓	No Changes to the Well Field -
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 6-13-14 TECHNICIAN: G. BLANDIN

ARRIVAL TIME: 1:55 pm DEPARTURE TIME: 400 PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? [✓ YES] / NO IF NO: PRESSURE SWITCH HAD BEEN SHUTTING THE BLOWER DOWN ADJUSTED SETTING LAST WEEK UNLOCKED – SYSTEM RAN ALL WEEK – ISSUES W/ PLUMBING RESTRICTIONS –

RUNNING UPON DEPARTURE? YES / [✓ NO] IF NO: SYSTEM RUNNING TOO HOT - BLOWER @ 250 °F + SHUT DOWN FOR REPAIRS TO PLUMBING - BACK PRESSURE TOO MUCH

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	SEE CURVE	—
OPERATING TIME	(hr:mm)	3,857.7	3,859.6 (TIME) 400
ELECTRICAL USAGE	(KWhr)	—	22,391 KWH
WELL FIELD VACUUM	("Hg)	1.5" Hg	
SYSTEM VACUUM	("Hg)	2.10" Hg	SYSTEM
Blower Temp	°F	250+ °F	
AIR COMPRESSOR DUTY CYCLE	(seconds)	ALWAYS [✓ ON] OFF	~~ON OFF~~ OFF
AIR COMPRESSOR SETTING	(psi)	44 PSI	
AIR COMPRESSOR HOURS	(hr:mm)	39,716	39,718

VAPOR CONCENTRATIONS OVA Instrument used: [✓ PID] / FID Calibrated: [✓ YES] / NO MINI RAE

INFLUENT (PRE-OXIDIZER)	(ppmv)	1.8 ppm	MID = 0 ppm
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED		INFLUENT: YES / [✓ NO]	EFFLUENT: YES / [✓ NO]

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 20 PSI @ 3.5 scfm
CLEAN UP COMPOUND	✓		AS-3 = 16 PSI @ 11 scfm
			AS-4 = 17.5 PSI @ 11 scfm
AIR COMPRESSOR MOTOR BELT CHECKED	✓		AS-9 = 18.5 PSI @ 3.5 scfm
CLEAN AIR FILTER	✓		AS-1 = 16 PSI @ 9 scfm
INSPECT SPARGE WELLS		✓	AS-8 = 18 PSI @ 8.5 scfm
OTHER (specify)			AS-7 = 19 PSI @ 2 scfm
			AS-13 = 17.5 PSI @ 35 scfm

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		✓	250 GAL of H_2O in 1000 G POLY TANK
AIR COMPRESSOR OIL CHANGED	CHECKED	LEVEL - OK	
AIR COMPRESSOR MOTOR LUBED		✓	
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG

GENERAL MAINTENANCE LOG

DATE: 6-26-14
TECHNICIAN: G. BRANDIN/J. IRWIN
ARRIVAL TIME: 10:30Am
DEPARTURE TIME: 5:00pm
PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES [✓ NO] IF NO:

RUNNING UPON DEPARTURE? YES [✓ NO] IF NO:

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	See Curve	See Curve
OPERATING TIME	(hr:mm)	3859.6	(TIME) 5:00pm
ELECTRICAL USAGE	(KWhr)	—	22,394 KWH
WELL FIELD VACUUM	("Hg)	2.02" Hg	SYSTEM OFF
SYSTEM VACUUM	("Hg)	2.55" Hg	
Blower Temp	oF	196°F	
AIR COMPRESSOR DUTY CYCLE	(seconds)	Always [✓ ON] OFF	ON OFF
AIR COMPRESSOR SETTING	(psi)	44 PSI	
AIR COMPRESSOR HOURS	(hr:mm)	39,718	

VAPOR CONCENTRATIONS	OVA Instrument used: [✓ PID] / FID		Calibrated: [✓ YES] / NO MiniRae
INFLUENT (PRE-OXIDIZER)	(ppmv)	1.9 ppm	MID = 0 ppm
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED	INFLUENT :	[✓ YES] / NO	EFFLUENT : [✓ YES] NO
	Serial # 5150		Serial # 83622

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 20.5 psi @ 3 scfm
CLEAN UP COMPOUND		✓	AS-3 = 17 psi @ 11 scfm
			AS-4 = 18.5 psi @ 10 scfm
AIR COMPRESSOR MOTOR BELT CHECKED	✓		AS-9 = 19 psi @ 3.5 scfm
CLEAN AIR FILTER	✓		AS-1 = 17 psi @ 9 scfm
INSPECT SPARGE WELLS		✓	AS-8 = 16 psi @ 8 scfm
OTHER (specify)			AS-7 = 19 psi @ 7 scfm
			AS-13 = 18 psi @ 2 scfm

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		✓	+/- 250 Gal of H_2O in 1000 Gal Poly Tank
AIR COMPRESSOR OIL CHANGED Checked Level – OK			
AIR COMPRESSOR MOTOR LUBED		✓	
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			

P.E.S. DTW's

PZ-1 = 14.03
PZ-2 = 14.21
PZ-3 = 14.73
PZ-4 = 13.22

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG

GENERAL MAINTENANCE LOG

DATE: 6-6-14 TECHNICIAN: G. BRANDIN

ARRIVAL TIME: 12:05 pm DEPARTURE TIME: 3:00 pm PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES [✓ NO] IF NO: SEE ATTACHED NOTES —

RUNNING UPON DEPARTURE? [✓ YES] / NO IF NO:

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	SEE CURVE	SEE CURVE
OPERATING TIME	(hr:mm)	3689.6	3691.1 (TIME) 3:00 pm
ELECTRICAL USAGE	(KWhr)	←	22,106 KWH
WELL FIELD VACUUM	("Hg)	SYSTEM OFF	1.55" Hg
SYSTEM VACUUM	("Hg)		2.25" Hg
Blower Temp	°F		190°F
AIR COMPRESSOR DUTY CYCLE	(seconds)	ON ~~OFF~~	Always [✓ ON] OFF
AIR COMPRESSOR SETTING	(psi)		45 PSI
AIR COMPRESSOR HOURS	(hr:mm)	39,549	39,550

VAPOR CONCENTRATIONS OVA Instrument used: [✓ PID] / FID Calibrated: [✓ YES] / NO Mini Rae

INFLUENT (PRE-OXIDIZER)	(ppmv)	3.1 ppm	0 ppm (Min)
EFLUENT (STACK)	(ppmv)	0 ppm	
VAPOR SAMPLED	INFLUENT:	YES [✓ NO]	EFFLUENT: YES [✓ NO]

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-2 = 20.5 PSI @ 3 SCFM
CLEAN UP COMPOUND	✓		3 = 16 PSI @ 11 SCFM
			4 = 18 PSI @ 10.5 SCFM
AIR COMPRESSOR MOTOR BELT CHECKED	✓		9 = 19 PSI @ 2.5 SCFM
CLEAN AIR FILTER	✓		1 = 16.5 PSI @ 9.5 SCFM
INSPECT SPARGE WELLS		✓	8 = 18 PSI @ 8.75 SCFM
OTHER (specify)			7 = 19.5 PSI @ 2 SCFM
			AS-13: 18.5 PSI @ 3 SCFM

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		✓	200-250 GAL of H_2O in TANK
AIR COMPRESSOR OIL CHANGED CHECKED LEVEL IS OK		—	
AIR COMPRESSOR MOTOR LUBED		✓	* NO CHANGES TO THE MANIFOLD
CONTROL PANEL INSPECTED/CLEANED	✓		
OTHER (specify)			

CTLW

E2C REMEDIATION
DAILY ACTIVITY NOTES

DATE: 6-6-14

COMMENTS:

UPON ARRIVAL SYSTEM WAS OFF NOTE!
VE UNIT HOUR MOTOR SHOWED

163.5 HRS OF RUN TIME

AC SHOWED ONLY 1 HOUR OF RUN TIME - DISCUSSED W/ JACK

* TROUBLESHOOT BLOWER - (CIRCUIT)

POSSIBLE CAUSES:

A. THERMAL OVERLOAD -

B. PRESSURE SAFETY SWITCH

AMP LOAD ON BLOWER is up in LIMITS 63/51/50 DURING OPERATION -

* PRESSURE SWITCH IS SET @ 3.5 PSI
SYSTEM RUNNING NEAR THE SET POINT - 3.1 - 3.4 PSI @ (CARBON # 1)

PROBABLE CAUSE IS THE 6" TO 3" REDUCTION in PLUMBING FROM BLOWER TO CARBON VESSEL

SOLUTION: ADJUSTED PRESSURE SWITCH SETTING TO 5 PSI & WILL CONFIRM ON NEXT WEEK O&M VISIT -

ALSO:

* DISCUSSED W/ JACK & WILL WIRE THE HR MOTOR DIRECTLY TO THE BLOWER MOTOR STARTER IN THE EVENT OF PRESSURE SWITCH SHUTDOWN - THE HR. MOTOR WILL NOT LOG OPERATING HOURS - AS OPPOSED TO BEING WIRED DIRECTLY TO THE SWITCH CIRCUIT.

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 8-13-14 TECHNICIAN: J. Irwin

ARRIVAL TIME: DEPARTURE TIME: PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES / [✓ NO] IF NO:

RUNNING UPON DEPARTURE? YES / NO IF NO:

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	Based	on blower curve
OPERATING TIME	(hr:mm)	4669.9	4071.2 (TIME)
ELECTRICAL USAGE	(KWhr)	22531	22549
WELL FIELD VACUUM	("Hg)	N/A	20.8" H_2O
SYSTEM VACUUM	("Hg)		27.7" H_2O
Blower Temp		50°F	155°F
AIR COMPRESSOR DUTY CYCLE	(seconds)	ON [✓ OFF]	[✓ ON] OFF
AIR COMPRESSOR SETTING	(psi)	N/A	30PSI
AIR COMPRESSOR HOURS	(hr:mm)	39840	39841

VAPOR CONCENTRATIONS	OVA Instrument used: [✓ PID] / FID		Calibrated: [✓ YES] / NO
INFLUENT (PRE-OXIDIZER)	(ppmv)	0ppm	20.2% O_2
EFLUENT (STACK)	(ppmv)	0ppm	20.2% O_2
VAPOR SAMPLED	INFLUENT	YES / [✓ NO]	EFFLUENT: [✓ YES] / NO

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			AS-7-21psi-1scfm (all other AS wells OFF)
CLEAN UP COMPOUND	X		AS-3-16psi-10.5scfm
			AS-4-17psi-9.5scfm
AIR COMPRESSOR MOTOR BELT CHECKED		X	AS-9-19.5psi-1scfm
CLEAN AIR FILTER		X	AS-1-15psi-9scfm
INSPECT SPARGE WELLS	X		AS-8-17.5psi-6.5scfm
OTHER (specify)		X	AS-7-19.5psi-1scfm
			AS-13-19psi-1scfm

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		X	10-D, 10-S, 11-D 11-S, 12-D, 13-S, 13-D, 20-D, 1-S, 2-S,
AIR COMPRESSOR OIL CHANGED		X	12-S, 20-S, 3-S, H-3, H-2, H-4, 3-D, H-1, 1-D, H-6,
AIR COMPRESSOR MOTOR LUBED		X	2-D, 4-S, H-5, 5-D, 5-S, 4-D are 100% on
CONTROL PANEL INSPECTED/CLEANED	X		
OTHER (specify)		X	all others are off

LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BLVD., LAKE TAHOE, CA
VAPOR EXTRACTION / AIR SPARGE SYSTEM DATA LOG
GENERAL MAINTENANCE LOG

DATE: 8-4-14 TECHNICIAN: J. Irwin/N. Jensen

ARRIVAL TIME: DEPARTURE TIME: PROJECT #: 1950BK 25/31/35

SYSTEM RUNNING UPON ARRIVAL? YES / [✓ NO] IF NO:

RUNNING UPON DEPARTURE? [✓ YES] / NO IF NO:

DESCRIPTION	UNITS	UPON ARRIVAL	UPON DEPARTURE
FLOW RATE	(CFM)	based on blower curve	
OPERATING TIME	(hr:mm)	3859.5	3861.1 (TIME)
ELECTRICAL USAGE	(KWhr)	22387	22395
WELL FIELD VACUUM	("Hg)		25.5" H_2O
SYSTEM VACUUM	("Hg)		33.7" H_2O
AIR COMPRESSOR DUTY CYCLE	(seconds)	~~ON~~ [✓ OFF]	[✓ ON] OFF
AIR COMPRESSOR SETTING	(psi)		70 psi
AIR COMPRESSOR HOURS	(hr:mm)		39719

VAPOR CONCENTRATIONS	OVA Instrument used: [✓ PID] / FID		Calibrated: [✓ YES] / NO
INFLUENT (PRE-OXIDIZER)	(ppmv)	0ppm	17.7% O_2
EFFLUENT (STACK)	(ppmv)		
VAPOR SAMPLED	INFLUENT :	YES NO	EFFLUENT : [✓ YES] / NO

WEEKLY SERVICE RENDERED	YES	NO	COMMENTS
			replumbed system to bypass
CLEAN UP COMPOUND	X		carbons directly to atmosphere
AIR COMPRESSOR MOTOR BELT CHECKED		X	pressure washed compound
CLEAN AIR FILTER		X	
INSPECT SPARGE WELLS	X		
OTHER (specify)			

QUARTERLY SERVICE RENDERED	YES	NO	COMMENTS
AIR COMPRESSOR LUBED		X	
AIR COMPRESSOR OIL CHANGED		X	
AIR COMPRESSOR MOTOR LUBED		X	
CONTROL PANEL INSPECTED/CLEANED	X		
OTHER (specify)		X	

APPENDIX I

CRWQCB Approval Letter for SVE/GASS Cyclic Operations

California
Water Boards

Edmund G. Brown Jr.
Governor

Matthew Rodriquez
Secretary for
Environmental Protection

Lahontan Regional Water Quality Control Board

April 9, 2014

Seven Springs Limited Partnership
First Commercial Properties
5530 Birdcage Street, Suite 220
Citrus Heights, CA 95610

Fox Capitol Management Corporation
4582 S. Ulster Street Parkway, Suite 1100
Denver, CO 80237

ACCEPTANCE OF PROPOSAL FOR REMEDIATION OPERATION CHANGE, FORMER LAKE TAHOE LAUNDRY WORKS, 1024 LAKE TAHOE BOULEVARD, SOUTH LAKE TAHOE, EL DORADO COUNTY

This letter accepts the proposal to change remediation system operation at the Lake Tahoe Laundry Works property in South Lake Tahoe.

Background

On March 17, 2014, the Water Board received an electronic message from your consultant, E2C Remediation, containing preliminary results of groundwater sampling in first quarter 2014. The results showed PCE concentrations in groundwater at levels less than 10 ppb in all monitoring well locations sampled. Based on these low concentrations, E2C requested to operate the remediation system at a reduced level, cycling it for two weeks on and two weeks off, during second quarter 2014.

Remediation Operation Change

As stated in an April 7, 2014 electronic message from Lisa Dernbach of this office to Tim Hasler of E2C Remediation, the Water Board accepts the proposal to change operation of the on-site remediation system. This acceptance is in effect as long as PCE concentrations do not rebound in groundwater or soil vapor by increasing one order of magnitude above concentrations detected in first quarter 2014. If PCE concentrations should rebound in second quarter 2014 or any subsequent quarter, the remediation system will need to return to full scale operation within 14 days of detection.

You may contact Lisa Dernbach at (530) 542-5424 if you have any questions.

Lauri Kemper

LAURI KEMPER, P.E.
ASSISTANT EXECUTIVE OFFICER

cc: PCE Interested Party Mail List

LSD/adw/T: LTLW remediatn acceptance 4-14
Send to file: SLIC, El Dorado Co., T6S043

APPENDIX J

Hexavalent Chrome Data Summary Table

TABLE 9
SUMMARY OF HEXAVALENT CHROMIUM ANALYTICAL DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Well ID	Sample Date	Hexavalent Chromium (ug/L)
LW-MW-1S	12/20/12	nd<10
	4/22/13	**8.0**
	5/2/13	nd<1.0
	9/19/13	nd<1.0
LW-MW-2S	12/20/12	nd<10
	4/22/13	nd<1.0
	5/2/13	nm
	9/19/13	nd<1.0
LW-MW-5S	9/19/13	nd<1.0

Notes:

nd< = Not detected at, or above, the Method Reporting Limit (MRL), which is indicated by the value

APPENDIX K

Request for EDCAQMD Permitting Exemption
And
EDCAQMD Approval Letter

El Dorado County
AIR QUALITY MANAGEMENT DISTRICT

AIR POLLUTION PERMIT EXEMPTION

Business: **Lake Tahoe Laundry Works**

Emission Unit(s): **Soil and Groundwater Remediation Operation**

Equipment Location: **Lake Tahoe Laundry Works**
1024 Lake Tahoe Blvd.
South Lake Tahoe, CA

CERTIFICATION: This is to certify that, effective **August 1, 2014**, the Soil and Groundwater Remediation Operation as specified below is exempt from permitting based on the following:

Operations subject to El Dorado County Air Quality Management District (AQMD) Rule 501, General Permit Requirements are generally issued an Authority to Construct followed by a Permit to Operate. However, soil and groundwater remediation operations that emit less than 2 pounds in any 24 hour period of any pollutants without the benefit of air pollution control devices are exempt from this requirement. (Rule 501.1.N)

Soil and groundwater remediation may occur at the above address with VOC emissions **not to exceed a total of 1.9 pounds per day**, and subject to the following conditions:

- The District shall be notified and an Authority to Construct application and fees must be submitted within 14 days of the finding by E2C Remediation that total VOC emissions exceed 1.9 pounds per day;
- All soil and groundwater remediation operations shall be compliant with District Rules; and,
- All records of sampling during and after the operation's closure are to be kept, and these records shall be made available to the District upon request.

Compliant with the conditions of this exemption, a permit to operate is not required for this operation and the Granular Activated Carbon Adsorption emissions capture system may be removed.

This exemption is based on the following project description:

Project Description: The applicant, E2C Remediation proposes to perform soil and groundwater remediation not to exceed VOC emissions of 1.9 pounds per day at the above location.

The APCO has determined that the proposed soil and groundwater remediation operation, *only as described above,* is exempt from an Air Pollution Permit to Operate from the AQMD. This exemption does not expire unless revoked by AQMD.

Approved: ______________________ Date: 7/29/14
(Dave Johnston, Air Pollution Control Officer)

I certify that I understand this exemption applies only to the soil and groundwater remediation operation at 1024 Lake Tahoe Blvd. in South Lake Tahoe. By signing this Certification below, I acknowledge that this exemption will remain in effect until:

(1) The above named equipment is modified, replaced, substituted or added to; or,
(2) I expand the operation or into another business category that requires an air permit.

Please note that with the addition of other equipment or operations to the site that would on their own require a permit from the District, the soil and groundwater remediation operation's emissions will also be reevaluated as part of the New Source Review Potential to Emit determination.

EXEMPTION CERTIFICATIONS ARE NOT TRANSFERABLE.

(After signing below, send or fax copy to District, and post original at place of business)

Applicant Name: ______________________ Title: ______________________
(Please print)

Signature: ______________________ Date: ______________

E$_2$C Remediation
Environmental Engineering,
Consulting and Remediation, Inc.

July 24, 2014

Ms. Lisa Peterson
County of El Dorado AQMD
330 Fair Lane
Placerville, CA 95667

SUBJECT:

Request for Exemption To Permitting
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Dear Ms. Peterson:

Pursuant to your request, E$_2$C respectfully requests an Exemption to Permitting from El Dorado County Air Quality Management District for the above-captioned site (Site). This request is based on remedial system operational data through April 24, 2014 that indicate the remedial system VOC system extraction removal rate has been less than 2 pounds per day (lbs/day) since February 2011 (based on laboratory-derived influent concentration data).

Please note that a typographic error was found in Table 1 of the First Quarter 2014 Remediation Systems Report, dated May 8, 2014. That error was at the bottom of the table where the monthly mass removal rates were summarized. This same error was also found in the Fourth Quarter 2013 Groundwater Monitoring Report and Current Site Remediation Status Report, dated March 19, 2014. This error has been corrected and the table updated to include data collected since issuance of those reports. A copy is attached, as well as a copy of historical influent data, also showing the recent laboratory-derived data collected since January 2014. The correction and updates will be reflected in subsequent status reports. I am also emailing a copy of the table so you can see the calculation formulas.

Sincerely,
E$_2$C Remediation

William Lawson

WILLIAM A. LAWSON
Exp. 8/31/14
No. 7171

William A. Lawson, P.G. #7171
Director of Technical Operations

Attachments: Table 1 and Table 2

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

1020 Winding Creek Road, Suite 110, Roseville, CA 95678
tel 916.782.8700 fax 916.782.8750

TABLE 1
SUMMARY OF SVE/GASS OPERATIONAL DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Date Monitored	Operational Status	Cumulative Calendar	Hour Meter	Cumulative Operating	Inlet Flow	Vacuum		Influent Oxygen Content	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted	Removal Rates
						System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
	on Arrival	**Days**	**Reading**	**Hours**	**(scfm)**	**(in-Hg)**		**(%)**	**(ppmV)**	**(ppmV)**	**(ppmV)**				**(lbs/hr)**				**(lbs)**	**(lbs/day)**
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	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	0.432
4/16/10	off	8	369.4	167.4	500	3.50	3.50	20.2	110	0									3.419	0.491
4/29/10	off	21	678.9	476.9	500	3.70	3.70	20.1	80	0									7.917	0.349
5/6/10	on	28	841.0	639.0	500	4.50	4.50	20.9	25	0									10.27	0.349
5/12/10	on	34	978.7	776.7	500	3.50	3.50	20.9	90	0									12.27	0.349
6/1/10	off	54	1,462	1,260	500	3.70	3.70	20.9	90	0									19.30	0.349
6/15/10	on	68	1,834	1,632	500	3.30	3.30	20.8	65	0									24.71	0.349
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	26.19	0.207
7/2/10	on	85	2,199	1,997	500	3.30	3.30	20.8	170	0									30.90	0.585
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	0.000	0.000	38.16	0.553
7/22/10	off	105	2680.0	2,478	500	3.00	3.00	20.7	120	0									43.00	0.700
7/28/10	off	111	2681.0	2,479	500	3.26	3.26	20.7	160	0									43.06	1.400
8/5/10	on	119	2850.0	2,648	500	3.15	3.15	nm	120	0									52.91	1.400
8/5/10	on	119	2853.0	2,651	500	3.14	3.14	nm	210	0									53.09	1.400
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	0.00000	0.027	60.2	1.025
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	1.779
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	3.873
9/3/10	on	148	3568.3	3,366	500	2.80	2.80	20.7	195	10									143.5	4.929
9/8/10	on	153	3694.4	3,492	500	2.80	2.80	20.7	85	0									169.9	5.022
9/15/10	on	160	3863.0	3,661	500	5.16	5.16	20.1	60	0									205.2	5.022
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	5.114
9/23/10	off	168	4051.5	3,850	500	4.15	4.15	20.9	190	0									243.2	4.841
9/28/10	on	173	4169.9	3,968	500	3.99	4.00	20.1	130	0									265.3	4.475
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	298.3	4.110
10/13/10	on	188	4532.7	4,331	500	5.71	5.71	20.8	135	0									319.7	3.021
10/22/10	on	197	4746.8	4,545	500	5.00	5.00	20.9	190	0									340.2	2.297
10/28/10	off	203	4889.2	4,687	500	4.95	4.95	20.1	180	0									353.8	2.297
11/4/10	on	210	5056.4	4,854	500	4.83	4.83	nm	110	0									369.8	2.297
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	0.000	0.000	0.035	382.9	1.573
11/23/10	off	229	5684.7	5,483	0	nm	nm	nm	0	0									390.5	0.425
12/1/10	off	237	5684.7	5,483	500	2.60	2.60	nm	200	0									390.5	
12/7/10	on	243	5826.3	5,624	500	3.24	3.24	20.1	190	0									395.0	0.768
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	0.000	0.033	402.0	0.775
1/4/11	off	271	6463.5	6,262	500	2.89	nm	20.1	80	0									427.4	1.452
1/14/11	off	281	6707.8	6,506	500	2.00	nm	20.9	55	0									449.0	2.120
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	468.9	2.869
1/27/11	on	294	7018.5	6,817	500	2.50	nm	20.9	45	0									485.6	2.774
2/2/11	on	300	7158.7	6,957	500	3.03	3.03	20.9	45	0									496.9	1.931
2/11/11	on	309	7375.1	7,173	500	2.80	2.80	20.9	25	0									514.3	1.931
2/21/11	off	319	7616.5	7,415	500	2.80	2.80	20.4	30	0									533.7	1.931
3/4/11	off	330	7879.0	7,677	500	3.00	3.00	20.8	75	0									554.8	1.931
3/11/11	on	337	8048.6	7,847	500	4.45	4.45	20.9	220	0									568.5	1.931
3/26/11	off	352	8456.8	8,255	500	5.00	5.00	19.8	200	0									601.3	1.931
4/6/11	off	363	8674.5	8,473	500	5.90	nm	nm	0	0									618.8	1.931
4/12/11	off	369	8675.5	8,474	500	1.95	1.95	20.8	60	0									618.9	1.931
5/11/11	off	398	9322.6	9,121	500	nm	nm	nm	nm	nm									671.0	1.931
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	0.000	0.000	0.010	678.5	1.091
5/24/11	on	411	9632.8	9,431	500	4.10	4.10	nm	20	0									681.6	0.520
6/1/11	on	419	9823.0	9,621	500	3.50	3.50	20.8	10	0									687.9	0.790

TABLE 1
SUMMARY OF SVE/GASS OPERATIONAL DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Date Monitored	Operational	Cumulative	Hour	Cumulative	Inlet	Vacuum		Influent Oxygen Content	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted	Removal Rates
	Status	Calendar	Meter	Operating	Flow	System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
	on Arrival	**Days**	**Reading**	**Hours**	**(scfm)**	**(in-Hg)**		**(%)**	**(ppmV)**	**(ppmV)**	**(ppmV)**				**(lbs/hr)**				**(lbs)**	**(lbs/day)**
6/9/11	on	427	10012.3	9,810	500	4.00	4.00	20.8	20	0									694.1	0.790
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	0.000	0.000	0.055	699.6	1.061
6/21/11	on	439	10303.2	10,101	500	5.50	5.50	nm	2.8	0									706.7	1.024
6/27/11	on	445	10446.1	10,244	500	4.80	4.80	nm	0	0									711.0	0.718
7/5/11	no	453	10637.1	10,435	500	5.50	5.50	nm	5.0	0									716.7	0.718
7/12/11	no	460	10803.4	10,601	0	0.00	0.00		0	0									719.2	0.359
7/13/11	no	461	10803.9	10,602	500	3.00	3.00	20.1	260	10									719.2	0.359
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	0.000	0.000	0.004	721.7	0.411
7/27/11	yes	475	11164.6	10,963	500	3.00	3.00	20.9	205	5									722.4	0.081
8/11/11	yes	490	11526.4	11,324	500	4.75	4.75	20.6	120	0									723.3	0.057
8/18/11	no	497	11692.8	11,491	500	4.60	4.60	nm	3										723.7	0.057
8/26/11	yes	505	11883.2	11,681	500	2.30	2.30	20.6	103	0									724.1	0.057
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	0.000	0.000	0.0004	724.3	0.033
9/7/11	no	517	12170.7	11,969	500	3.75	3.75	nm	5	1									725.9	0.239
9/15/11	no	525	12362.0	12,160	500	3.70	3.70	nm	4	0.5									729.7	0.468
9/22/11	yes	532	12531.8	12,330	500	4.50	4.50	nm	3	6									733.0	0.468
9/29/11	yes	539	12703.5	12,502	500	4.60	4.60	nm	285	0									736.3	0.468
10/5/11	no	545	12838.8	12,637	0	0.00	0.00	0.0	67	0									737.7	0.234
10/6/11	no	546	12839.3	12,637	500	nm	nm	nm	160	0									737.7	0.234
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	0.000	0.041	742.8	0.722
10/18/11	yes	558	13130.1	12,928	500	5.00	5.00	20.9	45	0									747.0	0.846
10/26/11	yes	566	13324.3	13,122	500	3.00	3.00	20.6	60	0									752.8	0.717
11/30/11	no	601	13324.3	13,122	500	4.00	4.00	20.3	50	0									752.8	
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	0.000	0.021	758.5	0.649
12/15/11	yes	616	13681.1	13,479	500	3.50	3.50	20.8	160	0									761.4	0.463
12/21/11	yes	622	13825.5	13,624	500	3.00	3.00	20.8	85	0									763.8	0.398
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	0.000	0.000	0.013	768.7	0.348
1/12/12	yes	644	14353.0	14,151	500	3.15	3.15	20.9	60	0									771.3	0.333
1/17/12	no	649	14471.7	14,270	500	3.60	3.60	20.8	85	0									772.6	0.264
1/25/12	no	657	14667.2	14,465	500	4.10	4.10	20.9	90	0									773.7	0.132
2/3/12	no	666	14881.7	14,680	500	4.23	4.23	20.8	70	0									775.1	0.164
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	0.000	0.000	0.016	777.0	0.315
2/17/12	no	680	15215.9	15,014	0	0.00	0.00	0.0	0	0									778.6	0.195
3/8/12	no	700	15215.9	15,014	0	0.00	0.00	0.0	0	0									778.6	

TABLE 1
SUMMARY OF SVE/GASS 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		Influent Oxygen Content	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted	Removal Rates
						System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
						(in-Hg)		(%)	(ppmV)	(ppmV)	(ppmV)				(lbs/hr)				(lbs)	(lbs/day)
3/29/12	no	721	15215.9	15,014	500	0.00	0.00	0.0	0	0									778.6	
4/18/12	no	741	15216.0	15,014	500	3.50	3.50	nm	4	0									778.6	0.390
4/26/12	no	749	15407.3	15,205	0	0.00	0.00	0.0	0	0									780.1	0.195
5/1/12	yes	754	15525.6	15,324	500	3.50	2.50	nm	10	0									781.1	0.195
5/8/12	yes	761	15693.3	15,491	500	3.50	2.50	nm	10	0									783.8	0.390
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	0.000	0.000	0.016	786.2	0.390
5/23/12	yes	776	16053.1	15,851	500	3.95	3.00	nm	20-23	0									790.6	0.502
5/30/12	yes	783	16220.0	16,018	500	3.00	3.00	nm	15.3	0									794.9	0.613
6/8/12	no	792	16438.7	16,237	500	3.95	3.00	nm	14.3	0									800.5	0.613
6/14/12	yes	798	16582.0	16,380	500	0.00	0.00	0.0	0	0									804.2	0.613
6/21/12	no	805	16584.2	16,382	500	3.50	2.75	nm	30	0									804.2	0.613
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	0.000	0.000	0.035	808.4	0.725
7/20/12	no	834	17275.9	17,074	500	4.5	4.00	20.8	35	0									825.2	0.731
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	0.000	0.000	0.017	828.4	0.518
8/1/12	yes	846	17564.2	17,362	500	4.0	3.40	nm	18.3	0									830.4	0.344
8/8/12	yes	853	17736.3	17,534	500	3.3	2.60	nm	20.6	0									832.4	0.275
8/16/12	no	861	17925.7	17,724	500	4.0	3.25	nm	21	0									834.6	0.275
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	0.000	0.000	0.006	835.6	0.207
8/28/12	yes	873	18212.9	18,011	500	4.5	5.20	20.8	40.0	0									836.3	0.104
9/7/12	no	883	18452.3	18,250	0	0.0	0.00	0.0	0.0	0									836.7	0.035
9/13/12	no	889	18452.3	18,250	500	5.5	4.15	nm	28.6	0	ND	ND	ND	ND	0.000	0.000	0.000	0.000	836.7	
9/18/12	yes	894	18714.5	18,513	500	4.5	3.75	nm	14.1	0									836.8	0.011
9/28/12	yes	904	18949.8	18,748	500	4.1	3.40	nm	13.6	0									837.0	0.023
10/3/12	yes	909	19072.9	18,871	500	4.75	3.95	nm	18.6	0									837.2	0.023
10/12/12	no	918	19074.2	18,872	500	2.80	3.15	nm	13.1	0									837.2	0.023
10/17/12	yes	923	19191.5	18,990	500	2.32	1.86	20.3	20	0									837.3	0.023
10/23/12	yes	929	19335.9	19,134	500	3.75	2.50	20.8	65	0									837.4	0.023
10/31/12	yes	937	19527.3	19,325	500	2.45	2.00	nm	25	0	0.145	ND	ND	0.233	0.002	0.000	0.000	0.002	837.7	0.034
11/6/12	yes	943	19673.6	19,472	500	2.75	2.30	20.8	40	0									837.9	0.034
11/19/12	yes	956	19985.0	19,783	500	2.80	2.35	nm	14.4	0									838.2	0.023
11/30/12	no	967	20248.3	20,046	500	4.90	4.33	nm	5.0	0	ND	ND	ND	ND	0.000	0.000	0.000	0.000	838.3	0.011
11/5/13	off	967	36969.0	20,046	500	3.71	2.98	nm	149.5	1.6									838.3	
11/15/13	on	977	37209.0	20,286	500	2.75	2.25	nm	13.6	0.3									838.9	0.061
11/22/13	on	984	170.7	20,457	500	2.80	2.25	nm	6.3	1.1	0.39	ND	ND	1.7	0.005	0.000	0.000	0.005	839.6	0.092
11/26/13	on	988	266.3	20,553	500	2.80	2.25	nm	6.1	0.4									840.1	0.131
12/4/13	on	996	459.9	20,746	500	2.95	2.50	nm	5.8	0									841.2	0.138
12/10/13	on	1,002	599.9	20,886	500	2.80	2.25	nm	4.6	0.1	0.49	ND	ND	0.09	0.006	0.000	0.000	0.006	842.1	0.146
12/19/13	on	1,011	812.3	21,099	500	2.95	2.50	nm	5.1	0									843.3	0.137
12/27/13	off	1,019	1006.4	21,293	500	2.96	2.50	nm	5.3	0									844.2	0.120
1/3/14	on	1,026	1173.1	21,459	500	2.90	2.30	nm	4.3	0									845.1	0.120
1/7/14	on	1,030	1267.9	21,554	500	2.90	2.30	nm	3.9	0	0.27	ND	ND	ND	0.004	0.000	0.000	0.004	845.5	0.102
1/14/14	on	1,037	1434.8	21,721	500	2.90	2.30	nm	5.4	0									845.9	0.064
1/20/14	on	1,043	1577.8	21,864	500	3.20	2.60	nm	0.7	0									846.2	0.042
1/28/14	off	1,051	1767.7	22,054	500	1.87	1.48	nm	3.6	0									846.5	0.042
1/31/14	off	1,054	1834.9	22,121	500	1.88	1.49	nm	4.6	0									846.6	0.042
2/4/14	on	1,058	1927.1	22,213	500	2.21	1.74	nm	2.4	0									846.8	0.042
2/14/14	on	1,068	2165.5	22,452	500	3.65	3.11	nm	5.0	0									847.2	0.042
2/18/14	off	1,072	2166.9	22,453	500	1.54	1.07	nm	5.0	0									847.2	0.042
2/26/14	on	1,080	2354.3	22,641	500	2.75	2.30	nm	0.0	0									847.5	0.042
2/28/14	off	1,082	2356.6	22,643				nm			ND	ND	ND	0.025	0.000	0.000	0.000	0.000	847.5	0.021

TABLE 1
SUMMARY OF SVE/GASS OPERATIONAL DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Date Monitored	Operational	Cumulative	Hour	Cumulative	Inlet	Vacuum		Influent Oxygen Content	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted	Removal Rates
	Status	Calendar	Meter	Operating	Flow	System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
	on Arrival	**Days**	**Reading**	**Hours**	**(scfm)**	**(in-Hg)**		**(%)**	**(ppmV)**	**(ppmV)**	**(ppmV)**				**(lbs/hr)**				**(lbs)**	**(lbs/day)**
3/6/14	on	1,088	2495.7	22,782	500	2.60	2.00	nm	2.4	0									847.5	0.000
3/20/14	off	1,102	2497.4	22,784	500	1.25	0.70	nm	0.0	0									847.5	0.000
3/24/14	off	1,106	2592.0	22,878	500	1.20	0.65	nm	1.2	0	ND	ND	ND	0.048	0.000	0.000	0.000	0.000	847.5	0.000
4/4/14	off	1,117	2852.2	23,139	500	1.40	0.78	nm	1.3	0									847.6	0.006
4/10/14	on	1,123	2996.5	23,283	500	1.44	0.80	nm	0.8	0	0.022			0.011	0.000	0.00	0.00	0.000	847.7	0.009
4/25/14	off	1,138	2997.6	23,284	500	1.50	0.85	nm	1.1	0									847.7	0.008

TABLE 1
SUMMARY OF SVE/GASS OPERATIONAL DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Date Monitored	Operational	Cumulative	Hour	Cumulative	Inlet	Vacuum		Influent Oxygen Content	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted	Removal Rates
	Status	Calendar	Meter	Operating	Flow	System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
	on Arrival	**Days**	**Reading**	**Hours**	**(scfm)**	**(in-Hg)**		**(%)**	**(ppmV)**	**(ppmV)**	**(ppmV)**				**(lbs/hr)**				**(lbs)**	**(lbs/day)**

Notes: **System shut down for ozone sparging on 11/30/12; system restarted on 11/5/13 per CRWQCB directive, dated 11/1/13**

On 11/5/13, the hour meter was not functioning and therefore the air compressor hour meter was used from 11/5/13 to 11/15/13; on 11/15/13, a new hour meter was installed

Average Mass Removal Rates	(lbs/day)
Nov-13	0.100
Dec-13	0.130
Jan-14	0.065
Feb-14	0.033
Mar-14	0.003
Apr-14	0.007
Average	0.056

The formula for calculating the potential influent to the First Carbon Unit is:

lbs/day = Effluent Mass to 1`st Carbon (ppmV) (laboratory-derived) x 10-6 x Influent Flow Rate (scfm) x 1 lb-mole/379.5 ft3 x 165.82 (lb/lb-mole) (VOC mass) x 60 (min/hour) x 24 hours/day

-- = Data not available / not recorded
cis-1,2-DCE = cis-1,2-Dichloroethene
in-Hg = Inches of Mercury
lbs/day = Pounds per day
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 Syst
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)

** = 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
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

TABLE 1
SUMMARY OF SVE/GASS OPERATIONAL DATA
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

Date Monitored	Operational Status	Cumulative Calendar	Hour Meter	Cumulative Operating	Inlet Flow	Vacuum		Influent Oxygen Content	Field Vapor Total VOCs		Lab Vapor Influent				VOCs Extracted				Cumulative VOCs Extracted	Removal Rates
						System	Wellfield		Influent	Effluent	PCE	TCE**	cis-1,2-DCE	Other VOCs	PCE	TCE**	cis-1,2-DCE	Total		
	on Arrival	**Days**	**Reading**	**Hours**	**(scfm)**	**(in-Hg)**		**(%)**	**(ppmV)**	**(ppmV)**	**(ppmV)**				**(lbs/hr)**				**(lbs)**	**(lbs/day)**

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
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-plumed 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
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
1/14/2014 - Re-plumb carbon vessels and added carbon to vessel #1; pumped carbob vessel #2 to remoe dust from vessel
1/28/14 - System off on arrival, possibly from a power outage; operating normally upon system startup; hour meter reading shows that system was only down for one hour before arrival to site
1/31/14 - 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
2/18/14 - System off on arrival due to power outage
2/26/14 - System shut down for repairs to carbon vessel piping
2/28/14 - System restarted after repairs to carbon vessel piping
3/6/14 - System shutdown for repairs to carbon vessel piping
3/20/14 - System restarted after repairs to carbon vessel piping
3/24/14 - 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

TABLE 2

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
		ppmV				
Influent	4/8/10	**0.680**	**0.031**	**0.041**	nd<0.01	nd<0.01
	4/9/10 - Test 9	**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	**6.61**	**0.281**	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**
	10/6/10	**11.8**	**0.104**	**0.033**	nd<0.041	**0.112**
	11/11/10	**2.7**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/16/10	**2.18**	**0.39**	nd<0.01	nd<0.01	nd<0.01
	1/21/11	**11.30**	**0.228**	**0.028**	nd<0.025	**0.241**
	5/18/11	**0.795**	nd<0.01	nd<0.01	nd<0.01	**0.049**
	6/14/11	**4.23**	nd<0.027	nd<0.027	nd<0.027	**1.181**
	7/18/11	**0.332**	nd<0.01	nd<0.01	nd<0.01	**0.419**
	8/31/11	**0.028**	nd<0.01	nd<0.01	nd<0.01	**0.015**
	10/13/11	**2.95**	**0.187**	nd<0.01	nd<0.01	**0.0197**
	12/9/11	**1.61**	**0.024**	nd<0.01	nd<0.01	**29.6**
	1/4/12	**0.997**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	2/9/12	**1.24**	**0.0124**	nd<0.01	nd<0.01	nd<0.01
	5/14/12	**1.24**	nd<0.01	nd<0.01	nd<0.01	**0.056**
	6/27/12	**2.66**	nd<0.01	nd<0.01	nd<0.01	**0.03**
	7/26/12	**1.31**	**0.013**	nd<0.01	nd<0.01	nd<0.01
	8/21/12	**0.441**	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	**0.145**	nd<0.01	nd<0.01	nd<0.01	**0.233**
	11/30/12	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	11/22/13	**0.39**	nd<0.010	nd<0.010	nd<0.010	**1.7**
	12/10/13	**0.49**	nd<0.010	nd<0.010	nd<0.010	**0.09**
	1/7/14	**0.27**	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	**0.025**
	3/20/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	**0.048**
Operational Average		**3.303**	**0.230**	**0.574**	**0.000**	**2.130**

TABLE 2
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**
		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	**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**
	10/6/10	**1.5**	**0.034**	nd<2.00	nd<2.00	**0.032**
	11/11/10	**2.52**	nd<2.00	nd<2.00	nd<2.00	**0.024**
	1/21/11	**1.35**	nd<0.025	nd<0.025	nd<0.025	nd<0.025
	5/18/11	**1.00**	nd<0.01	nd<0.01	nd<0.01	**0.026**
	6/14/11	**2.00**	**0.109**	**0.128**	nd<0.029	**0.626**
	7/18/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	**0.195**
	8/31/11	nd<0.01	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/13/11	**0.142**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	12/9/11	**1.61**	**0.024**	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	**0.297**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
Operational Average		**1.811**	**0.100**	**0.144**	**0.000**	**1.513**

TABLE 2

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**
		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	**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
	10/6/10	**0.206**	nd<0.01	**0.024**	nd<0.01	nd<0.01
	11/11/10	**2.93**	**0.263**	nd<2.00	nd<0.01	**0.286**
	12/16/10	**0.948**	**0.067**	nd<2.00	nd<0.01	nd<0.01
	1/21/11	**3.68**	**0.233**	**0.081**	nd<0.027	**0.249**
	5/18/11	**0.106**	nd<0.01	nd<0.01	nd<0.01	**0.152**
	6/14/11	nd<0.029	nd<0.029	nd<0.029	nd<0.029	nd<0.029
	7/18/11	**0.187**	nd<0.01	nd<0.01	nd<0.01	**0.176**
	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	**0.633**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	6/27/12	**0.04**	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	**0.287**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	9/13/12	**0.346**	nd<0.01	nd<0.01	nd<0.01	nd<0.01
	10/31/12	**0.117**	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	**0.13**	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	**0.128**
	3/20/14	nd<0.010	nd<0.010	nd<0.010	nd<0.010	**1.50**
Operational Average		**0.801**	**0.188**	**0.139**	**0.00**	**0.415**

TABLE 2
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
		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

EXHIBIT II

EL DORADO COUNTY
AIR QUALITY MANAGEMENT DISTRICT

AIR POLLUTION PERMIT EXEMPTION

Business: **Lake Tahoe Laundry Works**

Emission Unit(s): **Soil and Groundwater Remediation Operation**

Equipment Location: **Lake Tahoe Laundry Works**
1024 Lake Tahoe Blvd.
South Lake Tahoe, CA

CERTIFICATION: This is to certify that, effective **August 1, 2014**, the Soil and Groundwater Remediation Operation as specified below is exempt from permitting based on the following:

Operations subject to El Dorado County Air Quality Management District (AQMD) Rule 501, General Permit Requirements are generally issued an Authority to Construct followed by a Permit to Operate. However, soil and groundwater remediation operations that emit less than 2 pounds in any 24 hour period of any pollutants without the benefit of air pollution control devices are exempt from this requirement. (Rule 501.1.N)

Soil and groundwater remediation may occur at the above address with VOC emissions **not to exceed a total of 1.9 pounds per day**, and subject to the following conditions:

- The District shall be notified and an Authority to Construct application and fees must be submitted within 14 days of the finding by E2C Remediation that total VOC emissions exceed 1.9 pounds per day;
- All soil and groundwater remediation operations shall be compliant with District Rules; and,
- All records of sampling during and after the operation's closure are to be kept, and these records shall be made available to the District upon request.

Compliant with the conditions of this exemption, a permit to operate is not required for this operation and the Granular Activated Carbon Adsorption emissions capture system may be removed.

This exemption is based on the following project description:

Project Description: The applicant, E2C Remediation proposes to perform soil and groundwater remediation not to exceed VOC emissions of 1.9 pounds per day at the above location.

The APCO has determined that the proposed soil and groundwater remediation operation, *only as described above,* is exempt from an Air Pollution Permit to Operate from the AQMD. This exemption does not expire unless revoked by AQMD.

Approved: ______________________ Date: 7/29/14
(Dave Johnston, Air Pollution Control Officer)

I certify that I understand this exemption applies only to the soil and groundwater remediation operation at 1024 Lake Tahoe Blvd. in South Lake Tahoe. By signing this Certification below, I acknowledge that this exemption will remain in effect until:

(1) The above named equipment is modified, replaced, substituted or added to; or,
(2) I expand the operation or into another business category that requires an air permit.

Please note that with the addition of other equipment or operations to the site that would on their own require a permit from the District, the soil and groundwater remediation operation's emissions will also be reevaluated as part of the New Source Review Potential to Emit determination.

EXEMPTION CERTIFICATIONS ARE NOT TRANSFERABLE.

(After signing below, send or fax copy to District, and post original at place of business)

Applicant Name: ______________________ Title: ______________________
(Please print)

Signature: ______________________ Date: ______________

EXHIBIT JJ

January 19 2016

Ms. Lisa Dernbach
Senior Engineering Geologist
Regional Water Quality Control Board, Lahontan Region
2501 Lake Tahoe Blvd.
South Lake Tahoe, California 96150

Re: Final PCE Investigation Report
South Lake Tahoe, California

Dear Ms. Dernbach:

URS Corporation Americas (URS) is pleased to present this report for the tetrachloroethene (PCE) investigation within a nine-block area in South Lake Tahoe, El Dorado County, California (site) (Figure 1). This report was prepared on behalf of the State of California Department of General Services – Real Estate Services Division under Agreement No. 3181300, Task Order Number 5. The purpose of the investigation was to evaluate PCE concentrations in groundwater near several potential sources.

Background information and other data used in preparing this work plan have been furnished to URS by the State of California and/or third parties. URS has relied on this information as furnished, and is neither responsible for nor has confirmed the accuracy of this information. The data interpretation, conclusions, and recommendations presented in the report were governed by URS' experience and professional judgment. This report has been prepared based on data current at the time of preparation. Assumptions based on this data, although believed to be reasonable and appropriate, may not prove to be true in the future as new data are collected. The conclusions and recommendations of URS are conditioned upon these assumptions.

1.0 BACKGROUND

In June 2014, the Lukins Brothers Water Company in South Lake Tahoe notified the Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board [LWB]) of detections of tetrachloroethene (PCE) at concentrations greater than the maximum contaminant level (MCL) of 5 parts per billion (ppb) in two municipal wells: No. 2 and No. 5. PCE at levels up to 46 ppb detected in the municipal wells was a large increase over lower PCE levels detected in previous years. The source(s) of PCE is unknown and both municipal wells were shut off in July 2014, leaving Lukins with just one municipal well in operation and no backup water supply.

During the summer of 2014, LWB staff collected samples from 10 private wells operating within the Lukins Brothers Water Company service area. Sampling was conducted to determine whether other wells besides the two Lukins municipal wells are impacted with PCE. Sample results from two private wells (Figure 1) showed PCE levels greater than the 5 ppb MCL. PCE was detected at 52 ppb in a domestic well at a residential-office property and at 260 ppb in a domestic well for a restaurant and apartment complex. The owner of the former well converted to bottled water as a water supply source when notified of the sample results. The owner of the latter well, regulated as small community water supply by El Dorado County, elected to open a connection to a Lukins water line to maintain continuous water supply.

Results of private well sampling have narrowed the area of likely PCE discharge to a nine-block area in the city. Businesses that use or may have used the solvent have already been researched.

2.0 SITE DESCRIPTION

The site is within the city of South Lake Tahoe (Figure 1). The site is bounded by 11th Street to the northwest, Roger Avenue to the south-southwest, Patricia Lane to the northeast, and 5th Street to the southeast, which is north and adjacent to the Emerald Bay Road and Lake Tahoe Boulevard intersection, colloquially referred to as the “Y.” Land use within the site is predominately residential with commercial properties along Emerald Bay Road and Eloise Avenue.

Topographic coverage of the site is provided by the United State Geological Survey 7.5-minute series quadrangle of Emerald Bay, California, dated 2012. According to the topographic map, topography at the site is relatively flat with a decreasing gradient to the east. Elevation at the site is approximately 6,275 feet above mean sea level.

2.1 Geology

The site is situated on the eastern flank of the Sierra Nevada Mountain Range within the Sierra Nevada Geomorphic Province. The near surface geology is characterized as alluvial deposits based on the soil cores obtained during this investigation. Generally, coarse-grained material (e.g., sand and silty sand) were predominate from the surface to the maximum depth explored (up to 40 feet). Thin layers of fine-grained material (e.g., silt and clay) approximately 1 to 2 feet thick were encountered between approximately 8 and 12 feet below ground surface (bgs) and 18 to 23 feet bgs across the site. Weathered granitic rock was encountered in the northern portion of the site within the depth range of 12 to 24 feet (SB-16 through SB-19). Table 1 summarizes the soil type encountered at each sample depth. Appendix B includes the boring logs.

2.2 Hydrogeology

The flow of groundwater in the Lake Tahoe Basin is towards the lake unless intercepted by a surface water body or a pumping well. As shown on Figure 1, four active municipal wells operate in the west side of the city limits with Lake Tahoe existing beyond the north edge of the map.

During this investigation, groundwater was encountered at approximately 14 to 17 feet bgs in most borings, but was encountered as deep as 24 feet bgs in some borings. According to the *Third Quarter 2015 Groundwater Monitoring Report and Current Site Remediation Status Report* for the nearby Lake Tahoe Laundry Works site at 1024 Lake Tahoe Boulevard, the groundwater flow direction is generally northwest to north (Engineering Remediation, 2015), though groundwater has been shown to flow to the north-northeast in previous years (PES Environmental, Inc., 2006; Stantec Consulting Inc., 2008).

3.0 SCOPE OF WORK

Following a proposed scope of work presented in the *PCE Investigation Work Plan, South Lake Tahoe, California* (URS, 2015), URS conducted a groundwater investigation within the city of South Lake Tahoe to evaluate potential properties responsible for PCE discharge(s).

3.1 Pre-Field Activities

3.1.1 Database Review

URS contacted Environmental Database Resources, Inc. (EDR) to provide a report identifying on which environmental databases the site and surrounding sites are listed and their current regulatory status. The California State Water Resources Control Board Geotracker database provides information on the Lake Tahoe Laundry Works site, located at 1024 Lake Tahoe Boulevard and shown in Figure 1. This site is the only active PCE case in the South Y area where remedial actions are being implemented.

Because LWB previously researched businesses within the site boundary that used or likely used PCE in their operations, the focus of the database review was to identify potential properties downgradient of the site boundary as defined in this investigation but upgradient and cross-gradient to Lukins wells No. 2 and No. 5 that could be responsible for or contributing to PCE-impacted groundwater detected at Lukins No. 2 and No. 5 wells.

The EDR database report indicates that there a few businesses that may use PCE in their operations within the area between the site boundary and Lukins wells No. 2 and No. 5, generally between Anita Road to the north, Tahoe Vista Drive to the east, Highway 89/Emerald Bay Road to the south, and 15th Street to the west. Appendix A includes the EDR database report.

3.1.2 Permitting and Access

Before field activities began, URS obtained a drilling permit from the County of El Dorado Environmental Management Department (Permit #6633) and encroachment permit (Permit #EN15-082) from the City of South Lake Tahoe. Several borings were located on private properties, which required access from the property owners. All access agreements were secured prior to mobilization.

3.1.3 Health and Safety

URS prepared a site-specific health and safety plan with traffic control plans that was reviewed by all field staff prior to beginning field work and was available on site through the duration of the field work.

3.1.4 Utility Clearance

On October 21, 2015, Ground Penetrating Radar Systems of Sacramento, California, cleared all boring locations of subsurface utilities using a ground penetrating radar (GPR) system (GSSI, model SIR-3000) with a 400 MHz GPR antenna and radio detection to detect live power and communication signals. URS also notified Underground Service Alert to clear each drilling location for utilities approximately 48 hours before field activities began.

4.0 FIELD INVESTIGATION

4.1 Drilling

Between October 26 and 30 and November 12 and 13, 2015, Enprobe of Oroville, California, advanced 22 2-inch-diameter borings (SB-01 through SB-22) using a direct-push drill rig and dual-tube system to approximately 24 to 40 feet bgs (Figure 2). Table 1 summarizes the depths of each boring. The upper 5 feet of each boring was hand-cleared to prevent encounters with utility lines. Soil core was continuously collected in acetate liners and logged by a URS geologist using the United Soil Classification System. A photoionization detector (PID) was used to determine the presence of organic vapors in the soil core. No elevated PID readings were detected. Appendix B includes the boring logs from SB-01 through SB-22.

Borings were backfilled with neat cement grout from total depth to approximately 1 foot bgs and finished with concrete or cement to match surrounding surface.

4.2 Hydropunch Sampling

Two grab groundwater samples were collected from each boring, except at SB-18 where the drill rig encountered a tight formation at approximately 28 feet bgs that did not yield adequate sample volume. Samples generally were collected from the water table and approximately 10 feet below the water table or as directed by LWB. Groundwater was encountered at approximately 14 to 17 feet bgs, but was encountered as deep as 24 feet bgs in some borings.

Upon reaching each sampling depth, groundwater was purged from the boring to ensure formation water entered the boring and representative samples were collected. Groundwater samples were collected using a Hydropunch or bailer and transferred into 40-milliliter acid-preserved volatile organic analysis vials without headspace or bubbles. All sampling equipment was washed with a non-phosphate detergent and rinsed after each use. Samples were placed on ice and transported to a laboratory under control of chain-of-custody and analyzed within allowable holding times. Samples were analyzed for volatile organic compounds (VOCs) using United States Environmental Protection Agency (EPA) Method 8260B and total petroleum hydrocarbons using EPA Method SW8015.

4.3 Well Sampling

Three inactive groundwater monitoring wells on Patricia Lane that are associated with another site were identified during the utility locating. LWB directed URS to sample the shallow and intermediate wells with the hopes that the wells would provide useful groundwater data.

URS measured the total depth of the shallow well (22.4 feet bgs) and the groundwater level (16.22 feet bgs) before using a peristaltic pump to purge stagnant water within its casing. Temperature, pH, conductivity, turbidity, and ORP were measured to evaluate stabilization before sampling. Samples were analyzed for VOCs and total petroleum hydrocarbon (TPH) using Method 8260B and SW8015, respectively. Appendix C contains the sample data sheet for the shallow well (PATLANSS).

Upon inspection of the intermediate well, URS noted that the security lid was missing and well casing was not intact. Based on these observations, LWB and URS jointly decided not to sample the intermediate well and instead collect a hydropunch sample (SB-22).

5.0 RESULTS

Tables 2 and 3 summarize the PCE results in hydropunch and well samples, respectively. Table 4 summarizes the diesel results in hydropunch samples. The format of the sample names indicate the boring name, sample depth, and type of sample (i.e., NS or FD indicates a normal or field duplicate sample, respectively). Appendix D includes the laboratory analytical reports with a quality assurance/quality control review.

5.1 Lithology

As discussed in Section 2.1, lithology at the site consisted of predominately coarse-grained material (e.g., sand and silty sand) from the surface to 40 feet with interbedded layers of fine-grained material (e.g., silt and clay) approximately 1 to 2 feet thick between 8 and 12 feet bgs and 18 to 23 feet bgs across the site. Table 1 summarizes the soil type encountered at each sample.

5.2 Volatile Organic Compounds

Curtis and Tompkins of Berkeley, California, analyzed all groundwater samples for VOCs using Method SW8260B.

5.2.1 VOCs

Of the 42 hydropunch samples that were collected during this investigation, 6 samples had detectable PCE concentrations:

- SB-08-14-NS: 1.80 micrograms per liter (µg/L)
- SB-09-16-FD: 1.40 µg/L
- SB-10-16-NS: 1.60 µg/L
- SB-19-36-NS: 0.6 µg/L
- SB-21-23-NS: 3 µg/L

All PCE concentrations were less than the California Maximum Contaminant Level of 5 µg/L. Based on these results, no specific sources of PCE contamination were identified within the horizontal and vertical boundaries of the project area.

Some low-level concentrations of various VOCs were reported, but at concentrations less than their respective MCLs.

5.3 Total Petroleum Hydrocarbons

Of the 42 samples collected during this investigation, 26 samples had detectable diesel concentrations that ranged from 24 J µg/L in SB-04-18-NS to 380 J in SB-13-26-NS (Table 4). Concentrations of TPH as diesel were detected throughout the entire study area, with higher concentrations reported adjacent to and north of Eloise Avenue businesses, as shown in Figure 3. Seventeen of the 26 diesel detections exceed the secondary MCL of 100 µg/L enforced by LWB.

TPH as gasoline was detected in 5 of the 42 samples at concentrations, ranging from 51 J µg/L in SB-12-12-NS to 170 J in SB-10-16-NS (Appendix C). The highest reported gasoline detection was in a shallow groundwater sample on James Avenue near the corner of 10th Street. All five detections exceed the secondary MCL of 5 µg/L enforced by LWB.

5.3.1 Well Sample Results

The sample collected from the shallow groundwater monitoring well (PATLNSS) did not contain detectable levels of VOCs or TPH.

LWB sampled groundwater monitoring wells EW-4A, EW-4B, MW-4A, MW-4B, and Hurzel-N (Figures 2 and 3). Monitoring well designs for these locations are included in Appendix B2; Hurzel-N, shown on Figures 1 through 3, is identified as MW-3 for the Hurzel Properties wells listed in Appendix B. PCE was detected at MW-4A and MW-4B at concentrations of 14 and 150 µg/L, respectively. Low PCE concentrations were also detected at EW-4B and Hurzel-N. No other VOCs or diesel were detected in any of the well samples. The laboratory report for these samples is included near the end of Appendix D.

5.4 QA/QC

URS completed a quality assurance/quality control review of all analytical data obtained during this investigation (except for the data provided to URS by LWB) according to EPA’s guidelines for accuracy, precision, and completeness (Appendix D). No issues were noted in the review.

6.0 DEVIATIONS FROM THE WORK PLAN

6.1 Boring Relocations

Several borings needed to be relocated based on access limitations, obstructions, utilities, or property owner requests:

- SB-01 and SB-15 were relocated due to nearby utilities.
- SB-05 was relocated due to the property owner not granting access.
- SB-07 was relocated to avoid the Caltrans right-of-way on Highway 89/Emerald Bay Road, respectively.
- SB-18 was added to evaluate groundwater conditions upgradient of a potential source.
- SB-22 was added to evaluate groundwater conditions upgradient of the Lukins No. 4 supply well.

6.2 Well Sampling

Three inactive groundwater monitoring wells associated with a site that received regulatory closure was observed near the intersection of Patricia Lane and Shore Drive during the geophysical survey. LWB directed URS to collect samples from the shallow and intermediate wells and analyze the samples for VOCs and TPH.

Subsection 5.3.2 presents sample results from these wells.

6.3 Sample Analyses

TPH was added to the sample analyses at the request of the LWB to use as a marker for potential PCE source contributors.

Section 5.3 discusses the TPH sample results.

7.0 WASTE DISPOSAL

All soil cuttings and decontamination water were stored in 55-gallon drums at a nearby Lukins Brothers Water Company maintenance yard until proper disposal. Representative samples were collected from the drums and submitted for laboratory analysis of VOCs by SW8260 and lead by SW6010. Laboratory results indicate that the waste is characterized as non-hazardous and disposing of the waste is currently in process.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Between October 26 and 30, 2015 and November 12 and 13, 2015, URS completed a groundwater investigation that comprised of 42 hydropunch samples from 22 geoprobe borings that were advanced to approximately 20 to 40 feet bgs. Samples were analyzed for VOCs by EPA Method 8260B and TPH by SW8015. PCE was detected in 5 of the 42 samples at concentrations less than the MCL of 5 µg/L; PCE concentrations in the remaining samples were less than the reporting limit of 0.5 µg/L.

Based on the results of this investigation, URS concludes:

- The highest PCE concentrations were detected at the eastern end of the site boundary, as supported by the results at MW-4A, MW-4B, and SB-21B (14, 150, and 3 µg/L, respectively).
- PCE detections in the eastern end were separated from PCE detections in the western end by 1,100 feet and three locations showing non-detect concentrations. This information suggests separate PCE sources for each end of the study boundary.
- The test results indicate no pattern connecting PCE detections with TPH as diesel or gasoline detections.
- TPH has not been detected in water supply wells in the west side of the city and, therefore, is not a constituent of concern. Considering that PCE is a dense, non-aqueous phase liquid and no

significant detections were found within the vertical extent of the investigation, a potential PCE source may to be located farther upgradient or cross-gradient than expected and/or PCE may be present in deeper water-bearing zones within the site boundary.

- PCE-impacted groundwater at Lukins wells No. 2 and No. 5 could originate from potential sources between the site boundary and Lukins wells No. 2 and No. 5 in addition to a source upgradient to the site boundary.

Therefore, URS recommends:

- Additional sampling at depths greater than those explored in this investigation within the site boundary and at multiple depths upgradient and/or cross-gradient of the site.
- Additional sampling in the south, east, and north directions to define the extent of PCE contamination at depths aligned with the screened intervals of wells MW-4A and MW-4B.
- Routinely sample Lukins well No. 4 for VOCs using Method SW8260B to evaluate potential impacts from PCE migration within the screened interval coinciding with the water-bearing zone.
- Further evaluate potential sources upgradient to Lukins wells No. 2 and No. 5 in the general area bounded by Anita Road to the north, Tahoe Vista Drive to the east, Highway 89/Emerald Bay Road to the south, and 15th Street to the west.

9.0 REFERENCES

Engineering Remediation, 2015. *Third Quarter 2015 Groundwater Monitoring Report and Current Site Remediation Status Report, Lake Tahoe Laundry Works, 1024 Lake Tahoe Boulevard, South Lake Tahoe, California*. November 11.

PES Environmental, Inc., 2006. *Additional Soil Investigation, Lake Tahoe Laundry Works, 1024 Lake Tahoe Boulevard, South Lake Tahoe, California*. January 31.

Stantec Consulting Inc., 2008. *Second Quarter 2008 Water Quality Report, Former Dry Cleaning Business, 949 Emerald Bay Road, South Lake Tahoe*. August 21.

URS, 2015. *Lukins Service Area PCE Investigation Work Plan, South Lake Tahoe, California*. October 8.

If you have any questions or require additional information, please contact Ms. Chani Hutto at (916) 679-2313 or me at (916) 679 2055.

Sincerely,
URS Corporation Americas

Chani Hutto

Chani Hutto
Project Geologist

Edmund Tarter, P.E.
Project Manager

REGISTERED PROFESSIONAL ENGINEER
EDMUND D. TARTER
No. 64825
Exp. 6/30/17
CIVIL
STATE OF CALIFORNIA

Attachments:

Table 1	Depths and Lithology at Sample Depths
Table 2	PCE Results – Hydropunch Samples
Table 3	PCE Results – Well Samples
Table 4	Diesel Results – Hydropunch Samples.

Figure 1	Site Location
Figure 2	PCE Concentrations in Groundwater
Figure 3	Diesel Concentrations in Groundwater

Appendix A	EDR Database Report
Appendix B	Boring Logs/Well Completion Information
Appendix C	Field Data Sheets
Appendix D	Laboratory Analytical Reports with QA/QC Review

cc: Mr. Daniel O’Brien, DGS

TABLES

Table 1. Depths and Lithology at Sample Depths

Boring Name	Boring Depth (feet)	Sample Depth (feet bgs)	USCS Symbol
SB-01A	32	16	SW/SM
SB-01B		26	SW
SB-02A	30	16	ML/SW
SB-02B		24	SM/ML
SB-03A	36	24	SW
SB-03B		32	SW
SB-04A	32	16	ML/SP
SB-04B		28	SM/ML
SB-05A	28	16	SW/ML
SB-05B		24	SW
SB-06A	28	14	SW
SB-06B		24	SW/SM
SB-07A	30	16	SW
SB-07B		26	SW
SB-08A	30	14	SP/SM
SB-08B		28	SP
SB-09A	28	16	SW/SM
SB-09B		24	SW/ML
SB-10A	28	16	SM/ML
SB-10B		26	SW
SB-11A	24	12	SM
SB-11B		22	SW
SB-12A	24	12	SW
SB-12B		22	SW
SB-13A	30	16	ML/SW
SB-13B		26	SM
SB-14A	32	20	SM
SB-14B		30	ML
SB-15A	32	20	SM/ML
SB-15B		30	ML
SB-16A	32	20	SW
SB-16B		30	SW
SB-17A	32	20	SW
SB-17B		30	SW
SB-18A	28	12	SM
SB-19A	40	26	SW
SB-19B		36	SM
SB-20A	34	32	SM
SB-21A	34	20	SP
SB-21B		32	SM
SB-22A	34	20	SP
SB-22B		32	SP

bgs = below ground surface

ML = silt

SM = silty sand

SW = well graded sand

SP = poorly graded sand

USCS = Unified Soil Classification System

Table 2. PCE Results - Hydropunch Samples

Location	Sample ID	Sample Date	Sample Code	PCE (µg/L)
SB-01A	SB-01-16-NS	10/29/15	NS1	<0.5
SB-01B	SB-01-26-NS	10/28/15	NS1	<0.5
SB-02A	SB-02-16-NS	11/13/15	NS1	<0.5
SB-02B	SB-02-24-NS	11/13/15	NS1	<0.5
SB-03A	SB-03-24-FD	10/30/15	FD1	<0.5
SB-03A	SB-03-24-NS	10/30/15	NS1	<0.5
SB-03B	SB-03-32-NS	10/30/15	NS1	<0.5
SB-04A	SB-04-16-NS	11/12/15	NS1	<0.5
SB-04B	SB-04-18-NS	11/12/15	NS1	<0.5
SB-05A	SB-05-16-NS	10/28/15	NS1	<0.5
SB-05B	SB-05-24-NS	10/28/15	NS1	<0.5
SB-06A	SB-06-14-NS	10/30/15	NS1	<0.5
SB-06B	SB-06-24-NS	10/30/15	NS1	<0.5
SB-07A	SB-07-16-NS	10/28/15	NS1	<0.5
SB-07B	SB-07-26-NS	10/28/15	NS1	<0.5
SB-08A	SB-08-14-NS	11/12/15	NS1	**1.80**
SB-08B	SB-08-28-NS	11/12/15	NS1	<0.5
SB-09A	SB-09-16-FD	10/28/15	FD1	**1.40**
SB-09A	SB-09-16-NS	10/28/15	NS1	**1.20**
SB-09B	SB-09-24-NS	10/28/15	NS1	<0.5
SB-10A	SB-10-16-NS	10/28/15	NS1	**1.60**
SB-10B	SB-10-26-NS	10/28/15	NS1	<0.5
SB-11A	SB-11-12-NS	10/28/15	NS1	<0.5
SB-11B	SB-11-22-NS	10/28/15	NS1	<0.5
SB-12A	SB-12-12-NS	10/29/15	NS1	<0.5
SB-12B	SB-12-22-NS	10/29/15	NS1	<0.5
SB-13A	SB-13-16-NS	10/27/15	NS1	<0.5
SB-13B	SB-13-26-NS	10/27/15	NS1	<0.5
SB-14A	SB-14-20-FD	10/27/15	FD1	<0.5
SB-14A	SB-14-20-NS	10/27/15	NS1	<0.5

Table 2 PCE Results - Hydropunch Samples (continued)

Location	Sample ID	Sample Date	Sample Code	PCE (µg/L)
SB-14B	SB-14-30-NS	10/27/15	NS1	<0.5
SB-15A	SB-15-20-NS	10/27/15	NS1	<0.5
SB-15B	SB-15-30-NS	10/27/15	NS1	<0.5UJ
SB-16A	SB-16-20-NS	10/26/15	NS1	<0.5
SB-16B	SB-16-30-NS	10/26/15	NS1	<0.5
SB-17A	SB-17-20-NS	10/26/15	NS1	<0.5
SB-17B	SB-17-30-NS	10/26/15	NS1	<0.5 UJ
SB-18A	SB-18-12-NS	10/29/15	NS1	<0.5 UJ
SB-19A	SB-19-26-NS	10/26/15	NS1	<0.5 UJ
SB-19B	SB-19-36-NS	10/26/15	NS1	**0.6**
SB-20A	SB-20-32-NS	11/13/15	NS1	<0.5
SB-21A	SB-21-20-FD	11/12/15	FD1	<0.5
SB-21A	SB-21-20-NS	11/12/15	NS1	<0.5
SB-21B	SB-21-32-NS	11/12/15	NS1	**3**
SB-22A	SB-22-20-NS	11/13/15	NS1	<0.5
SB-22B	SB-22-32-NS	11/13/15	NS1	<0.5

FD1 = field duplicate
ID = identification
NS1 = normal sample
PCE = tetrachloride
SB-01A = shallow sample depth
SB-01B = deep sample depth

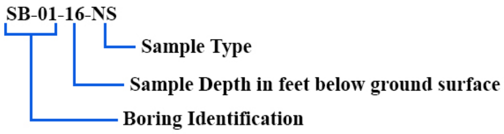


Table 3. PCE Results - Well Samples

Location	Sample ID	Sample Date	Sample Code	PCE (µg/L)
PATLNSS-S	PATLANSS-S	10/28/15	NS1	<0.5
MW-4A	516 RB 6028 MW-4A	10/30/15	-	14
MW-4B	516 RB 6027 MW-4B	10/30/15	-	150
EW-4A	516 RB 6030 EW-4A	10/30/15	-	<0.5
EW-4B	516 RB 6029 EW-4B	10/30/15	-	0.49
Hanzel-N	516 RB 6026 Hanzel-N	10/30/15	-	1.9

ID = identification
NS1 = normal sample
PCE = tetrachloride
µg/L = micrograms per liter
< = less than

Table 4. Diesel Results - Hydropunch Samples

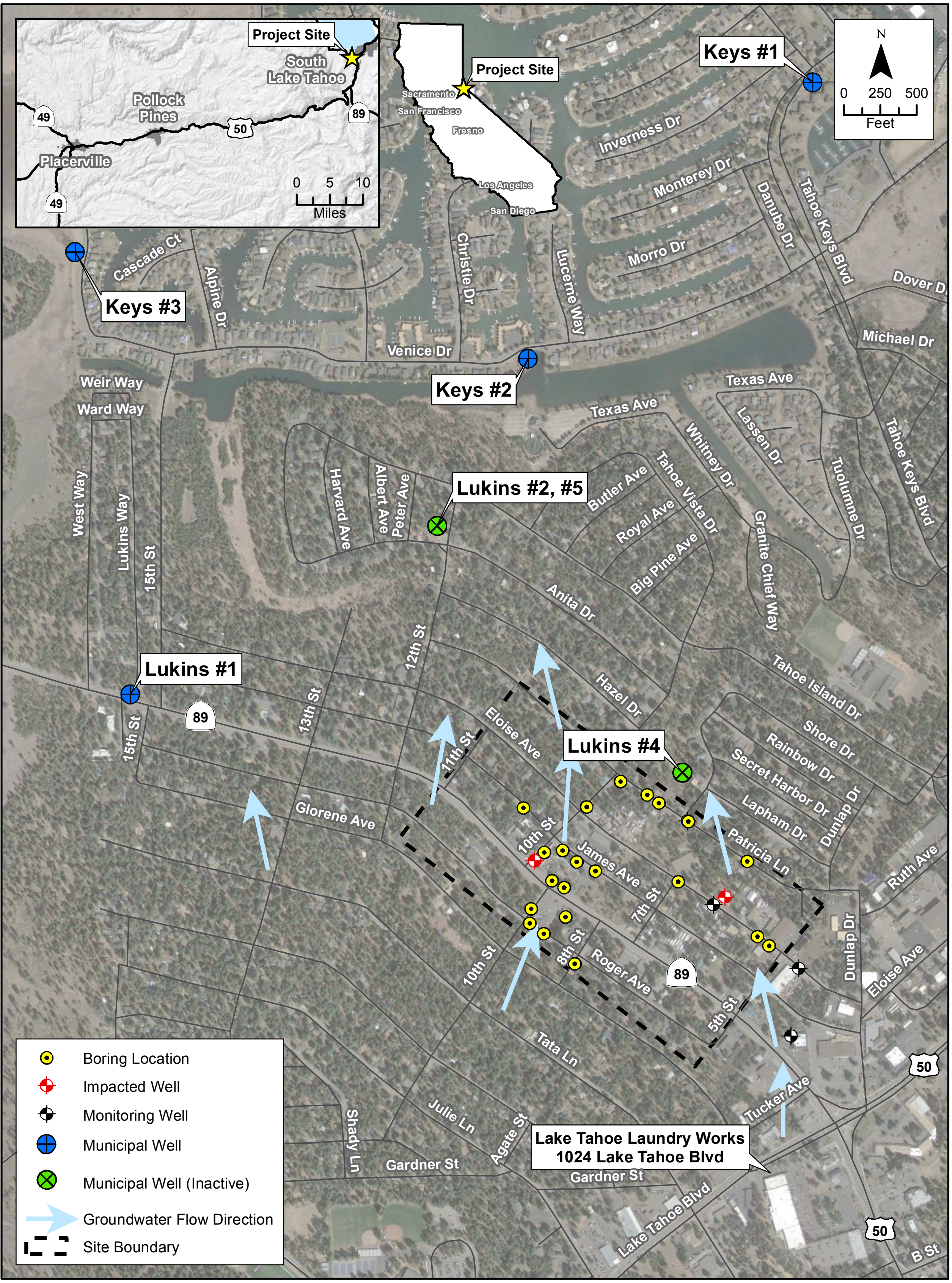
Location	Sample ID	Sample Date	Sample Code	Diesel (µg/L)
SB-01A	SB-01-16-NS	10/29/15	NS1	<63
SB-01B	SB-01-26-NS	10/28/15	NS1	<59
SB-02A	SB-02-16-NS	11/13/15	NS1	<50
SB-02B	SB-02-24-NS	11/13/15	NS1	**61 J**
SB-03A	SB-03-24-FD	10/30/15	FD1	**140 J**
SB-03A	SB-03-24-NS	10/30/15	NS1	<50 UJ
SB-03B	SB-03-32-NS	10/30/15	NS1	<56
SB-04A	SB-04-16-NS	11/12/15	NS1	<50
SB-04B	SB-04-18-NS	11/12/15	NS1	**52 J**
SB-05A	SB-05-16-NS	10/28/15	NS1	<63
SB-05B	SB-05-24-NS	10/28/15	NS1	<63
SB-06A	SB-06-14-NS	10/30/15	NS1	<56
SB-06B	SB-06-24-NS	10/30/15	NS1	**260 J**
SB-07A	SB-07-16-NS	10/28/15	NS1	**78 J**
SB-07B	SB-07-26-NS	10/28/15	NS1	**66 J**
SB-08A	SB-08-14-NS	11/12/15	NS1	<50
SB-08B	SB-08-28-NS	11/12/15	NS1	<50
SB-09A	SB-09-16-FD	10/28/15	FD1	<56
SB-09A	SB-09-16-NS	10/28/15	NS1	<56
SB-09B	SB-09-24-NS	10/28/15	NS1	<63
SB-10A	SB-10-16-NS	10/28/15	NS1	**190 J**
SB-10B	SB-10-26-NS	10/28/15	NS1	**97 J**
SB-11A	SB-11-12-NS	10/28/15	NS1	<59
SB-11B	SB-11-22-NS	10/28/15	NS1	<67
SB-12A	SB-12-12-NS	10/29/15	NS1	**140 J**
SB-12B	SB-12-22-NS	10/29/15	NS1	<56
SB-13A	SB-13-16-NS	10/27/15	NS1	**260 J**
SB-13B	SB-13-26-NS	10/27/15	NS1	**380 J**
SB-14A	SB-14-20-FD	10/27/15	FD1	**130 J+**
SB-14A	SB-14-20-NS	10/27/15	NS1	**130 J+**

Table 4 Diesel Results - Hydropunch Samples (continued)

Location	Sample ID	Sample Date	Sample Code	Diesel (µg/L)
SB-14B	SB-14-30-NS	10/27/15	NS1	**150 J+**
SB-15A	SB-15-20-NS	10/27/15	NS1	**60 J+**
SB-15B	SB-15-30-NS	10/27/15	NS1	**370 J**
SB-16A	SB-16-20-NS	10/26/15	NS1	**180 J+**
SB-16B	SB-16-30-NS	10/26/15	NS1	**99 J+**
SB-17A	SB-17-20-NS	10/26/15	NS1	**210 J+**
SB-17B	SB-17-30-NS	10/26/15	NS1	**150 J+**
SB-18A	SB-18-12-NS	10/29/15	NS1	<83
SB-19A	SB-19-26-NS	10/26/15	NS1	**170 J+**
SB-19B	SB-19-36-NS	10/26/15	NS1	**220 J**
SB-20A	SB-20-32-NS	11/13/15	NS1	**62 J**
SB-21A	SB-21-20-FD	11/12/15	FD1	<50 UJ
SB-21A	SB-21-20-NS	11/12/15	NS1	**130 J**
SB-21B	SB-21-32-NS	11/12/15	NS1	<50
SB-22A	SB-22-20-NS	11/13/15	NS1	**62 J**
SB-22B	SB-22-32-NS	11/13/15	NS1	**190 J**

FD1 = field duplicate
ID = identification
J = estimated concentration
J+ = estimated concentration, potential high bias
NS1 = normal sample
PCE = tetrachloride
UJ = estimated concentration
µg/L = micrograms per liter
< = less than

FIGURES



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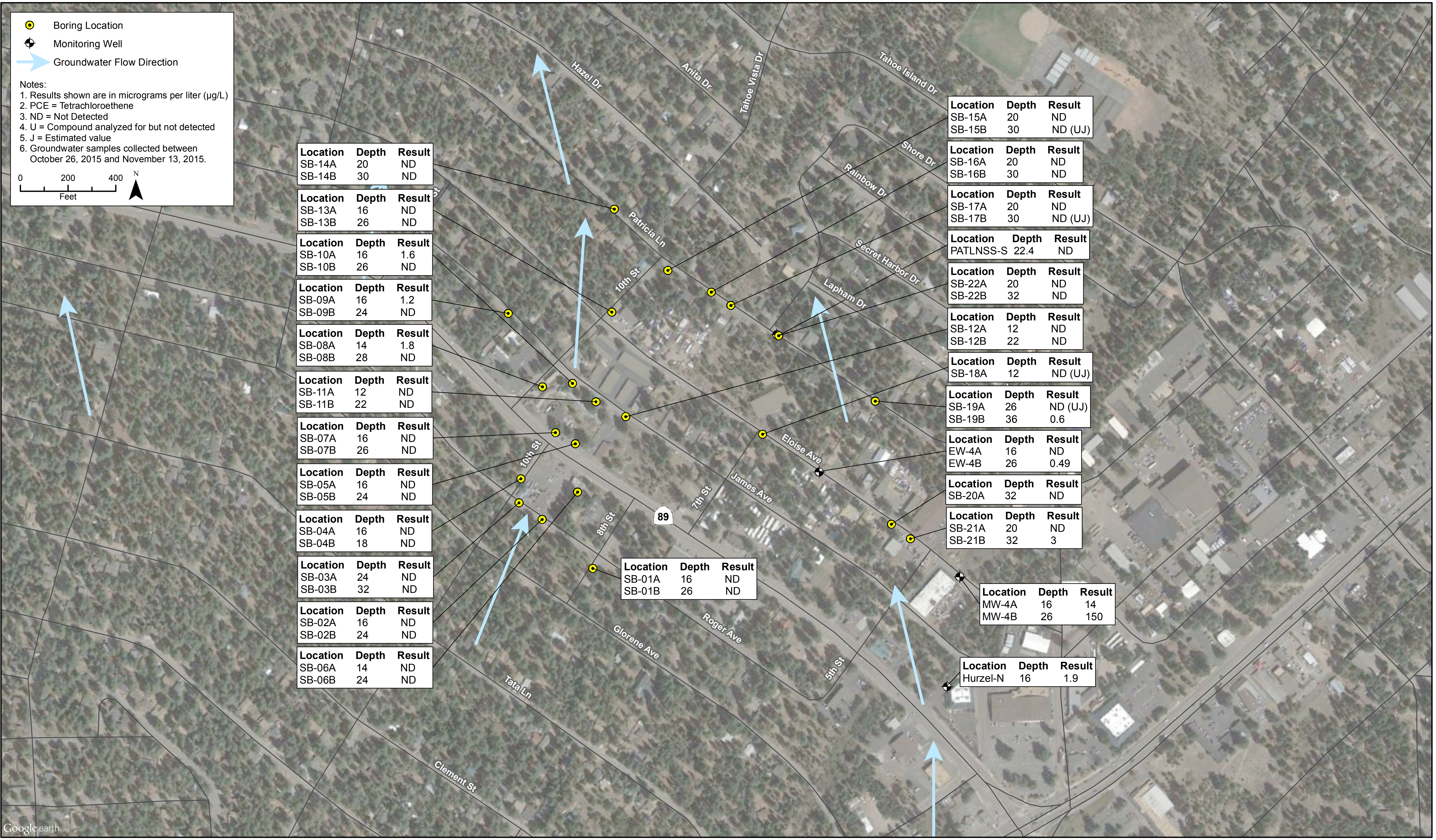
URS

PCE Investigation
South Lake Tahoe, California

Figure 1
Site Location



Notes:
1. Results shown are in micrograms per liter (µg/L)
2. PCE = Tetrachloroethene
3. ND = Not Detected
4. U = Compound analyzed for but not detected
5. J = Estimated value
6. Groundwater samples collected between October 26, 2015 and November 13, 2015.

Location	Depth	Result
SB-14A	20	ND
SB-14B	30	ND

Location	Depth	Result
SB-13A	16	ND
SB-13B	26	ND

Location	Depth	Result
SB-10A	16	1.6
SB-10B	26	ND

Location	Depth	Result
SB-09A	16	1.2
SB-09B	24	ND

Location	Depth	Result
SB-08A	14	1.8
SB-08B	28	ND

Location	Depth	Result
SB-11A	12	ND
SB-11B	22	ND

Location	Depth	Result
SB-07A	16	ND
SB-07B	26	ND

Location	Depth	Result
SB-05A	16	ND
SB-05B	24	ND

Location	Depth	Result
SB-04A	16	ND
SB-04B	18	ND

Location	Depth	Result
SB-03A	24	ND
SB-03B	32	ND

Location	Depth	Result
SB-02A	16	ND
SB-02B	24	ND

Location	Depth	Result
SB-06A	14	ND
SB-06B	24	ND

Location	Depth	Result
SB-01A	16	ND
SB-01B	26	ND

Location	Depth	Result
SB-15A	20	ND
SB-15B	30	ND (UJ)

Location	Depth	Result
SB-16A	20	ND
SB-16B	30	ND

Location	Depth	Result
SB-17A	20	ND
SB-17B	30	ND (UJ)

Location	Depth	Result
PATLNSS-S	22.4	ND

Location	Depth	Result
SB-22A	20	ND
SB-22B	32	ND

Location	Depth	Result
SB-12A	12	ND
SB-12B	22	ND

Location	Depth	Result
SB-18A	12	ND (UJ)

Location	Depth	Result
SB-19A	26	ND (UJ)
SB-19B	36	0.6

Location	Depth	Result
EW-4A	16	ND
EW-4B	26	0.49

Location	Depth	Result
SB-20A	32	ND

Location	Depth	Result
SB-21A	20	ND
SB-21B	32	3

Location	Depth	Result
MW-4A	16	14
MW-4B	26	150

Location	Depth	Result
Hurzel-N	16	1.9

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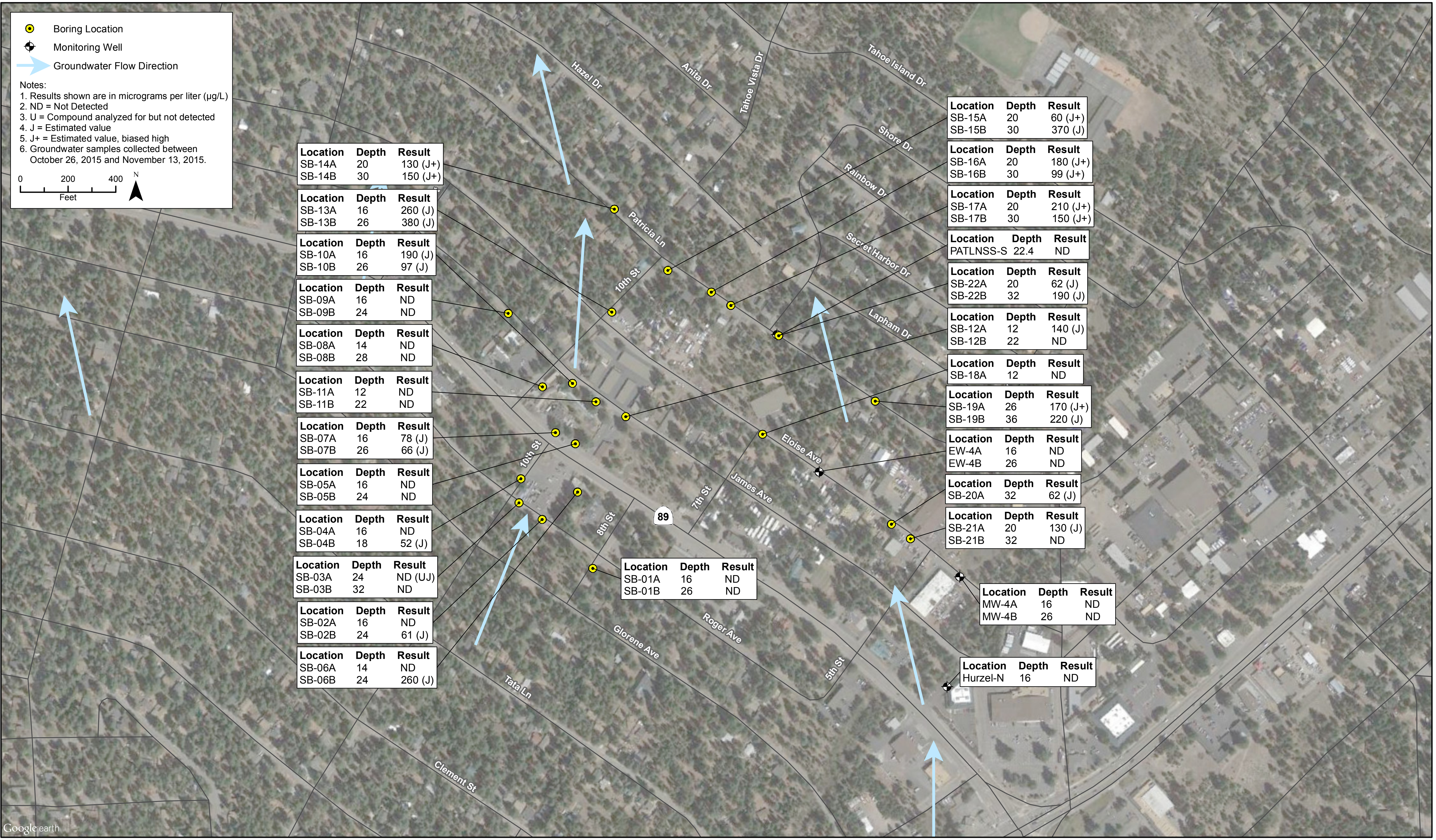
URS PCE Investigation
South Lake Tahoe, California

Figure 2
PCE Concentrations in Groundwater



● Boring Location
⊕ Monitoring Well
→ Groundwater Flow Direction

Notes:
1. Results shown are in micrograms per liter (µg/L)
2. ND = Not Detected
3. U = Compound analyzed for but not detected
4. J = Estimated value
5. J+ = Estimated value, biased high
6. Groundwater samples collected between October 26, 2015 and November 13, 2015.

Location	Depth	Result
SB-14A	20	130 (J+)
SB-14B	30	150 (J+)

Location	Depth	Result
SB-13A	16	260 (J)
SB-13B	26	380 (J)

Location	Depth	Result
SB-10A	16	190 (J)
SB-10B	26	97 (J)

Location	Depth	Result
SB-09A	16	ND
SB-09B	24	ND

Location	Depth	Result
SB-08A	14	ND
SB-08B	28	ND

Location	Depth	Result
SB-11A	12	ND
SB-11B	22	ND

Location	Depth	Result
SB-07A	16	78 (J)
SB-07B	26	66 (J)

Location	Depth	Result
SB-05A	16	ND
SB-05B	24	ND

Location	Depth	Result
SB-04A	16	ND
SB-04B	18	52 (J)

Location	Depth	Result
SB-03A	24	ND (UJ)
SB-03B	32	ND

Location	Depth	Result
SB-02A	16	ND
SB-02B	24	61 (J)

Location	Depth	Result
SB-06A	14	ND
SB-06B	24	260 (J)

Location	Depth	Result
SB-01A	16	ND
SB-01B	26	ND

Location	Depth	Result
SB-15A	20	60 (J+)
SB-15B	30	370 (J)

Location	Depth	Result
SB-16A	20	180 (J+)
SB-16B	30	99 (J+)

Location	Depth	Result
SB-17A	20	210 (J+)
SB-17B	30	150 (J+)

Location	Depth	Result
PATLNSS-S	22.4	ND

Location	Depth	Result
SB-22A	20	62 (J)
SB-22B	32	190 (J)

Location	Depth	Result
SB-12A	12	140 (J)
SB-12B	22	ND

Location	Depth	Result
SB-18A	12	ND

Location	Depth	Result
SB-19A	26	170 (J+)
SB-19B	36	220 (J)

Location	Depth	Result
EW-4A	16	ND
EW-4B	26	ND

Location	Depth	Result
SB-20A	32	62 (J)

Location	Depth	Result
SB-21A	20	130 (J)
SB-21B	32	ND

Location	Depth	Result
MW-4A	16	ND
MW-4B	26	ND

Location	Depth	Result
Hurzel-N	16	ND

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URS PCE Investigation
South Lake Tahoe, California

Figure 3
Diesel Concentrations in Groundwater

APPENDIX A

EDR Database Report

Lukins Service Area PCE Investigation
800 Emerald Bay Road
South Lake Tahoe, CA 96150

Inquiry Number: 4429845.2s
October 05, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

GEOCHECK ADDENDUM

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

800 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

COORDINATES

Latitude (North):	38.9175000 - 38˚ 55' 3.00''
Longitude (West):	120.0110000 - 120˚ 0' 39.60''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	759154.7
UTM Y (Meters):	4311662.5
Elevation:	6274 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640850 EMERALD BAY, CA
Version Date:	2012
East Map:	5641806 SOUTH LAKE TAHOE, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120628, 20100613, 20120706
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
800 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	7-ELEVEN INC. STORE	800 EMERALD BAY RD	FINDS		TP
A2	7-ELEVEN INC. STORE	800 EMERALD BAY RD	CUPA Listings		TP
A3	TED'S FIX-IT SHOP	807 ROGER AVE	HAZNET	Higher	188, 0.036, WSW
A4	DAVID EDGE , LAC	821 ROGER AVE	CUPA Listings	Higher	204, 0.039, South
B5	ROCKWATER APTS.	787 EMERALD BAY RD	CUPA Listings, ENF	Higher	379, 0.072, NW
B6	MCNAMARA PROPERTY	787 EMERALD BAY ROAD	RGA LUST	Higher	379, 0.072, NW
B7	MCNAMARA PROPERTY	787 E EMERALD BAY RO	LUST	Higher	379, 0.072, NW
B8	MCNAMARA	787 EMERALD BAY ROAD	LUST	Higher	383, 0.073, NW
B9	ROCKWATER APTS.		FINDS	Higher	429, 0.081, NW
10	TAHOE MONTESSORI HOU	848 GLORENE AVE	FINDS	Higher	522, 0.099, South
11	PRIVATE PROPERTY	845 JAMES ST	SWEEPS UST, CA FID UST	Lower	533, 0.101, ENE
C12	BEL PAC ENTERPRISES	854-868 EMERALD BAY	ENF, WDS	Lower	536, 0.102, ESE
C13	REDWOOD PRINTING	854 EMERALD BAY RD S	CUPA Listings	Lower	536, 0.102, ESE
B14	CANTINA	765 EMERALD BAY RD	WDS	Higher	638, 0.121, NW
C15		868 EMERALD BAY RD	EDR US Hist Cleaners	Lower	712, 0.135, ESE
C16	LAKE MONSTER TATTOO	868 EMERALD BAY RD A	CUPA Listings	Lower	712, 0.135, ESE
C17	LAKE TAHOE BASIN	870 EMERALD BAY RD	CERCLIS	Lower	732, 0.139, ESE
C18	MEEKS BAY RESORT	870 EMERALD BAY RD	HIST UST	Lower	732, 0.139, ESE
C19	MEEKS BAY RESORT	870 EMERAL BAY RD	SWEEPS UST, CA FID UST	Lower	732, 0.139, ESE
C20	LAKE TAHOE BASIN	870 EMERALD BAY RD	FINDS	Lower	737, 0.140, ESE
D21	KC'S AUTOMOTIVE	867 ELOISE AVE STE C	HAZNET	Lower	835, 0.158, ENE
D22	PRECISION AUTO BODY	867 ELOISE AVE	HAZNET	Lower	835, 0.158, ENE
D23		867 ELOISE AVE	EDR US Hist Auto Stat	Lower	835, 0.158, ENE
D24	PRECISION AUTO BODY	867 ELOISE AVE	RCRA-SQG, FINDS	Lower	835, 0.158, ENE
D25	PRECISION AUTO BODY	867 ELOISE AVE	HAZNET	Lower	835, 0.158, ENE
D26	PRECISION AUTO BODY	867 ELOISE AVE #C	CUPA Listings	Lower	835, 0.158, ENE
27	MCFARLANE MORTUARY	887 EMERALD BAY RD	CUPA Listings	Lower	942, 0.178, ESE
28		735 SR 89	CHMIRS	Higher	976, 0.185, NW
E29		927 JAMES AVE	EDR US Hist Auto Stat	Lower	1241, 0.235, ESE
F30		913 SR 89	CHMIRS	Lower	1271, 0.241, ESE
F31		913 EMERALD BAY ROAD	CHMIRS	Lower	1271, 0.241, ESE
F32	SWISS MART	913 EMERALD BAY RD	RGA LUST	Lower	1271, 0.241, ESE
F33	BEACON SWISS MART	913 EMERALD BAY AVE	HAZNET	Lower	1271, 0.241, ESE
F34		913 EMERALD BAY RD	EDR US Hist Auto Stat	Lower	1271, 0.241, ESE
F35	SWISS MART GAS STATI	913 EMERALD BAY ROAD	RGA LUST	Lower	1271, 0.241, ESE
F36	BEACON SWISS MART	913 EMERALD BAY RD	LUST, SWEEPS UST, CA FID UST, Cortese, CUPA...	Lower	1271, 0.241, ESE
F37		913 SR 89	ERNS	Lower	1271, 0.241, ESE
F38	SWISS MART	913 EMERALD BAY RD	RGA LUST	Lower	1271, 0.241, ESE
F39	SWISS MART - BEACON	913 EMERALD BAY RD	LUST, UST	Lower	1271, 0.241, ESE

MAPPED SITES SUMMARY

Target Property Address:
800 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
E40	SUNSHINE TAXI INC	912 ELOISE AVE	HAZNET	Lower	1273, 0.241, East
E41	SUNSHINE YELLOW CAB	912 ELOISE AVE	CUPA Listings	Lower	1273, 0.241, East
E42	HATCH ELECTRIC	921 ELOISE AVE	RGA LUST	Lower	1287, 0.244, East
E43	HATCH ELECTRIC	921 ELOISE AVE	LUST	Lower	1287, 0.244, East
44	PAMELA POLOMSKI	855 CLEMENT ST	HAZNET	Higher	1311, 0.248, SSW
E45		920 ELOISE AVE	EDR US Hist Auto Stat	Lower	1340, 0.254, East
E46	SOUTH SIDE AUTO BODY	920 ELOISE AVE	RCRA-SQG, FINDS, HAZNET	Lower	1340, 0.254, East
E47	STRUVE AUTOMOTIVE	927 ELOISE AVE	HAZNET	Lower	1344, 0.255, East
E48	STRUVE AUTOMOTIVE	927 ELOISE AVE	CUPA Listings	Lower	1344, 0.255, East
E49		927 ELOISE AVE	EDR US Hist Auto Stat	Lower	1344, 0.255, East
F50	ALPINE ANIMAL HOSPIT	921 EMERALD BAY RD	CUPA Listings	Lower	1391, 0.263, ESE
E51	SIERRA PACIFIC POWER	933 ELOISE AVE	HAZNET	Lower	1401, 0.265, East
E52	CALPECO MAIN OFFICE	933 ELOISE AVE	CUPA Listings	Lower	1401, 0.265, East
E53	CALPECO SOUTH LAKE T	933 ELOISE AVE	HAZNET	Lower	1401, 0.265, East
F54	TCI BUILDING	924 EMERALD BAY ROAD	SLIC	Lower	1421, 0.269, ESE
E55		2032 5TH ST	EDR US Hist Auto Stat	Lower	1438, 0.272, ESE
F56	CHARTER COMMUNICATIO	924 EMERALD BAY	SLIC, CUPA Listings, ENF	Lower	1439, 0.273, ESE
F57		924 EMERALD BAY RD	CDL	Lower	1439, 0.273, ESE
F58	COLDWELL BANKER	924 EMERALD BAY RD	HAZNET	Lower	1439, 0.273, ESE
F59	CHARTER COMMUNICATIO	924 EMERALD BAY RD	WDS	Lower	1439, 0.273, ESE
E60	HIGHER GROUND AUTOWO	2042 5TH ST UNIT 10	CUPA Listings	Lower	1448, 0.274, ESE
E61	PERFORMANCE SLEDS (H	2042 FIFTH ST #8	CUPA Listings	Lower	1448, 0.274, ESE
E62		2042 5TH ST	EDR US Hist Auto Stat	Lower	1448, 0.274, ESE
E63	CROW'S AUTO CARE (HM	2042 FIFTH ST STE 6	CUPA Listings	Lower	1448, 0.274, ESE
E64	ABBEY MOTORS (HM) CL	2042 FIFTH ST #11	CUPA Listings	Lower	1448, 0.274, ESE
E65		2046 5TH ST	EDR US Hist Auto Stat	Lower	1452, 0.275, ESE
G66	SOUTH SIDE AUTO BODY	934 ELOISE AVE	CUPA Listings, WDS	Lower	1456, 0.276, East
G67		934 ELOISE AVE	EDR US Hist Auto Stat	Lower	1456, 0.276, East
E68	VANEKS ENGINE SPECIA	2035 FIFTH STREET	CUPA Listings	Lower	1464, 0.277, ESE
G69	MATHISEN AUTOMOTIVE	944 ELOISE AVE	CUPA Listings	Lower	1566, 0.297, ESE
G70		944 ELOISE AVE	EDR US Hist Auto Stat	Lower	1566, 0.297, ESE
G71		948 ELOISE AVE	EDR US Hist Auto Stat	Lower	1604, 0.304, ESE
G72	OLSEN PAVING (HM)	950 ELOISE AVE	CUPA Listings	Lower	1624, 0.308, ESE
73	GREG COLE	2394 TAHOE VISTA DR	HAZNET	Lower	1650, 0.312, NNE
H74	HURZEL PROPERTIES	949 EMERALD BAY ROAD	SLIC	Lower	1730, 0.328, SE
75		916 SECRET HARBOR	CDL	Lower	1731, 0.328, ENE
H76		949 EMERALD BAY RD	EDR US Hist Cleaners	Lower	1732, 0.328, SE
H77	HURZEL PROPERTIES -	949 EMERALD BAY RD	SLIC, CUPA Listings	Lower	1732, 0.328, SE
I78	PACIFIC BELL (TB-661	DUNLAP & ELOISE	HIST UST	Lower	1847, 0.350, ESE

MAPPED SITES SUMMARY

Target Property Address:
800 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
I79	PACIFIC BELL (TB-661	DUNLAP & ELOISE	SWEEPS UST, CA FID UST	Lower	1847, 0.350, ESE
I80	PACIFIC BELL	DUNLAP AND ELOISE	RCRA-SQG	Lower	1858, 0.352, ESE
H81	THOR ALLEN STENRUD	960 EMERALD BAY RD	HAZNET	Lower	1874, 0.355, SE
H82	SCREAMERS ICE CREAM	960 EMERALD BAY RD	CUPA Listings	Lower	1874, 0.355, SE
83	EMERALD PINES RESORT	661-681 EMERALD BAY	ENF, WDS	Higher	1940, 0.367, NW
J84	SIERRA PACIFIC POWER	2129 DUNLAP DR	HAZNET	Lower	2031, 0.385, East
J85	MYERS MARINE	2140 DUNLAP ST	LUST, CUPA Listings, HIST CORTESE	Lower	2040, 0.386, East
J86	MYERS MARINE SERVICE	2140 DUNLAP AVE	WDS	Lower	2040, 0.386, East
J87		2132 DUNLAP DR	EDR US Hist Auto Stat	Lower	2040, 0.386, East
J88	SOUTH SIDE AUTO BODY	2132 DUNLAP DR	HAZNET	Lower	2040, 0.386, East
J89	SOUTH TAHOE REFUSE	2132 DUNLAP DR	CUPA Listings	Lower	2040, 0.386, East
J90	TAHOE PRINTING	2116 DUNLAP DR	CUPA Listings	Lower	2061, 0.390, East
I91	SIERRA ALTERNATORS &	2108 DUNLAP DR UNIT	CUPA Listings	Lower	2090, 0.396, ESE
J92	ART'S TRANSMISSION	2105 RUTH AVE	CUPA Listings	Lower	2112, 0.400, East
J93		2105 RUTH AVE	EDR US Hist Auto Stat	Lower	2112, 0.400, East
K94	RUNNELS AUTOMOTIVE	986 EMERALD BAY RD	RGA LUST	Lower	2135, 0.404, SE
K95	RUNNELS AUTOMOTIVE	986 EMERALD BAY RD	LUST, SWEEPS UST, CA FID UST, CUPA Listings, HIST...	Lower	2135, 0.404, SE
K96		986 EMERALD BAY RD	EDR US Hist Auto Stat	Lower	2135, 0.404, SE
K97	RUNNELS AUTOMOTIVE	986 EMERALD BAY RD	RGA LUST	Lower	2135, 0.404, SE
K98	RUNNELS AUTOMOTIVE	986 EMERALD BAY RD	HAZNET	Lower	2135, 0.404, SE
L99	PACIFIC BELL	2090 DUNLAP ROAD	SWEEPS UST, CA FID UST, CUPA Listings	Lower	2145, 0.406, ESE
100	I CAN FIX THAT!	2199 DUNLAP DR	CUPA Listings	Lower	2146, 0.406, ENE
L101	AVISTA UTILITIES (HM	2071 DUNLAP	CUPA Listings	Lower	2157, 0.409, ESE
L102	CP NATURAL GAS	2071 DUNLAP DR	HIST UST	Lower	2157, 0.409, ESE
L103	CP NATURAL GAS	2071 DUNLAP	SWEEPS UST, CA FID UST	Lower	2163, 0.410, ESE
L104	PACIFIC BELL TELEPHO	2075 ELOISE	HAZNET	Lower	2179, 0.413, ESE
M105	LAKESIDE NAPA AUTOMO	1935 LAKE TAHOE BOUL	SLIC	Higher	2181, 0.413, SSE
M106	LAKESIDE AUTOMOTIVE	1935 LAKE TAHOE BLVD	HAZNET	Higher	2181, 0.413, SSE
M107	LAKESIDE NAPA AUTO P	1935 LAKE TAHOE BLVD	CUPA Listings	Higher	2181, 0.413, SSE
M108	LAKESIDE NAPA STORE	1935 LAKE TAHOE BLVD	SLIC	Higher	2185, 0.414, SSE
M109	SCOTTY'S HARDWARE	1931 LAKE TAHOE BLVD	CUPA Listings, HAZNET	Higher	2190, 0.415, SSE
M110		1931 LAKE TAHOE BLVD	ERNS	Higher	2190, 0.415, SSE
L111	MARINE PERFORMANCE	2050 DUNLAP ST	CUPA Listings, HAZNET	Lower	2196, 0.416, ESE
N112		1961 LAKE TAHOE BLV	EDR US Hist Auto Stat	Lower	2196, 0.416, SE
N113	BIG O TIRE STORE #65	1961 LAKE TAHOE BLVD	HAZNET	Lower	2196, 0.416, SE
N114	BIG O TIRES	1961 LAKE TAHOE BOUL	SLIC, CUPA Listings, ENF	Lower	2196, 0.416, SE
N115	BIG O TIRE STORE	1961 LAKE TAHOE BLVD	SLIC	Lower	2199, 0.416, SE
L116	SELLERS BUILDING	2048 DUNLAP DR	CUPA Listings	Lower	2201, 0.417, ESE
M117	SOUTH LAKE TAHOE	1920 LAKE TAHOE BLVD	SWEEPS UST, CA FID UST	Higher	2236, 0.423, SSE

MAPPED SITES SUMMARY

Target Property Address:
800 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

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MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
M118		1920 LAKE TAHOE BLV	EDR US Hist Auto Stat	Higher	2236, 0.423, SSE
M119	KRAGEN AUTO #1654 (C	1920 LAKE TAHOE BLVD	HIST UST, CUPA Listings, ENF	Higher	2236, 0.423, SSE
O120		2119 RUTH AVE	EDR US Hist Auto Stat	Lower	2272, 0.430, East
O121	FIVE STAR AUTOMOTIVE	2119 RUTH AVE	CUPA Listings	Lower	2272, 0.430, East
O122	FIVE STAR AUTO MIKES	2119 RUTH AVE	RCRA-SQG, FINDS	Lower	2272, 0.430, East
P123	DBA LAKE TAHOE AUTO	1901 LAKE TAHOE BLVD	CUPA Listings, HAZNET	Higher	2282, 0.432, SSE
P124	AMC/JEEP.RENAULT DEA	1901 LAKE TAHOE BLVD	RGA LUST	Higher	2282, 0.432, SSE
P125	LES SCHWAB TIRE CENT	1901 LAKE TAHOE BLVD	HAZNET	Higher	2282, 0.432, SSE
P126	LAKE TAHOE AUTO VILL	1901 LAKE TAHOE BLVD	WDS	Higher	2282, 0.432, SSE
P127	BILL WINKS MOTOR SAL	1901 LAKE TAHOE BLVD	HAZNET	Higher	2282, 0.432, SSE
P128	BAKER AUTOMOTIVE	1901 LAKE TAHOE BLVD	HAZNET	Higher	2282, 0.432, SSE
P129	TERRY LIBBON MOTORS	1901 LAKE TAHOE BOUL	CUPA Listings, ENF	Higher	2282, 0.432, SSE
L130	PACIFIC BELL	2075 ELOISE	FINDS	Lower	2286, 0.433, ESE
L131	AT&T CALIFORNIA - TB	2075 ELOISE ST	FINDS	Lower	2286, 0.433, ESE
L132	AT&T CALIFORNIA - TB	2075 ELOISE ST	CUPA Listings	Lower	2286, 0.433, ESE
L133	16060 RB6T	2060 ELOISE AVE	FINDS	Lower	2288, 0.433, ESE
L134	REDWOOD OIL CO	2060 ELOISE	HAZNET	Lower	2288, 0.433, ESE
L135	REDWOOD OIL CO	2060 ELOISE AVE	LUST, CUPA Listings, ENF, HIST CORTESE	Lower	2288, 0.433, ESE
L136	SIERRA KEY-LOCK	2060 ELOISE AVE	HIST UST	Lower	2288, 0.433, ESE
L137	REDWOOD OIL CO	2060 ELOISE AVE	SWEEPS UST, CA FID UST	Lower	2288, 0.433, ESE
L138	REDWOOD OIL CO	2060 ELOISE ST	HAZNET	Lower	2288, 0.433, ESE
L139	REDWOOD OIL COMPANY	2060 ELOISE	LUST	Lower	2290, 0.434, ESE
L140	SBC FACILITY/2075 EL	2075 ELOISE	WDS	Lower	2295, 0.435, ESE
K141	SOUTH Y PCE	US HIGHWAY 50/EMERAL	SLIC	Lower	2310, 0.438, SE
P142	PACIFIC BELL	1900 LAKE TAHOE BLVD	RCRA-SQG, FINDS	Higher	2317, 0.439, SSE
P143	TROUT CREEK RESTORAT	1900 LAKE TAHOE BLVD	ENF	Higher	2317, 0.439, SSE
P144	CITY OF SLT MAINT. Y	1900 LAKE TAHOE BLVD	RGA LUST	Higher	2317, 0.439, SSE
P145	MUN STRMWTR DISCHARG	1900 LAKE TAHOE BLVD	ENF	Higher	2317, 0.439, SSE
P146	CITY OF SLT MAINT. Y	1900 LAKE TAHOE BLVD	RGA LUST	Higher	2317, 0.439, SSE
Q147	STEPHANIE R MCKNIGHT	575 ROGER AVE	PEST LIC	Higher	2338, 0.443, WNW
R148	LAKE TAHOE USD-TAHOE	943 TAHOE ISLAND DR	HAZNET	Lower	2351, 0.445, NE
Q149		617 GLORENE AVE	EDR US Hist Auto Stat	Higher	2355, 0.446, WNW
K150	SOUTH "Y" EXXON	1000 EMERALD BAY RD	LUST, SWEEPS UST, CA FID UST	Lower	2365, 0.448, SE
K151	SOUTH "Y" EXXON	1000 EMERALD BAY RD	HIST UST	Lower	2365, 0.448, SE
K152	FACILITY #27943-EXXO	1000 EMERALD BAY ROA	RGA LUST	Lower	2365, 0.448, SE
P153	SOUTH SHORE MOTORS,	1875 LAKE TAHOE BLVD	HAZNET	Higher	2379, 0.451, SSE
P154	SOUTH SHORE MOTORS	1875 LAKE TAHOE BLVD	SWEEPS UST, HIST UST, CA FID UST, CUPA Listings	Higher	2379, 0.451, SSE
P155	LUMBER CITY CORP DBA	1875 LAKE TAHOE BLVD	HAZNET	Higher	2379, 0.451, SSE
S156	FIVE STAR TEXACO	2037 HWY 50	RCRA-SQG, FINDS	Lower	2401, 0.455, ESE

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800 EMERALD BAY ROAD
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S157	TEXACO	2037 HIGHWAY 50 BOX	SWEEPS UST	Lower	2401, 0.455, ESE
S158	FORMER FIVE STAR TEX	2037 LAKE TAHOE BLVD	LUST	Lower	2401, 0.455, ESE
S159	FIVE STAR TEXACO	2037 LAKE TAHOE BLVD	Cortese, ENF, HIST CORTESE	Lower	2401, 0.455, ESE
L160	CHEVRON 1001382	2070 JAMES AVE	FINDS	Lower	2402, 0.455, ESE
L161	BERRY-HINCKLEY - SLT	2070 JAMES AVENUE	SLIC	Lower	2402, 0.455, ESE
L162	BI STATE PETROLEUM	2070 JAMES AVE	SWEEPS UST	Lower	2402, 0.455, ESE
L163	BI-STATE PETROLEUM	2070 JAMES ST	WDS	Lower	2402, 0.455, ESE
L164	BERRY-HINCKLEY INDUS	2070 JAMES AVENUE	LUST, SLIC, CUPA Listings	Lower	2402, 0.455, ESE
L165	CHEVRON 1001382	2070 JAMES AVE	RCRA-LQG	Lower	2402, 0.455, ESE
L166	NELLA OIL #3002	2070 JAMES	AST	Lower	2402, 0.455, ESE
L167	WESTERN ENERGETIX	2070 JAMES AVE	ICIS, FINDS	Lower	2402, 0.455, ESE
T168	AT&T MOBILITY - JAME	2082 ELOISE AVE	CUPA Listings	Lower	2421, 0.459, East
S169	EUGENE GARFINKLE	2011 LAKE TAHOE BLVD	HAZNET	Lower	2426, 0.459, ESE
S170		2015 LAKE TAHOE BLVD	ERNS	Lower	2427, 0.460, ESE
S171	TJ MAXX 1283	2015 LAKE TAHOE BLVD	CHMIRS, CUPA Listings	Lower	2427, 0.460, ESE
R172	LAKE TAHOE UNIFIED S	943 TAHOE ISLAND	HAZNET	Lower	2464, 0.467, ENE
S173		2000 LAKE TAHOE BLV	EDR US Hist Auto Stat	Lower	2474, 0.469, ESE
U174	SHEHADI MOTORS, INC	1855 LAKE TAHOE BLVD	RCRA-SQG, SWEEPS UST, HIST UST, CA FID UST, FINDS,...	Higher	2477, 0.469, South
U175	CARDINALE AUTOMOTIVE	1855 LAKE TAHOE BLVD	HAZNET	Higher	2477, 0.469, South
U176	SHEHADI MOTORS, INC	1855 LAKE TAHOE BLVD	RCRA-SQG, FINDS	Higher	2477, 0.469, South
T177	RON FULLER CONSTRUCT	2092 ELOISE AVE	CUPA Listings	Lower	2503, 0.474, East
V178	SOUTH TAHOE REFUSE T	2141 RUTH AVE	HAZNET	Lower	2516, 0.477, East
V179	SOUTH TAHOE REFUSE M	2140 RUTH AVE	WMUDS/SWAT, HAULERS, SWEEPS UST, HIST UST, CA FID.	Lower	2551, 0.483, East
V180	SOUTH TAHOE REFUSE C	2140 RUTH AVE	HAZNET	Lower	2551, 0.483, East
V181	SOUTH TAHOE REFUSE M	2140 RUTH AVE	WMUDS/SWAT	Lower	2551, 0.483, East
V182	SOUTH TAHOE REFUSE C	2140 RUTH AVE	FINDS	Lower	2551, 0.483, East
V183	SOUTH TAHOE REFUSE C	2140 RUTH AVE	UST	Lower	2551, 0.483, East
V184	EL DORADO CTY ENVIR	2140 RUTH AVE	HAZNET	Lower	2551, 0.483, East
V185	SOUTH TAHOE REFUSE M	2140 RUTH AVE	WDS	Lower	2551, 0.483, East
S186	STAPLES OFFICE SUPPL	2061 LAKE TAHOE BLVD	CUPA Listings	Lower	2557, 0.484, ESE
U187		JULIE AND LAKE TAHOE	ERNS	Higher	2595, 0.491, South
W188	KMART GARDEN SHOP &	1030 TATA LN	WDS	Higher	2596, 0.492, SSE
W189	KMART (GARDEN SHOP)	1030 TATA LANE	FINDS	Higher	2596, 0.492, SSE
W190	KMART #9153/GARDEN S	1030 TATA LN	CUPA Listings, HAZNET	Higher	2596, 0.492, SSE
U191	TAHOE VERDE TRAILER	LAKE TAHOE BLVD & JU	ENF	Higher	2615, 0.495, South
X192	SHELL OIL COMPANY	1020 EMERALD BAY RD	SWEEPS UST	Lower	2627, 0.498, SE
X193	EQUILON ENTERPRISES	1020 EMERALD BAY RD	FINDS	Lower	2627, 0.498, SE
X194	SOUTH TAHOE SHELL SE	1020 EMERALD BAY RD	LUST, SWEEPS UST, Cortese, CUPA Listings, ENF,...	Lower	2627, 0.498, SE
X195	RALEY’S AISLE 1 #177	1020 EMERALD BAY RD	HAZNET	Lower	2627, 0.498, SE

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800 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

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X196	SHELL SERVICE STATIO	1020 EMERALD BAY ROA	RCRA-SQG	Lower	2627, 0.498, SE
X197	EQUILON ENTERPRISES	1020 EMERALD BAY RD	HAZNET	Lower	2627, 0.498, SE
X198	SOUTH Y SHELL	1020 EMERALD BAY ROA	RGA LUST	Lower	2627, 0.498, SE
X199	SOUTH Y SHELL	1020 EMERALD BAY ROA	HIST CORTESE	Lower	2627, 0.498, SE
X200	SOUTH Y SHELL	1020 EMERALD BAY ROA	LUST	Lower	2631, 0.498, SE
X201	SHELL STATION	1020 EMERALD BAY ROA	LUST	Lower	2631, 0.498, SE
X202	SOUTH Y CENTER	1022 EMERALD BAY RD	CUPA Listings	Lower	2631, 0.498, SE
X203	LAKE TAHOE LAUNDRY W	1024 EMERALD BAY RD	CUPA Listings	Lower	2652, 0.502, SE
X204		1024 EMERALD BAY RD	EDR US Hist Cleaners	Lower	2652, 0.502, SE
V205	ALPINE METALS		CUPA Listings	Lower	2699, 0.511, East
Y206	TERRIBLE HERBST GAS	2762 LAKE TAHOE BLVD	Notify 65	Lower	2742, 0.519, ESE
Z207	SOUTH TAHOE REFUSE C	RUTH AVE BTWN DUNLAP	SWF/LF	Lower	2742, 0.519, ENE
AA208	TRINITY LANDSCAPING	2118 ELOISE AVE	CUPA Listings	Lower	2743, 0.520, East
209	BI STATE PROPANE	2070 JAMES AVE STE A	CUPA Listings	Lower	2778, 0.526, East
X210	RALEY'S SUPERMARKET	1040 EMERALD BAY RD	CUPA Listings	Lower	2812, 0.533, SE
Y211	ADVANCED FAMILY FOOT	2074 LAKE TAHOE SUIT	CUPA Listings	Lower	2817, 0.534, ESE
Y212	GROELZ , ROSS DDS	2074 LAKE TAHOE BLVD	CUPA Listings	Lower	2817, 0.534, ESE
AA213	LASTING BEAUTY	2083 JAMES AVE	CUPA Listings	Lower	2827, 0.535, East
Z214	CALIFORNIA TAHOE CON	931 3RD ST	CUPA Listings	Lower	2831, 0.536, East
Z215	CROW'S AUTO CARE	931 THIRD ST	CUPA Listings	Lower	2831, 0.536, East
Z216		931 3RD ST	EDR US Hist Auto Stat	Lower	2831, 0.536, East
AA217	LORRAINE BAKERY SITE	2087 JAMES STREET	CUPA Listings	Lower	2842, 0.538, East
AA218	TAHOE TOURS (HM)	2133 ELOISE AVE	CUPA Listings	Lower	2842, 0.538, East
AA219	TAHOE FILM WORKS	2095 JAMES AVE	RCRA-SQG, FINDS, HAZNET	Lower	2873, 0.544, East
Y220	BARTON MEMORIAL HOSP	2092 LAKE TAHOE BLVD	CUPA Listings	Lower	2920, 0.553, ESE
Z221	DIAMOND WOODCRAFT	2197 RUTH AVE UNIT 1	CUPA Listings	Lower	2927, 0.554, ENE
Z222	SCOTT'S CUSTOM MACHI	2197 RUTH AVE #4	CUPA Listings	Lower	2927, 0.554, ENE
Z223		2197 RUTH AVE	EDR US Hist Auto Stat	Lower	2927, 0.554, ENE
AB224	CVS PHARMACY #9713	1043 EMERALD BAY RD	CUPA Listings	Lower	2954, 0.559, SE
AB225	CVS PHARMACY NO 9713	1043 EMERALD BAY RD	RCRA-LQG	Lower	2954, 0.559, SE
AC226	CREATIVE FABRICATION	2140 ELOISE AVE 1	CUPA Listings	Lower	2961, 0.561, East
AC227	TAHOE TEST TUNE (HM)	2143 ELOISE AVE 2	CUPA Listings	Lower	2961, 0.561, East
AC228		2143 ELOISE AVE	EDR US Hist Auto Stat	Lower	2961, 0.561, East
AC229	CONSTRUCTION YARD	2143 ELOISE AVE	SWEEPS UST, CA FID UST	Lower	2961, 0.561, East
AC230	CONSTRUCTION YARD	2143 ELOISE AVE	HIST UST	Lower	2961, 0.561, East
AA231	PRAXAIR (SLT)	2117 JAMES AVE	CUPA Listings	Lower	2967, 0.562, East
AB232	RALEYS DRUG CTR 167	1045 EMERALD BAY RD	RCRA-SQG, FINDS	Lower	2969, 0.562, SE
AB233	VERIZON WIRELESS SOU	1054 EMERALD BAY RD	CUPA Listings	Lower	2972, 0.563, SE
AC234	EMERALD BAY TOWING	948 THIRD ST	CUPA Listings	Lower	2980, 0.564, East

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AD235		2104 LAKE TAHOE BLV	EDR US Hist Auto Stat	Lower	2989, 0.566, ESE
AD236	KEN'S TIRE CENTER	2104 LAKE TAHOE BLVD	CUPA Listings	Lower	2989, 0.566, ESE
AB237	KMART #9153	1056 EMERALD BAY RD	LUST, CUPA Listings, HIST CORTESE	Lower	2996, 0.567, SE
AD238	SOUTH TAHOE BLOCK CO	2112 LAKE TAHOE BLVD	SWEEPS UST, CA FID UST	Lower	3040, 0.576, ESE
AD239	SOUTH TAHOE BLOCK CO	2112 LAKE TAHOE BLVD	HIST UST	Lower	3040, 0.576, ESE
AC240	FRANK SUNKEL WAREHOU	2141 JAMES AVE	HIST UST	Lower	3074, 0.582, East
AC241	ECHO PLUMBING SUPPLY	2141 JAMES AVE	HIST UST	Lower	3074, 0.582, East
242	TAHOE KEYS POA	2100 TEXAS AVENUE	Cortese, CUPA Listings, ENF, NPDES, WDS	Lower	3093, 0.586, North
AC243	FRANK SUNKEL WAREHOU	2141 JAMES ST	SWEEPS UST	Lower	3095, 0.586, East
AC244	ECHO PLUMBING SUPPLY	2141 JAMES	SWEEPS UST, CA FID UST	Lower	3095, 0.586, East
AE245	AXELSON IRON SHOP	2184 RUTH AVE	CUPA Listings	Lower	3119, 0.591, ENE
AE246		2186 RUTH AVE	EDR US Hist Auto Stat	Lower	3147, 0.596, ENE
AE247	NORM'S AUTO REPAIR	2186 RUTH AVE	CUPA Listings	Lower	3147, 0.596, ENE
248	STPUD GARDNER MOUNTA	589 GARDNER ST	CUPA Listings	Higher	3153, 0.597, WSW
AF249	TAHOE URGENT CARE	2130 LAKE TAHOE BLVD	CUPA Listings	Lower	3157, 0.598, East
AB250		1069 EMERALD BAY RD	EDR US Hist Auto Stat	Higher	3177, 0.602, SE
AB251	PIER 1IMPORTS #1483	1069 EMERALD BAY RD	LUST, CUPA Listings	Higher	3177, 0.602, SE
AB252	CHEVRON #90672	1069 EMERAL BAY RD	SWEEPS UST	Higher	3186, 0.603, SE
AC253	TAHOE POOL SERVICE	971 THIRD ST	CUPA Listings	Lower	3193, 0.605, East
254	SOUTH TAHOE HIGH SCH	1735 LAKE TAHOE BLVD	CUPA Listings	Higher	3208, 0.608, SSW
AE255	SOUTH TAHOE REFUSE C	2192 RUTH AVE	SWRCY	Lower	3219, 0.610, ENE
AG256	GEORGE'S PERFORMANCE	2176 ELOISE AVE	CUPA Listings	Lower	3296, 0.624, East
AG257	CLARK PLUMMING/ SERV	2178 ELOISE	SWEEPS UST, CA FID UST	Lower	3312, 0.627, East
AF258	ALPINE SMITH , INC.	2120 BARTON AVE	CUPA Listings	Lower	3350, 0.634, ESE
259	CAMPUS CRUSADE FOR C	531 EMERALD BAY RD	LUST, CUPA Listings	Lower	3395, 0.643, WNW
AG260	ALPINE SMITH	2193 ELOISE AVE	CUPA Listings	Lower	3415, 0.647, East
AH261	NATIONAL CAR RENTAL	1101 EMERALD BAY ROA	LUST, HIST UST	Higher	3444, 0.652, SE
AH262	T-SHIRT OUTLET	1101 EMERALD BAY RD	LUST, SWEEPS UST, CA FID UST, CUPA Listings, HIST...	Higher	3444, 0.652, SE
AH263	U-HAUL OF TAHOE	1105 EMERALD BAY RD	LUST, SWEEPS UST, HIST UST, CA FID UST, CHMIRS,...	Higher	3463, 0.656, SE
AI264	TAHOE VERDE MOBILE H	1080 JULIE LN	SLIC, CUPA Listings	Higher	3471, 0.657, South
AI265	TAHOE VERDE MOBILE H	1080 JULIE LANE	SLIC	Higher	3471, 0.657, South
AJ266	EASTERN SIERRA HISTO	2176 LAKE TAHOE BLVD	CUPA Listings	Lower	3491, 0.661, East
267		2240 IDAHO AVE	EDR US Hist Auto Stat	Lower	3527, 0.668, ENE
AJ268		2180 LAKE TAHOE BLV	EDR US Hist Cleaners	Lower	3532, 0.669, East
AJ269	PARK , ERIC SONG, DD	2180 LAKE TAHOE BLVD	CUPA Listings	Lower	3532, 0.669, East
270		1107 MARGARET AVE	EDR US Hist Auto Stat	Higher	3600, 0.682, SSE
AH271		1140 EMERALD BAY RD	EDR US Hist Auto Stat	Higher	3630, 0.688, SE
AH272	USA SERVICE STATION	1140 EMERAL BAY RD	Cortese, WDS	Higher	3630, 0.688, SE
AH273	AMERICAN #1	1140 EMERALD BAY RD	LUST, SWEEPS UST, CUPA Listings	Higher	3630, 0.688, SE

MAPPED SITES SUMMARY

Target Property Address:
800 EMERALD BAY ROAD
SOUTH LAKE TAHOE, CA 96150

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
AH274	USA GAS STATION	1140 EMERALD BAY RD	LUST, Cortese, ENF, HIST CORTESE	Higher	3630, 0.688, SE
AH275	AMERICAN OIL #1	1140 EMERALD BAY ROA	UST	Higher	3630, 0.688, SE
AH276	EXPERT AUTO SERVICE	1144 EMERALD BAY RD	CUPA Listings, HAZNET	Higher	3649, 0.691, SE
AH277		1144 EMERALD BAY RD	EDR US Hist Auto Stat	Higher	3649, 0.691, SE
AK278		2226 ELOISE AVE	EDR US Hist Auto Stat	Lower	3695, 0.700, East
AK279	SOUTH SHORE TRANSMIS	2226 ELOISE D	CUPA Listings	Lower	3695, 0.700, East
AH280	EMERALD BAY CENTER F	1154 EMERALD BAY RD	CUPA Listings, WDS	Higher	3696, 0.700, SE
AL281	LUKINS BROTHERS WATE	2031 WEST WY	ENVIROSTOR, SWEEPS UST, CA FID UST, Cortese, ENF,...	Lower	3718, 0.704, WNW
AL282	MELVIN L. LUKINS & S	2031 WEST WAY	HIST UST	Lower	3718, 0.704, WNW
AM283	MICHAEL SULLIVAN , M	2101 SOUTH AVE	CUPA Listings	Higher	3783, 0.716, ESE
284	KAUFMAN, J. & CERCEO	1077 4TH ST	CUPA Listings	Lower	3785, 0.717, ESE
AN285	CITY OF SLT CORP. YA	1700 D STREET	LUST	Higher	3818, 0.723, South
AN286	CITY OF SLT - D STRE	1700 D	AST	Higher	3818, 0.723, South
AN287	CITY CORPORATION YAR	1700 D ST	LUST, SWEEPS UST, CA FID UST, CUPA Listings, HIST...	Higher	3827, 0.725, South
AN288	PUBLIC WORKS EQUIPME	1700 D ST	HIST UST	Higher	3827, 0.725, South
AN289	SOUTH LAKE TAHOE CIT	1700 D ST	RCRA-SQG, FINDS, HAZNET	Higher	3827, 0.725, South
AN290	CITY OF SLT D ST	1700 D ST	CUPA Listings	Higher	3827, 0.725, South
291	ALPINE FAMILY PRACTI	1108 4TH ST	CUPA Listings	Higher	3895, 0.738, ESE
AK292	KIMBALL CHATFIELD ,	2241 JAMES AVE	CUPA Listings	Lower	3899, 0.738, East
AM293	LAB CORP	2133 SOUTH AVE	CUPA Listings	Higher	3899, 0.738, ESE
294	ROAD RASH CAFE	2218 LAKE TAHOE BLVD	CUPA Listings	Lower	3944, 0.747, East
AM295	BARTON MEMORIAL HOSP	004TH & SOUTH	SWEEPS UST, CA FID UST	Higher	3946, 0.747, ESE
AM296	BARTON MEMORIAL HOSP	2170 SOUTH AVENUE	LUST	Higher	4006, 0.759, ESE
AM297	BARTON HOSPITAL	2170 SOUTH AVENUE	LUST	Higher	4006, 0.759, ESE
AO298	UNITED PARCEL SERVIC	1746 D ST	RCRA-SQG, LUST, FINDS	Higher	4254, 0.806, South
AO299	UPS SOUTH LAKE TAHOE	1746 D ST	LUST, SWEEPS UST, CA FID UST, CUPA Listings, HIST...	Higher	4254, 0.806, South
300	TECTRANS	1669 SHOP ST	LUST, SWEEPS UST, CUPA Listings, HIST CORTESE	Higher	4464, 0.845, South
301	LITTLE TRUCKEE MOBIL	2333 ELOISE STREET	Cortese, ENF, HIST CORTESE, Notify 65	Lower	4480, 0.848, ENE
AP302	TAHOE BIKE SHOP - HM	2277 LAKE TAHOE BLVD	LUST, CUPA Listings, HIST CORTESE	Lower	4498, 0.852, East
AP303	HOUSE OF CARPETS	2280 LAKE TAHOE BLVD	LUST	Lower	4505, 0.853, East
AP304	HOUSE OF CARPETS	2280 S LAKE TAHOE BO	LUST	Lower	4507, 0.854, East
AQ305	BEACON STATION NO 68	2304 LAKE TAHOE BLVD	LUST, Cortese, CUPA Listings, ENF, HIST CORTESE	Lower	4783, 0.906, East
306	HEAVENLY VALLEY-MAIN	HEAVENLY VALLEY SKI	LUST	Lower	4831, 0.915, East
AQ307	CSK AUTO, INC (TIRES	2317 LAKE TAHOE BOUL	SLIC	Lower	4904, 0.929, ENE
AQ308	TIRES PLUS (HM)	2317 LAKE TAHOE BLVD	LUST, CUPA Listings	Lower	4904, 0.929, ENE
AQ309	ED’S AUTO BODY (JOHN	2314 LAKE TAHOE BLVD	LUST	Lower	4916, 0.931, ENE
AQ310	EDS AUTO BODY	2314 LAKE TAHOE BLVD	LUST, Cortese, CUPA Listings, ENF, HIST CORTESE	Lower	4951, 0.938, ENE
311	TAHOE KEYS POA CORPO	END OF DOVER DR	LUST	Lower	4982, 0.944, NE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
7-ELEVEN INC. STORE 800 EMERALD BAY RD SOUTH LAKE TAHOE, CA 96150	FINDS Registry ID:: 110059756358	N/A
7-ELEVEN INC. STORE 800 EMERALD BAY RD SOUTH LAKE TAHOE, CA 96150	CUPA Listings Status: Active, billable	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
NPL LIENS	Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL	National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY	Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP	CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS	Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF	RCRA - Treatment, Storage and Disposal

EXECUTIVE SUMMARY

Federal RCRA generators list

RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS	Land Use Control Information System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls

State- and tribal - equivalent NPL

RESPONSE	State Response Sites

State and tribal leaking storage tank lists

INDIAN LUST	Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST	Underground Storage Tank Listing
INDIAN UST	Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP	Voluntary Cleanup Program Properties
INDIAN VCP	Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS	Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS	A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	National Clandestine Laboratory Register
HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
US CDL	Clandestine Drug Labs

Local Land Records

LIENS	Environmental Liens Listing

LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
CA BOND EXP. PLAN	Bond Expenditure Plan
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
Financial Assurance	Financial Assurance Information Listing
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
PROC	Certified Processors Database
UIC	UIC Listing
WASTEWATER PITS	Oil Wastewater Pits Listing
WIP	Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS list

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 10/25/2013 has revealed that there is 1 CERCLIS site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LAKE TAHOE BASIN	870 EMERALD BAY RD	ESE 1/8 - 1/4 (0.139 mi.)	C17	24

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA’s comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 06/09/2015 has revealed that there are 2 RCRA-LQG sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON 1001382	2070 JAMES AVE	ESE 1/4 - 1/2 (0.455 mi.)	L165	240
CVS PHARMACY NO 9713	1043 EMERALD BAY RD	SE 1/2 - 1 (0.559 mi.)	AB225	317

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/09/2015 has revealed that there are 12 RCRA-SQG sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PACIFIC BELL	***1900 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.439 mi.)***	***P142***	***200***
SHEHADI MOTORS, INC	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U174***	***247***
SHEHADI MOTORS, INC	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U176***	***253***
SOUTH LAKE TAHOE CIT	***1700 D ST***	***S 1/2 - 1 (0.725 mi.)***	***AN289***	***438***

Lower Elevation	Address	Direction / Distance	Map ID	Page
PRECISION AUTO BODY	***867 ELOISE AVE***	***ENE 1/8 - 1/4 (0.158 mi.)***	***D24***	***35***
SOUTH SIDE AUTO BODY	***920 ELOISE AVE***	***E 1/4 - 1/2 (0.254 mi.)***	***E46***	***99***
PACIFIC BELL	DUNLAP AND ELOISE	ESE 1/4 - 1/2 (0.352 mi.)	I80	126
FIVE STAR AUTO MIKES	***2119 RUTH AVE***	***E 1/4 - 1/2 (0.430 mi.)***	***O122***	***162***
FIVE STAR TEXACO	***2037 HWY 50***	***ESE 1/4 - 1/2 (0.455 mi.)***	***S156***	***230***
SHELL SERVICE STATIO	1020 EMERALD BAY ROA	SE 1/4 - 1/2 (0.498 mi.)	X196	303
TAHOE FILM WORKS	***2095 JAMES AVE***	***E 1/2 - 1 (0.544 mi.)***	***AA219***	***313***
RALEYS DRUG CTR 167	***1045 EMERALD BAY RD***	***SE 1/2 - 1 (0.562 mi.)***	***AB232***	***323***

Federal ERNS list

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 06/22/2015 has revealed that there are 4 ERNS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	1931 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.415 mi.)	M110	152
Not reported	JULIE AND LAKE TAHOE	S 1/4 - 1/2 (0.491 mi.)	U187	271

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	913 SR 89	ESE 1/8 - 1/4 (0.241 mi.)	F37	94
Not reported	2015 LAKE TAHOE BLVD	ESE 1/4 - 1/2 (0.460 mi.)	S170	243

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control’s (DTSC’s) Site Mitigation and Brownfields Reuse Program’s (SMBRP’s) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 08/03/2015 has revealed that there is 1 ENVIROSTOR site within approximately 1.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LUKINS BROTHERS WATE Facility Id: 9490010 Status: Refer: Other Agency	***2031 WEST WY***	***WNW 1/2 - 1 (0.704 mi.)***	***AL281***	***425***

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board’s Solid Waste Information System (SWIS) database.

A review of the SWF/LF list, as provided by EDR, and dated 08/17/2015 has revealed that there is 1 SWF/LF site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SOUTH TAHOE REFUSE C Facility ID: 09-AA-0002 Operational Status: Active Regulation Status: Permitted	RUTH AVE BTWN DUNLAP	ENE 1/2 - 1 (0.519 mi.)	Z207	308

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 06/15/2015 has revealed that there are 39 LUST sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MCNAMARA PROPERTY Status: Completed - Case Closed	787 E EMERALD BAY RO	NW 0 - 1/8 (0.072 mi.)	B7	12

EXECUTIVE SUMMARY

Global Id: T060175566				
MCNAMARA Active OR Closed Site: A	787 EMERALD BAY ROAD	NW 0 - 1/8 (0.073 mi.)	B8	18
PIER 1IMPORTS #1483 Status: Completed - Case Closed Global Id: T0601781532	***1069 EMERALD BAY RD***	***SE 1/2 - 1 (0.602 mi.)***	***AB251***	***346***
NATIONAL CAR RENTAL Active OR Closed Site: A	***1101 EMERALD BAY ROA***	***SE 1/2 - 1 (0.652 mi.)***	***AH261***	***355***
T-SHIRT OUTLET Status: Completed - Case Closed Global Id: T0601700140	***1101 EMERALD BAY RD***	***SE 1/2 - 1 (0.652 mi.)***	***AH262***	***356***
U-HAUL OF TAHOE Status: Completed - Case Closed Global Id: T0601700126 Active OR Closed Site: C Date Closed: 4/15/96	***1105 EMERALD BAY RD***	***SE 1/2 - 1 (0.656 mi.)***	***AH263***	***363***
AMERICAN #1 Active OR Closed Site: A	***1140 EMERALD BAY RD***	***SE 1/2 - 1 (0.688 mi.)***	***AH273***	***373***
USA GAS STATION Status: Completed - Case Closed Global Id: T0601700091	***1140 EMERALD BAY RD***	***SE 1/2 - 1 (0.688 mi.)***	***AH274***	***375***
CITY OF SLT CORP. YA Active OR Closed Site: A	1700 D STREET	S 1/2 - 1 (0.723 mi.)	AN285	432
CITY CORPORATION YAR Status: Completed - Case Closed Global Id: T0601700157	***1700 D ST***	***S 1/2 - 1 (0.725 mi.)***	***AN287***	***432***
BARTON MEMORIAL HOSP Status: Completed - Case Closed Global Id: T0601700158	2170 SOUTH AVENUE	ESE 1/2 - 1 (0.759 mi.)	AM296	443
BARTON HOSPITAL Active OR Closed Site: C Date Closed: 6/11/02	2170 SOUTH AVENUE	ESE 1/2 - 1 (0.759 mi.)	AM297	446
UNITED PARCEL SERVIC Active OR Closed Site: C Date Closed: 5/16/01	***1746 D ST***	***S 1/2 - 1 (0.806 mi.)***	***AO298***	***446***
UPS SOUTH LAKE TAHOE Status: Completed - Case Closed Global Id: T0601700141	***1746 D ST***	***S 1/2 - 1 (0.806 mi.)***	***AO299***	***448***
TECTRANS Status: Completed - Case Closed Global Id: T0601700128 Active OR Closed Site: C Date Closed: 11/8/95	***1669 SHOP ST***	***S 1/2 - 1 (0.845 mi.)***	***300***	***453***

Lower Elevation	Address	Direction / Distance	Map ID	Page
BEACON SWISS MART Status: Completed - Case Closed Global Id: T0601700123 Global Id: T0601700148	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F36***	***45***
SWISS MART - BEACON	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F39***	***95***

Active OR Closed Site: A Active OR Closed Site: C Date Closed: 11/8/95				
HATCH ELECTRIC Status: Completed - Case Closed Global Id: T060177894	921 ELOISE AVE	E 1/8 - 1/4 (0.244 mi.)	E43	98
MYERS MARINE Status: Completed - Case Closed Global Id: T0601700098 Active OR Closed Site: C Date Closed: 7/15/96	***2140 DUNLAP ST***	***E 1/4 - 1/2 (0.386 mi.)***	***J85***	***131***
RUNNELS AUTOMOTIVE Status: Completed - Case Closed Global Id: T0601700134 Active OR Closed Site: C Date Closed: 4/28/99	***986 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.404 mi.)***	***K95***	***138***
REDWOOD OIL CO Status: Completed - Case Closed Global Id: T0601700139	***2060 ELOISE AVE***	***ESE 1/4 - 1/2 (0.433 mi.)***	***L135***	***173***
REDWOOD OIL COMPANY Active OR Closed Site: A	2060 ELOISE	ESE 1/4 - 1/2 (0.434 mi.)	L139	198
SOUTH "Y" EXXON Status: Completed - Case Closed Global Id: T10000005380	***1000 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.448 mi.)***	***K150***	***221***
FORMER FIVE STAR TEX Active OR Closed Site: C	2037 LAKE TAHOE BLVD	ESE 1/4 - 1/2 (0.455 mi.)	S158	233
BERRY-HINCKLEY INDUS Status: Completed - Case Closed Global Id: T060172028	***2070 JAMES AVENUE***	***ESE 1/4 - 1/2 (0.455 mi.)***	***L164***	***237***
SOUTH TAHOE SHELL SE Status: Completed - Case Closed Global Id: T0601700150	***1020 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.498 mi.)***	***X194***	***283***
SOUTH Y SHELL Active OR Closed Site: A	1020 EMERALD BAY ROA	SE 1/4 - 1/2 (0.498 mi.)	X200	306
SHELL STATION Active OR Closed Site: C	1020 EMERALD BAY ROA	SE 1/4 - 1/2 (0.498 mi.)	X201	307
KMART #9153 Status: Completed - Case Closed Global Id: T0601700124 Active OR Closed Site: C Date Closed: 7/28/95	***1056 EMERALD BAY RD***	***SE 1/2 - 1 (0.567 mi.)***	***AB237***	***325***
CAMPUS CRUSADE FOR C Status: Completed - Case Closed Global Id: T060171366 Active OR Closed Site: A	***531 EMERALD BAY RD***	***WNW 1/2 - 1 (0.643 mi.)***	***259***	***352***
TAHOE BIKE SHOP - HM Status: Completed - Case Closed Global Id: T0601700138 Active OR Closed Site: C Date Closed: 8/5/96	***2277 LAKE TAHOE BLVD***	***E 1/2 - 1 (0.852 mi.)***	***AP302***	***458***
HOUSE OF CARPETS	2280 LAKE TAHOE BLVD	E 1/2 - 1 (0.853 mi.)	AP303	460

Active OR Closed Site: A				
HOUSE OF CARPETS Status: Completed - Case Closed Global Id: T0601793601	2280 S LAKE TAHOE BO	E 1/2 - 1 (0.854 mi.)	AP304	460
BEACON STATION NO 68 Status: Completed - Case Closed Global Id: T0601700099 Active OR Closed Site: A	***2304 LAKE TAHOE BLVD***	***E 1/2 - 1 (0.906 mi.)***	***AQ305***	***462***
HEAVENLY VALLEY-MAIN Status: Completed - Case Closed Global Id: T0601700136	HEAVENLY VALLEY SKI	E 1/2 - 1 (0.915 mi.)	306	484
TIRES PLUS (HM) Status: Completed - Case Closed Global Id: T10000004254	***2317 LAKE TAHOE BLVD***	***ENE 1/2 - 1 (0.929 mi.)***	***AQ308***	***486***
ED’S AUTO BODY (JOHN Active OR Closed Site: C Date Closed: 7/25/03	2314 LAKE TAHOE BLVD	ENE 1/2 - 1 (0.931 mi.)	AQ309	489
EDS AUTO BODY Status: Completed - Case Closed Global Id: T0601700151	***2314 LAKE TAHOE BLVD***	***ENE 1/2 - 1 (0.938 mi.)***	***AQ310***	***489***
TAHOE KEYS POA CORPO Status: Completed - Case Closed Global Id: T10000001664	END OF DOVER DR	NE 1/2 - 1 (0.944 mi.)	311	495

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 06/15/2015 has revealed that there are 14 SLIC sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LAKESIDE NAPA AUTOMO Facility Status: Completed - Case Closed Global Id: SL0601756146	1935 LAKE TAHOE BOUL	SSE 1/4 - 1/2 (0.413 mi.)	M105	148
LAKESIDE NAPA STORE Date Open or Closed: 8/5/03 Active or Closed: A Case Number: T6S035	1935 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.414 mi.)	M108	151
TAHOE VERDE MOBILE H Facility Status: Completed - Case Closed Global Id: SL0601769949	***1080 JULIE LN***	***S 1/2 - 1 (0.657 mi.)***	***AI264***	***368***
TAHOE VERDE MOBILE H Active or Closed: A Case Number: T6S019	1080 JULIE LANE	S 1/2 - 1 (0.657 mi.)	AI265	369

Lower Elevation	Address	Direction / Distance	Map ID	Page
TCI BUILDING Active or Closed: A Case Number: T6S017	924 EMERALD BAY ROAD	ESE 1/4 - 1/2 (0.269 mi.)	F54	110
CHARTER COMMUNICATIO	***924 EMERALD BAY***	***ESE 1/4 - 1/2 (0.273 mi.)***	***F56***	***110***

Facility Status: Completed - Case Closed Global Id: SL0601746499				
HURZEL PROPERTIES Date Open or Closed: 4/13/04 Active or Closed: A Case Number: T6S044	949 EMERALD BAY ROAD	SE 1/4 - 1/2 (0.328 mi.)	H74	123
HURZEL PROPERTIES - Facility Status: Completed - Case Closed Global Id: SL0601790916	***949 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.328 mi.)***	***H77***	***124***
BIG O TIRES Facility Status: Completed - Case Closed Global Id: SL0601729739	***1961 LAKE TAHOE BOUL***	***SE 1/4 - 1/2 (0.416 mi.)***	***N114***	***153***
BIG O TIRE STORE Date Open or Closed: 8/5/03 Active or Closed: A Case Number: T6S034	1961 LAKE TAHOE BLVD	SE 1/4 - 1/2 (0.416 mi.)	N115	157
SOUTH Y PCE Facility Status: Completed - Case Closed Global Id: SL0601794942	US HIGHWAY 50/EMERAL	SE 1/4 - 1/2 (0.438 mi.)	K141	199
BERRY-HINCKLEY - SLT Active or Closed: A Case Number: T6S021	2070 JAMES AVENUE	ESE 1/4 - 1/2 (0.455 mi.)	L161	236
BERRY-HINCKLEY INDUS Facility Status: Completed - Case Closed Global Id: SL0601781518	***2070 JAMES AVENUE***	***ESE 1/4 - 1/2 (0.455 mi.)***	***L164***	***237***
CSK AUTO, INC (TIRES Facility Status: Completed - Case Closed Global Id: T10000000115	2317 LAKE TAHOE BOUL	ENE 1/2 - 1 (0.929 mi.)	AQ307	486

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 06/15/2015 has revealed that there are 3 UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AMERICAN OIL #1 Facility Id: FA0001054	1140 EMERALD BAY ROA	SE 1/2 - 1 (0.688 mi.)	AH275	420

Lower Elevation	Address	Direction / Distance	Map ID	Page
SWISS MART - BEACON Facility Id: FA0001167	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F39***	***95***
SOUTH TAHOE REFUSE C Facility Id: FA0001172	2140 RUTH AVE	E 1/4 - 1/2 (0.483 mi.)	V183	268

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, and dated 08/01/2009 has revealed that there are 2 AST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
CITY OF SLT - D STRE	1700 D	S 1/2 - 1 (0.723 mi.)	AN286	432

Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
NELLA OIL #3002	2070 JAMES	ESE 1/4 - 1/2 (0.455 mi.)	L166	241

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: The Waste Management Unit Database System is used for program tracking and inventory of waste management units. The source is the State Water Resources Control Board.

A review of the WMUDS/SWAT list, as provided by EDR, and dated 04/01/2000 has revealed that there are 2 WMUDS/SWAT sites within approximately 1 mile of the target property.

Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
SOUTH TAHOE REFUSE M	***2140 RUTH AVE***	***E 1/4 - 1/2 (0.483 mi.)***	***V179***	***255***
SOUTH TAHOE REFUSE M	2140 RUTH AVE	E 1/4 - 1/2 (0.483 mi.)	V181	267

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 06/15/2015 has revealed that there is 1 SWRCY site within approximately 1 mile of the target property.

Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
SOUTH TAHOE REFUSE C Cert Id: RC4152	2192 RUTH AVE	ENE 1/2 - 1 (0.610 mi.)	AE255	350

HAULERS: A listing of registered waste tire haulers.

A review of the HAULERS list, as provided by EDR, and dated 05/26/2015 has revealed that there is 1 HAULERS site within approximately 0.5 miles of the target property.

Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
SOUTH TAHOE REFUSE M Facility ID: 1002883	***2140 RUTH AVE***	***E 1/4 - 1/2 (0.483 mi.)***	***V179***	***255***

Local Lists of Hazardous waste / Contaminated Sites

CDL: A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

A review of the CDL list, as provided by EDR, and dated 12/31/2014 has revealed that there are 2 CDL sites within approximately 0.5 miles of the target property.

Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
Not reported Facility Id: 201207005	924 EMERALD BAY RD	ESE 1/4 - 1/2 (0.273 mi.)	F57	115
Not reported Facility Id: 199809135	916 SECRET HARBOR	ENE 1/4 - 1/2 (0.328 mi.)	75	123

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990’s. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 29 SWEEPS UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
SOUTH LAKE TAHOE Status: A Tank Status: A Comp Number: 21169	***1920 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.423 mi.)***	***M117***	***158***
SOUTH SHORE MOTORS Comp Number: 65125	***1875 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.451 mi.)***	***P154***	***226***
SHEHADI MOTORS, INC Comp Number: 8908	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U174***	***247***
CHEVRON #90672 Status: A Tank Status: A Comp Number: 61875	1069 EMERAL BAY RD	SE 1/2 - 1 (0.603 mi.)	AB252	347
T-SHIRT OUTLET Comp Number: 58507	***1101 EMERALD BAY RD***	***SE 1/2 - 1 (0.652 mi.)***	***AH262***	***356***
U-HAUL OF TAHOE Status: A Tank Status: A Comp Number: 58912	***1105 EMERALD BAY RD***	***SE 1/2 - 1 (0.656 mi.)***	***AH263***	***363***
AMERICAN #1 Status: A Tank Status: A Comp Number: 205	***1140 EMERALD BAY RD***	***SE 1/2 - 1 (0.688 mi.)***	***AH273***	***373***
CITY CORPORATION YAR	***1700 D ST***	***S 1/2 - 1 (0.725 mi.)***	***AN287***	***432***

Status: A Tank Status: A Comp Number: 160				
BARTON MEMORIAL HOSP Status: A Tank Status: A Comp Number: 57	***004TH & SOUTH***	***ESE 1/2 - 1 (0.747 mi.)***	***AM295***	***443***

Lower Elevation	Address	Direction / Distance	Map ID	Page
PRIVATE PROPERTY Comp Number: 883	***845 JAMES ST***	***ENE 0 - 1/8 (0.101 mi.)***	***11***	***19***
MEEKS BAY RESORT Comp Number: 65214	***870 EMERAL BAY RD***	***ESE 1/8 - 1/4 (0.139 mi.)***	***C19***	***28***
BEACON SWISS MART Status: A Tank Status: A Comp Number: 303	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F36***	***45***
PACIFIC BELL (TB-661 Status: A Tank Status: A Comp Number: 23057	***DUNLAP & ELOISE***	***ESE 1/4 - 1/2 (0.350 mi.)***	***I79***	***125***
RUNNELS AUTOMOTIVE Status: A Tank Status: A Comp Number: 457	***986 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.404 mi.)***	***K95***	***138***
PACIFIC BELL Comp Number: 193	***2090 DUNLAP ROAD***	***ESE 1/4 - 1/2 (0.406 mi.)***	***L99***	***143***
CP NATURAL GAS Comp Number: 2375	***2071 DUNLAP***	***ESE 1/4 - 1/2 (0.410 mi.)***	***L103***	***146***
REDWOOD OIL CO Status: A Tank Status: A Comp Number: 41030	***2060 ELOISE AVE***	***ESE 1/4 - 1/2 (0.433 mi.)***	***L137***	***196***
SOUTH "Y" EXXON Comp Number: 57652	***1000 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.448 mi.)***	***K150***	***221***
TEXACO Comp Number: 7329	2037 HIGHWAY 50 BOX	ESE 1/4 - 1/2 (0.455 mi.)	S157	231
BI STATE PETROLEUM Status: A Tank Status: A Comp Number: 481	2070 JAMES AVE	ESE 1/4 - 1/2 (0.455 mi.)	L162	236
SOUTH TAHOE REFUSE M Status: A Tank Status: A Comp Number: 15801 Comp Number: 126	***2140 RUTH AVE***	***E 1/4 - 1/2 (0.483 mi.)***	***V179***	***255***
SHELL OIL COMPANY Comp Number: 159	1020 EMERALD BAY RD	SE 1/4 - 1/2 (0.498 mi.)	X192	282
SOUTH TAHOE SHELL SE	***1020 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.498 mi.)***	***X194***	***283***

Status: A Tank Status: A Comp Number: 972				
CONSTRUCTION YARD Comp Number: 60520	***2143 ELOISE AVE***	***E 1/2 - 1 (0.561 mi.)***	***AC229***	***321***
SOUTH TAHOE BLOCK CO Comp Number: 40484	***2112 LAKE TAHOE BLVD***	***ESE 1/2 - 1 (0.576 mi.)***	***AD238***	***327***
FRANK SUNKEL WAREHOU Comp Number: 54002	2141 JAMES ST	E 1/2 - 1 (0.586 mi.)	AC243	342
ECHO PLUMBING SUPPLY Comp Number: 51494	***2141 JAMES***	***E 1/2 - 1 (0.586 mi.)***	***AC244***	***342***
CLARK PLUMMING/ SERV Comp Number: 432	***2178 ELOISE***	***E 1/2 - 1 (0.627 mi.)***	***AG257***	***351***
LUKINS BROTHERS WATE Comp Number: 40445	***2031 WEST WY***	***WNW 1/2 - 1 (0.704 mi.)***	***AL281***	***425***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 17 HIST UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
KRAGEN AUTO #1654 (C Facility Id: 00000021169	***1920 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.423 mi.)***	***M119***	***159***
SOUTH SHORE MOTORS Facility Id: 00000065125	***1875 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.451 mi.)***	***P154***	***226***
SHEHADI MOTORS, INC Facility Id: 00000008908	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U174***	***247***
NATIONAL CAR RENTAL Facility Id: 00000058507 Facility Id: 00000067209	***1101 EMERALD BAY ROA***	***SE 1/2 - 1 (0.652 mi.)***	***AH261***	***355***
U-HAUL OF TAHOE Facility Id: 00000058912	***1105 EMERALD BAY RD***	***SE 1/2 - 1 (0.656 mi.)***	***AH263***	***363***
PUBLIC WORKS EQUIPME Facility Id: 00000033101	1700 D ST	S 1/2 - 1 (0.725 mi.)	AN288	437

Lower Elevation	Address	Direction / Distance	Map ID	Page
MEEKS BAY RESORT Facility Id: 00000065214	870 EMERALD BAY RD	ESE 1/8 - 1/4 (0.139 mi.)	C18	26
PACIFIC BELL (TB-661 Facility Id: 00000023057	DUNLAP & ELOISE	ESE 1/4 - 1/2 (0.350 mi.)	I78	124
CP NATURAL GAS Facility Id: 00000002375	2071 DUNLAP DR	ESE 1/4 - 1/2 (0.409 mi.)	L102	145
SIERRA KEY-LOCK Facility Id: 00000041030	2060 ELOISE AVE	ESE 1/4 - 1/2 (0.433 mi.)	L136	195
SOUTH "Y" EXXON	1000 EMERALD BAY RD	SE 1/4 - 1/2 (0.448 mi.)	K151	224

Facility Id: 00000057652				
SOUTH TAHOE REFUSE M Facility Id: 00000015801	***2140 RUTH AVE***	***E 1/4 - 1/2 (0.483 mi.)***	***V179***	***255***
CONSTRUCTION YARD Facility Id: 00000060520	2143 ELOISE AVE	E 1/2 - 1 (0.561 mi.)	AC230	322
SOUTH TAHOE BLOCK CO Facility Id: 00000040484	2112 LAKE TAHOE BLVD	ESE 1/2 - 1 (0.576 mi.)	AD239	328
FRANK SUNKEL WAREHOU Facility Id: 00000054002	2141 JAMES AVE	E 1/2 - 1 (0.582 mi.)	AC240	328
ECHO PLUMBING SUPPLY Facility Id: 00000051494	2141 JAMES AVE	E 1/2 - 1 (0.582 mi.)	AC241	329
MELVIN L. LUKINS & S Facility Id: 00000040445	2031 WEST WAY	WNW 1/2 - 1 (0.704 mi.)	AL282	430

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 22 CA FID UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
SOUTH LAKE TAHOE Facility Id: 09000248 Status: A	***1920 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.423 mi.)***	***M117***	***158***
SOUTH SHORE MOTORS Facility Id: 09000511 Status: A	***1875 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.451 mi.)***	***P154***	***226***
SHEHADI MOTORS, INC Facility Id: 09000196 Status: A	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U174***	***247***
T-SHIRT OUTLET Facility Id: 09000101 Status: A	***1101 EMERALD BAY RD***	***SE 1/2 - 1 (0.652 mi.)***	***AH262***	***356***
U-HAUL OF TAHOE Facility Id: 09000485 Status: A	***1105 EMERALD BAY RD***	***SE 1/2 - 1 (0.656 mi.)***	***AH263***	***363***
CITY CORPORATION YAR Facility Id: 09000134 Status: A	***1700 D ST***	***S 1/2 - 1 (0.725 mi.)***	***AN287***	***432***
BARTON MEMORIAL HOSP Facility Id: 09000127 Status: A	***004TH & SOUTH***	***ESE 1/2 - 1 (0.747 mi.)***	***AM295***	***443***

Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
PRIVATE PROPERTY Facility Id: 09000119 Status: I	***845 JAMES ST***	***ENE 0 - 1/8 (0.101 mi.)***	***11***	***19***
MEEKS BAY RESORT	***870 EMERAL BAY RD***	***ESE 1/8 - 1/4 (0.139 mi.)***	***C19***	***28***

Facility Id: 09000514 Status: A				
BEACON SWISS MART Facility Id: 09000142 Status: A	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F36***	***45***
PACIFIC BELL (TB-661 Facility Id: 09000267 Status: A	***DUNLAP & ELOISE***	***ESE 1/4 - 1/2 (0.350 mi.)***	***I79***	***125***
RUNNELS AUTOMOTIVE Facility Id: 07001187 Status: A	***986 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.404 mi.)***	***K95***	***138***
PACIFIC BELL Facility Id: 09000135 Status: A	***2090 DUNLAP ROAD***	***ESE 1/4 - 1/2 (0.406 mi.)***	***L99***	***143***
CP NATURAL GAS Facility Id: 09000179 Status: A	***2071 DUNLAP***	***ESE 1/4 - 1/2 (0.410 mi.)***	***L103***	***146***
REDWOOD OIL CO Facility Id: 09000358 Status: A	***2060 ELOISE AVE***	***ESE 1/4 - 1/2 (0.433 mi.)***	***L137***	***196***
SOUTH "Y" EXXON Facility Id: 09000095 Status: A	***1000 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.448 mi.)***	***K150***	***221***
SOUTH TAHOE REFUSE M Facility Id: 09000229 Status: A	***2140 RUTH AVE***	***E 1/4 - 1/2 (0.483 mi.)***	***V179***	***255***
CONSTRUCTION YARD Facility Id: 09000496 Status: A	***2143 ELOISE AVE***	***E 1/2 - 1 (0.561 mi.)***	***AC229***	***321***
SOUTH TAHOE BLOCK CO Facility Id: 09000354 Status: A	***2112 LAKE TAHOE BLVD***	***ESE 1/2 - 1 (0.576 mi.)***	***AD238***	***327***
ECHO PLUMBING SUPPLY Facility Id: 09000440 Status: A	***2141 JAMES***	***E 1/2 - 1 (0.586 mi.)***	***AC244***	***342***
CLARK PLUMMING/ SERV Facility Id: 09000149 Status: A	***2178 ELOISE***	***E 1/2 - 1 (0.627 mi.)***	***AG257***	***351***
LUKINS BROTHERS WATE Facility Id: 09000353 Status: A	***2031 WEST WY***	***WNW 1/2 - 1 (0.704 mi.)***	***AL281***	***425***

Records of Emergency Release Reports

CHMIRS: The California Hazardous Material Incident Report System contains information on reported hazardous material incidents, i.e., accidental releases or spills. The source is the California Office of Emergency Services.

A review of the CHMIRS list, as provided by EDR, and dated 06/15/2015 has revealed that there are 4

EXECUTIVE SUMMARY

CHMIRS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported OES Incident Number: 09666	735 SR 89	NW 1/8 - 1/4 (0.185 mi.)	28	39

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported OES Incident Number: 540	913 SR 89	ESE 1/8 - 1/4 (0.241 mi.)	F30	40
Not reported OES Incident Number: 014703 Date Completed: 24-DEC-90	913 EMERALD BAY ROAD	ESE 1/8 - 1/4 (0.241 mi.)	F31	42
TJ MAXX 1283 OES Incident Number: 0-1590	***2015 LAKE TAHOE BLVD***	***ESE 1/4 - 1/2 (0.460 mi.)***	***S171***	***243***

LDS: The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

A review of the LDS list, as provided by EDR, and dated 06/15/2015 has revealed that there is 1 LDS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SOUTH TAHOE REFUSE M Global Id: L10004566096 Status: Open	***2140 RUTH AVE***	***E 1/4 - 1/2 (0.483 mi.)***	***V179***	***255***

Other Ascertainable Records

ICIS: The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

A review of the ICIS list, as provided by EDR, and dated 01/23/2015 has revealed that there is 1 ICIS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WESTERN ENERGETIX	***2070 JAMES AVE***	***ESE 1/4 - 1/2 (0.455 mi.)***	***L167***	***241***

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 01/18/2015 has revealed that there are 18

FINDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ROCKWATER APTS.		NW 0 - 1/8 (0.081 mi.)	B9	19
TAHOE MONTESSORI HOU	848 GLORENE AVE	S 0 - 1/8 (0.099 mi.)	10	19
PACIFIC BELL	***1900 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.439 mi.)***	***P142***	***200***
SHEHADI MOTORS, INC	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U174***	***247***
SHEHADI MOTORS, INC	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U176***	***253***
KMART (GARDEN SHOP)	1030 TATA LANE	SSE 1/4 - 1/2 (0.492 mi.)	W189	272

Lower Elevation	Address	Direction / Distance	Map ID	Page
LAKE TAHOE BASIN	870 EMERALD BAY RD	ESE 1/8 - 1/4 (0.140 mi.)	C20	30
PRECISION AUTO BODY	***867 ELOISE AVE***	***ENE 1/8 - 1/4 (0.158 mi.)***	***D24***	***35***
SOUTH SIDE AUTO BODY	***920 ELOISE AVE***	***E 1/4 - 1/2 (0.254 mi.)***	***E46***	***99***
FIVE STAR AUTO MIKES	***2119 RUTH AVE***	***E 1/4 - 1/2 (0.430 mi.)***	***O122***	***162***
PACIFIC BELL	2075 ELOISE	ESE 1/4 - 1/2 (0.433 mi.)	L130	171
AT&T CALIFORNIA - TB	2075 ELOISE ST	ESE 1/4 - 1/2 (0.433 mi.)	L131	172
16060 RB6T	2060 ELOISE AVE	ESE 1/4 - 1/2 (0.433 mi.)	L133	172
FIVE STAR TEXACO	***2037 HWY 50***	***ESE 1/4 - 1/2 (0.455 mi.)***	***S156***	***230***
CHEVRON 1001382	2070 JAMES AVE	ESE 1/4 - 1/2 (0.455 mi.)	L160	235
WESTERN ENERGETIX	***2070 JAMES AVE***	***ESE 1/4 - 1/2 (0.455 mi.)***	***L167***	***241***
SOUTH TAHOE REFUSE C	2140 RUTH AVE	E 1/4 - 1/2 (0.483 mi.)	V182	268
EQUILON ENTERPRISES	1020 EMERALD BAY RD	SE 1/4 - 1/2 (0.498 mi.)	X193	283

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 06/24/2015 has revealed that there are 10 Cortese sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
USA SERVICE STATION	***1140 EMERAL BAY RD***	***SE 1/2 - 1 (0.688 mi.)***	***AH272***	***372***
USA GAS STATION	***1140 EMERALD BAY RD***	***SE 1/2 - 1 (0.688 mi.)***	***AH274***	***375***

Lower Elevation	Address	Direction / Distance	Map ID	Page
BEACON SWISS MART	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F36***	***45***
FIVE STAR TEXACO	***2037 LAKE TAHOE BLVD***	***ESE 1/4 - 1/2 (0.455 mi.)***	***S159***	***233***
SOUTH TAHOE SHELL SE	***1020 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.498 mi.)***	***X194***	***283***
TAHOE KEYS POA	***2100 TEXAS AVENUE***	***N 1/2 - 1 (0.586 mi.)***	***242***	***329***
LUKINS BROTHERS WATE	***2031 WEST WY***	***WNW 1/2 - 1 (0.704 mi.)***	***AL281***	***425***
LITTLE TRUCKEE MOBIL	***2333 ELOISE STREET***	***ENE 1/2 - 1 (0.848 mi.)***	***301***	***455***
BEACON STATION NO 68	***2304 LAKE TAHOE BLVD***	***E 1/2 - 1 (0.906 mi.)***	***AQ305***	***462***
EDS AUTO BODY	***2314 LAKE TAHOE BLVD***	***ENE 1/2 - 1 (0.938 mi.)***	***AQ310***	***489***

CUPA Listings: A listing of sites included in the county’s Certified Unified Program Agency database. California’s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 105 CUPA Listings sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
DAVID EDGE , LAC Status: Inactive, non-billable	821 ROGER AVE	S 0 - 1/8 (0.039 mi.)	A4	9
ROCKWATER APTS. Status: Inactive, non-billable	***787 EMERALD BAY RD***	***NW 0 - 1/8 (0.072 mi.)***	***B5***	***10***
LAKESIDE NAPA AUTO P Status: Inactive, non-billable	1935 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.413 mi.)	M107	150
SCOTTY'S HARDWARE Status: Active, billable Status: Active, exempt from billing	***1931 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.415 mi.)***	***M109***	***151***
KRAGEN AUTO #1654 (C Status: Inactive, non-billable	***1920 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.423 mi.)***	***M119***	***159***
DBA LAKE TAHOE AUTO Status: Inactive, non-billable Status: Active, billable	***1901 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.432 mi.)***	***P123***	***164***
TERRY LIBBON MOTORS Status: Inactive, non-billable	***1901 LAKE TAHOE BOUL***	***SSE 1/4 - 1/2 (0.432 mi.)***	***P129***	***170***
SOUTH SHORE MOTORS Status: Inactive, non-billable	***1875 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.451 mi.)***	***P154***	***226***
SHEHADI MOTORS, INC Status: Inactive, non-billable Status: Active, billable Status: Active, exempt from billing	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U174***	***247***
KMART #9153/GARDEN S Status: Active, billable Status: Active, exempt from billing	***1030 TATA LN***	***SSE 1/4 - 1/2 (0.492 mi.)***	***W190***	***273***
STPUD GARDNER MOUNTA Status: Active, billable	589 GARDNER ST	WSW 1/2 - 1 (0.597 mi.)	248	345
PIER 1IMPORTS #1483 Status: Inactive, non-billable	***1069 EMERALD BAY RD***	***SE 1/2 - 1 (0.602 mi.)***	***AB251***	***346***
SOUTH TAHOE HIGH SCH Status: Active, billable Status: Active, exempt from billing Status: Inactive, non-billable	1735 LAKE TAHOE BLVD	SSW 1/2 - 1 (0.608 mi.)	254	349
T-SHIRT OUTLET Status: Inactive, non-billable	***1101 EMERALD BAY RD***	***SE 1/2 - 1 (0.652 mi.)***	***AH262***	***356***
U-HAUL OF TAHOE Status: Active, billable Status: Inactive, non-billable	***1105 EMERALD BAY RD***	***SE 1/2 - 1 (0.656 mi.)***	***AH263***	***363***
TAHOE VERDE MOBILE H Status: Inactive, non-billable	***1080 JULIE LN***	***S 1/2 - 1 (0.657 mi.)***	***AI264***	***368***
AMERICAN #1 Status: Active, billable Status: Active, exempt from billing	***1140 EMERALD BAY RD***	***SE 1/2 - 1 (0.688 mi.)***	***AH273***	***373***
EXPERT AUTO SERVICE Status: Active, billable Status: Active, exempt from billing	***1144 EMERALD BAY RD***	***SE 1/2 - 1 (0.691 mi.)***	***AH276***	***421***

Status: Inactive, non-billable				
EMERALD BAY CENTER F Status: Inactive, non-billable	***1154 EMERALD BAY RD***	***SE 1/2 - 1 (0.700 mi.)***	***AH280***	***424***
MICHAEL SULLIVAN , M Status: Inactive, non-billable	2101 SOUTH AVE	ESE 1/2 - 1 (0.716 mi.)	AM283	431
CITY CORPORATION YAR Status: Inactive, non-billable	***1700 D ST***	***S 1/2 - 1 (0.725 mi.)***	***AN287***	***432***
CITY OF SLT D ST Status: Active, billable Status: Active, exempt from billing Status: Inactive, non-billable	1700 D ST	S 1/2 - 1 (0.725 mi.)	AN290	441
ALPINE FAMILY PRACTI Status: Inactive, non-billable	1108 4TH ST	ESE 1/2 - 1 (0.738 mi.)	291	442
LAB CORP Status: Inactive, non-billable	2133 SOUTH AVE	ESE 1/2 - 1 (0.738 mi.)	AM293	442

Lower Elevation	Address	Direction / Distance	Map ID	Page
REDWOOD PRINTING Status: Active, billable	854 EMERALD BAY RD S	ESE 0 - 1/8 (0.102 mi.)	C13	23
LAKE MONSTER TATTOO Status: Inactive, non-billable	868 EMERALD BAY RD A	ESE 1/8 - 1/4 (0.135 mi.)	C16	24
PRECISION AUTO BODY Status: Inactive, non-billable	867 ELOISE AVE #C	ENE 1/8 - 1/4 (0.158 mi.)	D26	38
MCFARLANE MORTUARY Status: Inactive, non-billable	887 EMERALD BAY RD	ESE 1/8 - 1/4 (0.178 mi.)	27	39
BEACON SWISS MART Status: Active, billable Status: Inactive, non-billable Status: Active, exempt from billing	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F36***	***45***
SUNSHINE YELLOW CAB Status: Active, billable Status: Active, exempt from billing	912 ELOISE AVE	E 1/8 - 1/4 (0.241 mi.)	E41	97
STRUVE AUTOMOTIVE Status: Active, billable Status: Active, exempt from billing Status: Inactive, non-billable	927 ELOISE AVE	E 1/4 - 1/2 (0.255 mi.)	E48	104
ALPINE ANIMAL HOSPIT Status: Inactive, non-billable	921 EMERALD BAY RD	ESE 1/4 - 1/2 (0.263 mi.)	F50	106
CALPECO MAIN OFFICE Status: Active, billable Status: Active, exempt from billing	933 ELOISE AVE	E 1/4 - 1/2 (0.265 mi.)	E52	108
CHARTER COMMUNICATIO Status: Inactive, non-billable	***924 EMERALD BAY***	***ESE 1/4 - 1/2 (0.273 mi.)***	***F56***	***110***
HIGHER GROUND AUTOWO Status: Active, exempt from billing	2042 5TH ST UNIT 10	ESE 1/4 - 1/2 (0.274 mi.)	E60	117
PERFORMANCE SLEDS (H Status: Inactive, non-billable	2042 FIFTH ST #8	ESE 1/4 - 1/2 (0.274 mi.)	E61	117
CROW'S AUTO CARE (HM	2042 FIFTH ST STE 6	ESE 1/4 - 1/2 (0.274 mi.)	E63	118

Status: Inactive, non-billable				
ABBEY MOTORS (HM) CL Status: Inactive, non-billable	2042 FIFTH ST #11	ESE 1/4 - 1/2 (0.274 mi.)	E64	118
SOUTH SIDE AUTO BODY Status: Active, billable Status: Active, exempt from billing	***934 ELOISE AVE***	***E 1/4 - 1/2 (0.276 mi.)***	***G66***	***119***
VANEKS ENGINE SPECIA Status: Inactive, non-billable	2035 FIFTH STREET	ESE 1/4 - 1/2 (0.277 mi.)	E68	121
MATHISEN AUTOMOTIVE Status: Inactive, non-billable	944 ELOISE AVE	ESE 1/4 - 1/2 (0.297 mi.)	G69	121
OLSEN PAVING (HM) Status: Inactive, non-billable	950 ELOISE AVE	ESE 1/4 - 1/2 (0.308 mi.)	G72	122
HURZEL PROPERTIES - Status: Inactive, non-billable	***949 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.328 mi.)***	***H77***	***124***
SCREAMERS ICE CREAM Status: Inactive, non-billable	960 EMERALD BAY RD	SE 1/4 - 1/2 (0.355 mi.)	H82	127
MYERS MARINE Status: Inactive, non-billable	***2140 DUNLAP ST***	***E 1/4 - 1/2 (0.386 mi.)***	***J85***	***131***
SOUTH TAHOE REFUSE Status: Inactive, non-billable	2132 DUNLAP DR	E 1/4 - 1/2 (0.386 mi.)	J89	136
TAHOE PRINTING Status: Active, billable Status: Active, exempt from billing	2116 DUNLAP DR	E 1/4 - 1/2 (0.390 mi.)	J90	136
SIERRA ALTERNATORS & Status: Active, billable	2108 DUNLAP DR UNIT	ESE 1/4 - 1/2 (0.396 mi.)	I91	137
ART’S TRANSMISSION Status: Active, billable Status: Active, exempt from billing	2105 RUTH AVE	E 1/4 - 1/2 (0.400 mi.)	J92	137
RUNNELS AUTOMOTIVE Status: Inactive, non-billable	***986 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.404 mi.)***	***K95***	***138***
PACIFIC BELL Status: Inactive, non-billable	***2090 DUNLAP ROAD***	***ESE 1/4 - 1/2 (0.406 mi.)***	***L99***	***143***
I CAN FIX THAT! Status: Inactive, non-billable	2199 DUNLAP DR	ENE 1/4 - 1/2 (0.406 mi.)	100	144
AVISTA UTILITIES (HM Status: Inactive, non-billable	2071 DUNLAP	ESE 1/4 - 1/2 (0.409 mi.)	L101	145
MARINE PERFORMANCE Status: Inactive, non-billable	***2050 DUNLAP ST***	***ESE 1/4 - 1/2 (0.416 mi.)***	***L111***	***152***
BIG O TIRES Status: Inactive, non-billable	***1961 LAKE TAHOE BOUL***	***SE 1/4 - 1/2 (0.416 mi.)***	***N114***	***153***
SELLERS BUILDING Status: Inactive, non-billable	2048 DUNLAP DR	ESE 1/4 - 1/2 (0.417 mi.)	L116	157
FIVE STAR AUTOMOTIVE Status: Active, billable Status: Active, exempt from billing	2119 RUTH AVE	E 1/4 - 1/2 (0.430 mi.)	O121	162
AT&T CALIFORNIA - TB Status: Active, billable	2075 ELOISE ST	ESE 1/4 - 1/2 (0.433 mi.)	L132	172

Status: Inactive, non-billable Status: Active, exempt from billing				
REDWOOD OIL CO Status: Inactive, non-billable	***2060 ELOISE AVE***	***ESE 1/4 - 1/2 (0.433 mi.)***	***L135***	***173***
BERRY-HINCKLEY INDUS Status: Active, billable Status: Inactive, non-billable Status: Active, exempt from billing	***2070 JAMES AVENUE***	***ESE 1/4 - 1/2 (0.455 mi.)***	***L164***	***237***
AT&T MOBILITY - JAME Status: Active, billable Status: Inactive, non-billable	2082 ELOISE AVE	E 1/4 - 1/2 (0.459 mi.)	T168	242
TJ MAXX 1283 Status: Active, billable	***2015 LAKE TAHOE BLVD***	***ESE 1/4 - 1/2 (0.460 mi.)***	***S171***	***243***
RON FULLER CONSTRUCT Status: Active, billable Status: Active, exempt from billing	2092 ELOISE AVE	E 1/4 - 1/2 (0.474 mi.)	T177	255
SOUTH TAHOE REFUSE M Status: Active, billable Status: Active, exempt from billing Status: Inactive, non-billable	***2140 RUTH AVE***	***E 1/4 - 1/2 (0.483 mi.)***	***V179***	***255***
STAPLES OFFICE SUPPL Status: Inactive, non-billable	2061 LAKE TAHOE BLVD	ESE 1/4 - 1/2 (0.484 mi.)	S186	271
SOUTH TAHOE SHELL SE Status: Inactive, non-billable Status: Active, billable Status: Active, exempt from billing	***1020 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.498 mi.)***	***X194***	***283***
SOUTH Y CENTER Status: Inactive, non-billable	1022 EMERALD BAY RD	SE 1/4 - 1/2 (0.498 mi.)	X202	307
LAKE TAHOE LAUNDRY W Status: Active, billable	1024 EMERALD BAY RD	SE 1/2 - 1 (0.502 mi.)	X203	307
ALPINE METALS Status: Active, billable Status: Inactive, non-billable		E 1/2 - 1 (0.511 mi.)	V205	308
TRINITY LANDSCAPING Status: Inactive, non-billable	2118 ELOISE AVE	E 1/2 - 1 (0.520 mi.)	AA208	309
BI STATE PROPANE Status: Active, billable	2070 JAMES AVE STE A	E 1/2 - 1 (0.526 mi.)	209	310
RALEY’S SUPERMARKET Status: Active, billable Status: Active, exempt from billing	1040 EMERALD BAY RD	SE 1/2 - 1 (0.533 mi.)	X210	310
ADVANCED FAMILY FOOT Status: Inactive, non-billable	2074 LAKE TAHOE SUIT	ESE 1/2 - 1 (0.534 mi.)	Y211	310
GROELZ , ROSS DDS Status: Inactive, non-billable	2074 LAKE TAHOE BLVD	ESE 1/2 - 1 (0.534 mi.)	Y212	311
LASTING BEAUTY Status: Inactive, non-billable	2083 JAMES AVE	E 1/2 - 1 (0.535 mi.)	AA213	311
CALIFORNIA TAHOE CON Status: Inactive, non-billable	931 3RD ST	E 1/2 - 1 (0.536 mi.)	Z214	311
CROW’S AUTO CARE	931 THIRD ST	E 1/2 - 1 (0.536 mi.)	Z215	311

Status: Active, billable Status: Active, exempt from billing				
LORRAINE BAKERY SITE Status: Inactive, non-billable	2087 JAMES STREET	E 1/2 - 1 (0.538 mi.)	AA217	312
TAHOE TOURS (HM) Status: Inactive, non-billable	2133 ELOISE AVE	E 1/2 - 1 (0.538 mi.)	AA218	312
BARTON MEMORIAL HOSP Status: Inactive, non-billable	2092 LAKE TAHOE BLVD	ESE 1/2 - 1 (0.553 mi.)	Y220	315
DIAMOND WOODCRAFT Status: Active, billable	2197 RUTH AVE UNIT 1	ENE 1/2 - 1 (0.554 mi.)	Z221	315
SCOTT’S CUSTOM MACHI Status: Inactive, non-billable	2197 RUTH AVE #4	ENE 1/2 - 1 (0.554 mi.)	Z222	315
CVS PHARMACY #9713 Status: Active, billable Status: Inactive, non-billable Status: Active, exempt from billing	1043 EMERALD BAY RD	SE 1/2 - 1 (0.559 mi.)	AB224	317
CREATIVE FABRICATION Status: Inactive, non-billable	2140 ELOISE AVE 1	E 1/2 - 1 (0.561 mi.)	AC226	319
TAHOE TEST TUNE (HM) Status: Active, billable Status: Active, exempt from billing Status: Inactive, non-billable	2143 ELOISE AVE 2	E 1/2 - 1 (0.561 mi.)	AC227	319
PRAXAIR (SLT) Status: Active, billable	2117 JAMES AVE	E 1/2 - 1 (0.562 mi.)	AA231	322
VERIZON WIRELESS SOU Status: Active, billable	1054 EMERALD BAY RD	SE 1/2 - 1 (0.563 mi.)	AB233	324
EMERALD BAY TOWING Status: Active, billable Status: Active, exempt from billing	948 THIRD ST	E 1/2 - 1 (0.564 mi.)	AC234	324
KEN’S TIRE CENTER Status: Active, billable Status: Active, exempt from billing	2104 LAKE TAHOE BLVD	ESE 1/2 - 1 (0.566 mi.)	AD236	325
KMART #9153 Status: Active, billable Status: Active, exempt from billing	***1056 EMERALD BAY RD***	***SE 1/2 - 1 (0.567 mi.)***	***AB237***	***325***
TAHOE KEYS POA Status: Inactive, non-billable	***2100 TEXAS AVENUE***	***N 1/2 - 1 (0.586 mi.)***	***242***	***329***
AXELSON IRON SHOP Status: Active, billable Status: Active, exempt from billing	2184 RUTH AVE	ENE 1/2 - 1 (0.591 mi.)	AE245	343
NORM’S AUTO REPAIR Status: Active, billable Status: Active, exempt from billing	2186 RUTH AVE	ENE 1/2 - 1 (0.596 mi.)	AE247	345
TAHOE URGENT CARE Status: Inactive, non-billable	2130 LAKE TAHOE BLVD	E 1/2 - 1 (0.598 mi.)	AF249	345
TAHOE POOL SERVICE Status: Active, billable Status: Active, exempt from billing	971 THIRD ST	E 1/2 - 1 (0.605 mi.)	AC253	349
GEORGE’S PERFORMANCE	2176 ELOISE AVE	E 1/2 - 1 (0.624 mi.)	AG256	350

Status: Inactive, non-billable				
ALPINE SMITH , INC. Status: Inactive, non-billable	2120 BARTON AVE	ESE 1/2 - 1 (0.634 mi.)	AF258	351
CAMPUS CRUSADE FOR C Status: Inactive, non-billable	***531 EMERALD BAY RD***	***WNW 1/2 - 1 (0.643 mi.)***	***259***	***352***
ALPINE SMITH Status: Active, billable Status: Active, exempt from billing	2193 ELOISE AVE	E 1/2 - 1 (0.647 mi.)	AG260	355
EASTERN SIERRA HISTO Status: Inactive, non-billable	2176 LAKE TAHOE BLVD	E 1/2 - 1 (0.661 mi.)	AJ266	369
PARK , ERIC SONG, DD Status: Inactive, non-billable	2180 LAKE TAHOE BLVD	E 1/2 - 1 (0.669 mi.)	AJ269	371
SOUTH SHORE TRANSMIS Status: Inactive, non-billable	2226 ELOISE D	E 1/2 - 1 (0.700 mi.)	AK279	423
KAUFMAN, J. & CERCEO Status: Inactive, non-billable	1077 4TH ST	ESE 1/2 - 1 (0.717 mi.)	284	431
KIMBALL CHATFIELD , Status: Inactive, non-billable	2241 JAMES AVE	E 1/2 - 1 (0.738 mi.)	AK292	442
ROAD RASH CAFE Status: Inactive, non-billable	2218 LAKE TAHOE BLVD	E 1/2 - 1 (0.747 mi.)	294	442

ENF: A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

A review of the ENF list, as provided by EDR, and dated 08/24/2015 has revealed that there are 14 ENF sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ROCKWATER APTS. Status: Withdrawn Status: Never Active Facility Id: 201496	***787 EMERALD BAY RD***	***NW 0 - 1/8 (0.072 mi.)***	***B5***	***10***
EMERALD PINES RESORT Status: Withdrawn Status: Historical Facility Id: 222685	***661-681 EMERALD BAY***	***NW 1/4 - 1/2 (0.367 mi.)***	***83***	***128***
KRAGEN AUTO #1654 (C Status: Active Status: Never Active Facility Id: 235250	***1920 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.423 mi.)***	***M119***	***159***
TERRY LIBBON MOTORS Status: Historical Status: Never Active Facility Id: 208553	***1901 LAKE TAHOE BOUL***	***SSE 1/4 - 1/2 (0.432 mi.)***	***P129***	***170***
TROUT CREEK RESTORAT Status: Historical Status: Historical Facility Id: 266537	1900 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.439 mi.)	P143	201
MUN STRMWTR DISCHARG	1900 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.439 mi.)	P145	205

Status: Historical Status: Historical Facility Id: 241870				
TAHOE VERDE TRAILER Status: Historical Status: Withdrawn Status: Never Active Facility Id: 262845	LAKE TAHOE BLVD & JU	S 1/4 - 1/2 (0.495 mi.)	U191	274

Lower Elevation	Address	Direction / Distance	Map ID	Page
BEL PAC ENTERPRISES Status: Historical Status: Historical Facility Id: 209117	***854-868 EMERALD BAY***	***ESE 0 - 1/8 (0.102 mi.)***	***C12***	***20***
BEACON SWISS MART Status: Active Status: Historical Status: Withdrawn Status: Historical Status: Never Active Facility Id: 259822	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F36***	***45***
CHARTER COMMUNICATIO Status: Historical Facility Id: 214090	***924 EMERALD BAY***	***ESE 1/4 - 1/2 (0.273 mi.)***	***F56***	***110***
BIG O TIRES Status: Active Status: Historical Facility Id: 209475	***1961 LAKE TAHOE BOUL***	***SE 1/4 - 1/2 (0.416 mi.)***	***N114***	***153***
REDWOOD OIL CO Status: Active Status: Historical Status: Never Active Facility Id: 252249	***2060 ELOISE AVE***	***ESE 1/4 - 1/2 (0.433 mi.)***	***L135***	***173***
FIVE STAR TEXACO Status: Active Status: Never Active Facility Id: 224583	***2037 LAKE TAHOE BLVD***	***ESE 1/4 - 1/2 (0.455 mi.)***	***S159***	***233***
SOUTH TAHOE SHELL SE Status: Withdrawn Status: Active Status: Never Active Facility Id: 257903	***1020 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.498 mi.)***	***X194***	***283***

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency. This database begins with calendar year 1993.

A review of the HAZNET list, as provided by EDR, and dated 12/31/2013 has revealed that there are 41

EXECUTIVE SUMMARY

HAZNET sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TED'S FIX-IT SHOP GEPAID: CAL000041296	807 ROGER AVE	WSW 0 - 1/8 (0.036 mi.)	A3	8
PAMELA POLOMSKI GEPAID: CAC002755913	855 CLEMENT ST	SSW 1/8 - 1/4 (0.248 mi.)	44	99
LAKESIDE AUTOMOTIVE GEPAID: CAL000037672	1935 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.413 mi.)	M106	149
SCOTTY'S HARDWARE GEPAID: CAL000250398	***1931 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.415 mi.)***	***M109***	***151***
DBA LAKE TAHOE AUTO GEPAID: CAL000212672	***1901 LAKE TAHOE BLVD***	***SSE 1/4 - 1/2 (0.432 mi.)***	***P123***	***164***
LES SCHWAB TIRE CENT GEPAID: CAL000299020	1901 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.432 mi.)	P125	165
BILL WINKS MOTOR SAL GEPAID: CAL000022513	1901 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.432 mi.)	P127	168
BAKER AUTOMOTIVE GEPAID: CAL000172700	1901 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.432 mi.)	P128	169
SOUTH SHORE MOTORS, GEPAID: CAD045995941	1875 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.451 mi.)	P153	225
LUMBER CITY CORP DBA GEPAID: CAL000368217	1875 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.451 mi.)	P155	228
SHEHADI MOTORS, INC GEPAID: CAD981445836	***1855 LAKE TAHOE BLVD***	***S 1/4 - 1/2 (0.469 mi.)***	***U174***	***247***
CARDINALE AUTOMOTIVE GEPAID: CAL000314606	1855 LAKE TAHOE BLVD	S 1/4 - 1/2 (0.469 mi.)	U175	252
KMART #9153/GARDEN S GEPAID: CAL000333142	***1030 TATA LN***	***SSE 1/4 - 1/2 (0.492 mi.)***	***W190***	***273***

Lower Elevation	Address	Direction / Distance	Map ID	Page
KC'S AUTOMOTIVE GEPAID: CAL000308716	867 ELOISE AVE STE C	ENE 1/8 - 1/4 (0.158 mi.)	D21	31
PRECISION AUTO BODY GEPAID: CAL000168368	867 ELOISE AVE	ENE 1/8 - 1/4 (0.158 mi.)	D22	32
PRECISION AUTO BODY GEPAID: CAD981689268	867 ELOISE AVE	ENE 1/8 - 1/4 (0.158 mi.)	D25	36
BEACON SWISS MART GEPAID: CAC001266640	913 EMERALD BAY AVE	ESE 1/8 - 1/4 (0.241 mi.)	F33	43
SUNSHINE TAXI INC GEPAID: CAL000240368	912 ELOISE AVE	E 1/8 - 1/4 (0.241 mi.)	E40	95
SOUTH SIDE AUTO BODY GEPAID: CAD981686041	***920 ELOISE AVE***	***E 1/4 - 1/2 (0.254 mi.)***	***E46***	***99***
STRUVE AUTOMOTIVE GEPAID: CAL000312895	927 ELOISE AVE	E 1/4 - 1/2 (0.255 mi.)	E47	103
SIERRA PACIFIC POWER GEPAID: CAL000245067	933 ELOISE AVE	E 1/4 - 1/2 (0.265 mi.)	E51	106
CALPECO SOUTH LAKE T	933 ELOISE AVE	E 1/4 - 1/2 (0.265 mi.)	E53	108

GEPAID: CAL000361009				
COLDWELL BANKER GEPAID: CAC001065368	924 EMERALD BAY RD	ESE 1/4 - 1/2 (0.273 mi.)	F58	116
GREG COLE GEPAID: CAC002718479	2394 TAHOE VISTA DR	NNE 1/4 - 1/2 (0.312 mi.)	73	122
THOR ALLEN STENRUD GEPAID: CAC002620570	960 EMERALD BAY RD	SE 1/4 - 1/2 (0.355 mi.)	H81	127
SIERRA PACIFIC POWER GEPAID: CAD980676811	2129 DUNLAP DR	E 1/4 - 1/2 (0.385 mi.)	J84	130
SOUTH SIDE AUTO BODY GEPAID: CAL000061870	2132 DUNLAP DR	E 1/4 - 1/2 (0.386 mi.)	J88	134
RUNNELS AUTOMOTIVE GEPAID: CAL000011126	986 EMERALD BAY RD	SE 1/4 - 1/2 (0.404 mi.)	K98	143
PACIFIC BELL TELEPHO GEPAID: CAT080024516	2075 ELOISE	ESE 1/4 - 1/2 (0.413 mi.)	L104	146
MARINE PERFORMANCE GEPAID: CAC000876256	***2050 DUNLAP ST***	***ESE 1/4 - 1/2 (0.416 mi.)***	***L111***	***152***
BIG O TIRE STORE #65 GEPAID: CAL000031474	1961 LAKE TAHOE BLVD	SE 1/4 - 1/2 (0.416 mi.)	N113	153
REDWOOD OIL CO GEPAID: CAC001056440	2060 ELOISE	ESE 1/4 - 1/2 (0.433 mi.)	L134	173
REDWOOD OIL CO GEPAID: CAC001109928	2060 ELOISE ST	ESE 1/4 - 1/2 (0.433 mi.)	L138	197
LAKE TAHOE USD-TAHOE GEPAID: CAL000080398	943 TAHOE ISLAND DR	NE 1/4 - 1/2 (0.445 mi.)	R148	221
EUGENE GARFINKLE GEPAID: CAC002680988	2011 LAKE TAHOE BLVD	ESE 1/4 - 1/2 (0.459 mi.)	S169	243
LAKE TAHOE UNIFIED S GEPAID: CAC001339776	943 TAHOE ISLAND	ENE 1/4 - 1/2 (0.467 mi.)	R172	245
SOUTH TAHOE REFUSE T GEPAID: CAC002644943	2141 RUTH AVE	E 1/4 - 1/2 (0.477 mi.)	V178	255
SOUTH TAHOE REFUSE C GEPAID: CAH111000472	2140 RUTH AVE	E 1/4 - 1/2 (0.483 mi.)	V180	265
EL DORADO CTY ENVIR GEPAID: CAH777000896	2140 RUTH AVE	E 1/4 - 1/2 (0.483 mi.)	V184	269
RALEY’S AISLE 1 #177 GEPAID: CAL000373440	1020 EMERALD BAY RD	SE 1/4 - 1/2 (0.498 mi.)	X195	301
EQUILON ENTERPRISES GEPAID: CAD981460637	1020 EMERALD BAY RD	SE 1/4 - 1/2 (0.498 mi.)	X197	304

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 7 HIST CORTESE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BEACON SWISS MART Reg Id: 6A099810N02 Reg Id: 6T0297A Reg Id: 6T0173A	***913 EMERALD BAY RD***	***ESE 1/8 - 1/4 (0.241 mi.)***	***F36***	***45***
MYERS MARINE Reg Id: 6T0054A	***2140 DUNLAP ST***	***E 1/4 - 1/2 (0.386 mi.)***	***J85***	***131***
RUNNELS AUTOMOTIVE Reg Id: 6T0228A	***986 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.404 mi.)***	***K95***	***138***
REDWOOD OIL CO Reg Id: 6T0242A	***2060 ELOISE AVE***	***ESE 1/4 - 1/2 (0.433 mi.)***	***L135***	***173***
FIVE STAR TEXACO Reg Id: 6A098911N72	***2037 LAKE TAHOE BLVD***	***ESE 1/4 - 1/2 (0.455 mi.)***	***S159***	***233***
SOUTH TAHOE SHELL SE Reg Id: 6A099812N01	***1020 EMERALD BAY RD***	***SE 1/4 - 1/2 (0.498 mi.)***	***X194***	***283***
SOUTH Y SHELL Reg Id: 6T0300A	1020 EMERALD BAY ROA	SE 1/4 - 1/2 (0.498 mi.)	X199	306

NPDES: A listing of NPDES permits, including stormwater.

A review of the NPDES list, as provided by EDR, and dated 08/17/2015 has revealed that there is 1 NPDES site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SOUTH TAHOE REFUSE M Facility Status: Historical Facility Status: Active	***2140 RUTH AVE***	***E 1/4 - 1/2 (0.483 mi.)***	***V179***	***255***

PEST LIC: A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

A review of the PEST LIC list, as provided by EDR, and dated 06/07/2015 has revealed that there is 1 PEST LIC site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
STEPHANIE R MCKNIGHT	575 ROGER AVE	WNW 1/4 - 1/2 (0.443 mi.)	Q147	220

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 10/21/1993 has revealed that there are 2 Notify 65 sites within approximately 1.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TERRIBLE HERBST GAS	2762 LAKE TAHOE BLVD	ESE 1/2 - 1 (0.519 mi.)	Y206	308

Lower Elevation	Address	Direction / Distance	Map ID	Page
LITTLE TRUCKEE MOBIL	***2333 ELOISE STREET***	***ENE 1/2 - 1 (0.848 mi.)***	***301***	***455***

WDS: California Water Resources Control Board - Waste Discharge System.

A review of the WDS list, as provided by EDR, and dated 06/19/2007 has revealed that there are 11 WDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CANTINA Facility Status: A Facility Id: 6A099501003	765 EMERALD BAY RD	NW 0 - 1/8 (0.121 mi.)	B14	23
EMERALD PINES RESORT Facility Status: A Facility Id: 6A099401005	***661-681 EMERALD BAY***	***NW 1/4 - 1/2 (0.367 mi.)***	***83***	***128***
LAKE TAHOE AUTO VILL Facility Status: A Facility Id: 6A099409007	1901 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.432 mi.)	P126	167
KMART GARDEN SHOP & Facility Status: H Facility Id: 6A099303001	1030 TATA LN	SSE 1/4 - 1/2 (0.492 mi.)	W188	271

Lower Elevation	Address	Direction / Distance	Map ID	Page
BEL PAC ENTERPRISES Facility Status: A Facility Id: 6A099407002	***854-868 EMERALD BAY***	***ESE 0 - 1/8 (0.102 mi.)***	***C12***	***20***
CHARTER COMMUNICATIO Facility Status: H Facility Id: 6A099409006	924 EMERALD BAY RD	ESE 1/4 - 1/2 (0.273 mi.)	F59	116
SOUTH SIDE AUTO BODY Facility Status: A Facility Id: 6A099409004	***934 ELOISE AVE***	***E 1/4 - 1/2 (0.276 mi.)***	***G66***	***119***
MYERS MARINE SERVICE Facility Status: A Facility Id: 6A099409002	2140 DUNLAP AVE	E 1/4 - 1/2 (0.386 mi.)	J86	133
SBC FACILITY/2075 EL Facility Status: A Facility Id: 6A090406004	2075 ELOISE	ESE 1/4 - 1/2 (0.435 mi.)	L140	198
BI-STATE PETROLEUM Facility Status: A Facility Id: 6A099501004	2070 JAMES ST	ESE 1/4 - 1/2 (0.455 mi.)	L163	236
SOUTH TAHOE REFUSE M Facility Status: H Facility Id: 6A099001008	2140 RUTH AVE	E 1/4 - 1/2 (0.483 mi.)	V185	270

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Auto Stat: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 30 EDR US Hist Auto Stat sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	1920 LAKE TAHOE BLV	SSE 1/4 - 1/2 (0.423 mi.)	M118	158
Not reported	617 GLORENE AVE	WNW 1/4 - 1/2 (0.446 mi.)	Q149	221
Not reported	1069 EMERALD BAY RD	SE 1/2 - 1 (0.602 mi.)	AB250	346
Not reported	1107 MARGARET AVE	SSE 1/2 - 1 (0.682 mi.)	270	371
Not reported	1140 EMERALD BAY RD	SE 1/2 - 1 (0.688 mi.)	AH271	371
Not reported	1144 EMERALD BAY RD	SE 1/2 - 1 (0.691 mi.)	AH277	422

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	867 ELOISE AVE	ENE 1/8 - 1/4 (0.158 mi.)	D23	34
Not reported	927 JAMES AVE	ESE 1/8 - 1/4 (0.235 mi.)	E29	40
Not reported	913 EMERALD BAY RD	ESE 1/8 - 1/4 (0.241 mi.)	F34	44
Not reported	920 ELOISE AVE	E 1/4 - 1/2 (0.254 mi.)	E45	99
Not reported	927 ELOISE AVE	E 1/4 - 1/2 (0.255 mi.)	E49	105
Not reported	2032 5TH ST	ESE 1/4 - 1/2 (0.272 mi.)	E55	110
Not reported	2042 5TH ST	ESE 1/4 - 1/2 (0.274 mi.)	E62	118
Not reported	2046 5TH ST	ESE 1/4 - 1/2 (0.275 mi.)	E65	119
Not reported	934 ELOISE AVE	E 1/4 - 1/2 (0.276 mi.)	G67	120
Not reported	944 ELOISE AVE	ESE 1/4 - 1/2 (0.297 mi.)	G70	121
Not reported	948 ELOISE AVE	ESE 1/4 - 1/2 (0.304 mi.)	G71	122
Not reported	2132 DUNLAP DR	E 1/4 - 1/2 (0.386 mi.)	J87	134
Not reported	2105 RUTH AVE	E 1/4 - 1/2 (0.400 mi.)	J93	137
Not reported	986 EMERALD BAY RD	SE 1/4 - 1/2 (0.404 mi.)	K96	142
Not reported	1961 LAKE TAHOE BLV	SE 1/4 - 1/2 (0.416 mi.)	N112	153
Not reported	2119 RUTH AVE	E 1/4 - 1/2 (0.430 mi.)	O120	161
Not reported	2000 LAKE TAHOE BLV	ESE 1/4 - 1/2 (0.469 mi.)	S173	246
Not reported	931 3RD ST	E 1/2 - 1 (0.536 mi.)	Z216	312
Not reported	2197 RUTH AVE	ENE 1/2 - 1 (0.554 mi.)	Z223	316
Not reported	2143 ELOISE AVE	E 1/2 - 1 (0.561 mi.)	AC228	320
Not reported	2104 LAKE TAHOE BLV	ESE 1/2 - 1 (0.566 mi.)	AD235	325
Not reported	2186 RUTH AVE	ENE 1/2 - 1 (0.596 mi.)	AE246	344
Not reported	2240 IDAHO AVE	ENE 1/2 - 1 (0.668 mi.)	267	369
Not reported	2226 ELOISE AVE	E 1/2 - 1 (0.700 mi.)	AK278	422

EXECUTIVE SUMMARY

EDR US Hist Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR’s review was limited to those categories of sources that might, in EDR’s opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR’s HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Cleaners list, as provided by EDR, has revealed that there are 4 EDR US Hist Cleaners sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	868 EMERALD BAY RD	ESE 1/8 - 1/4 (0.135 mi.)	C15	24
Not reported	949 EMERALD BAY RD	SE 1/4 - 1/2 (0.328 mi.)	H76	123
Not reported	1024 EMERALD BAY RD	SE 1/2 - 1 (0.502 mi.)	X204	307
Not reported	2180 LAKE TAHOE BLV	E 1/2 - 1 (0.669 mi.)	AJ268	370

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST: The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

A review of the RGA LUST list, as provided by EDR, has revealed that there are 12 RGA LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MCNAMARA PROPERTY	787 EMERALD BAY ROAD	NW 0 - 1/8 (0.072 mi.)	B6	11
AMC/JEEP.RENAULT DEA	1901 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.432 mi.)	P124	165
CITY OF SLT MAINT. Y	1900 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.439 mi.)	P144	204
CITY OF SLT MAINT. Y	1900 LAKE TAHOE BLVD	SSE 1/4 - 1/2 (0.439 mi.)	P146	220

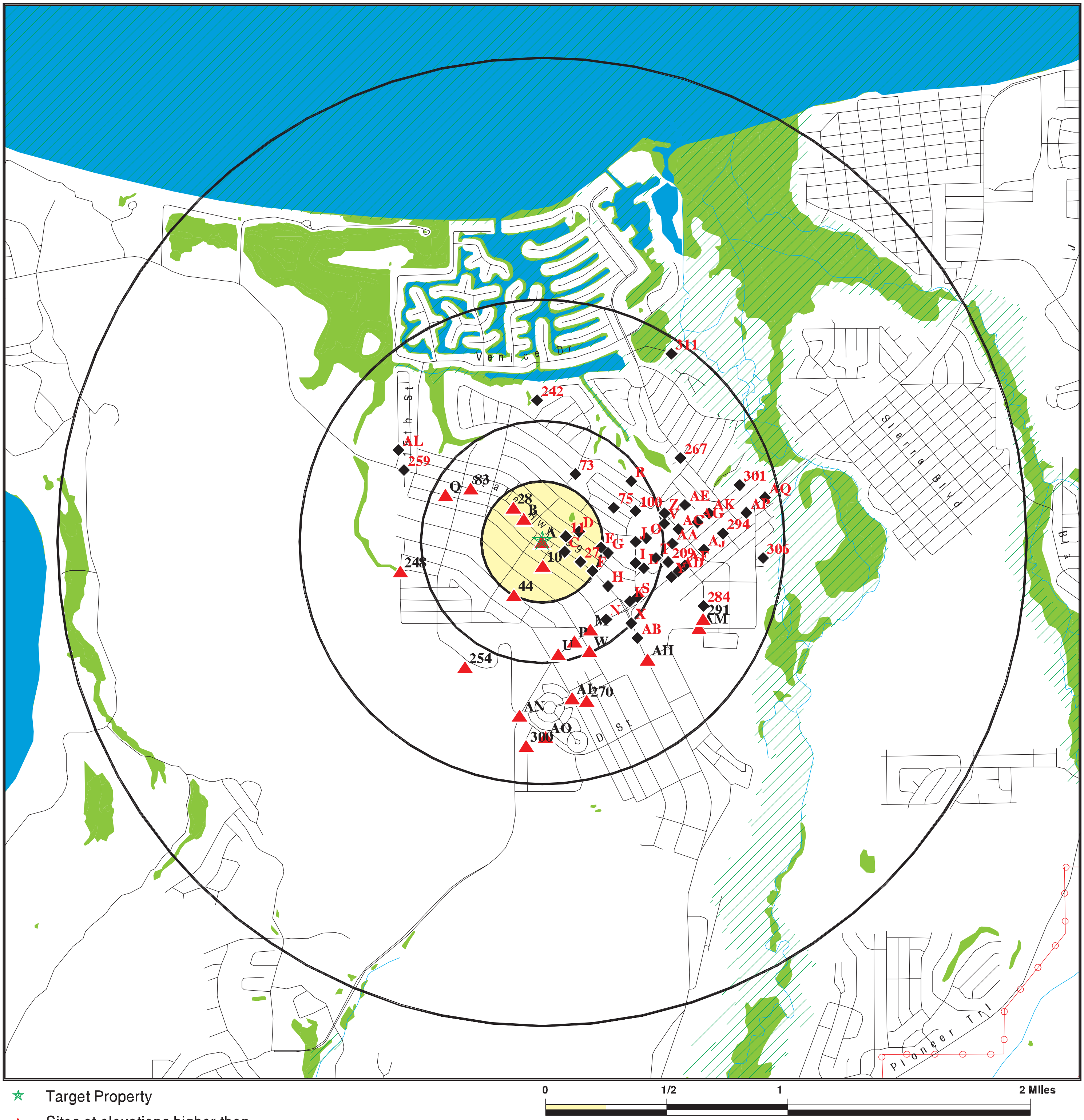
Lower Elevation	Address	Direction / Distance	Map ID	Page
SWISS MART	913 EMERALD BAY RD	ESE 1/8 - 1/4 (0.241 mi.)	F32	43
SWISS MART GAS STATI	913 EMERALD BAY ROAD	ESE 1/8 - 1/4 (0.241 mi.)	F35	44
SWISS MART	913 EMERALD BAY RD	ESE 1/8 - 1/4 (0.241 mi.)	F38	94
HATCH ELECTRIC	921 ELOISE AVE	E 1/8 - 1/4 (0.244 mi.)	E42	97
RUNNELS AUTOMOTIVE	986 EMERALD BAY RD	SE 1/4 - 1/2 (0.404 mi.)	K94	138
RUNNELS AUTOMOTIVE	986 EMERALD BAY RD	SE 1/4 - 1/2 (0.404 mi.)	K97	142
FACILITY #27943-EXXO	1000 EMERALD BAY ROA	SE 1/4 - 1/2 (0.448 mi.)	K152	225
SOUTH Y SHELL	1020 EMERALD BAY ROA	SE 1/4 - 1/2 (0.498 mi.)	X198	306

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
AMERICAN TOWER	LUST

OVERVIEW MAP - 4429845.2S

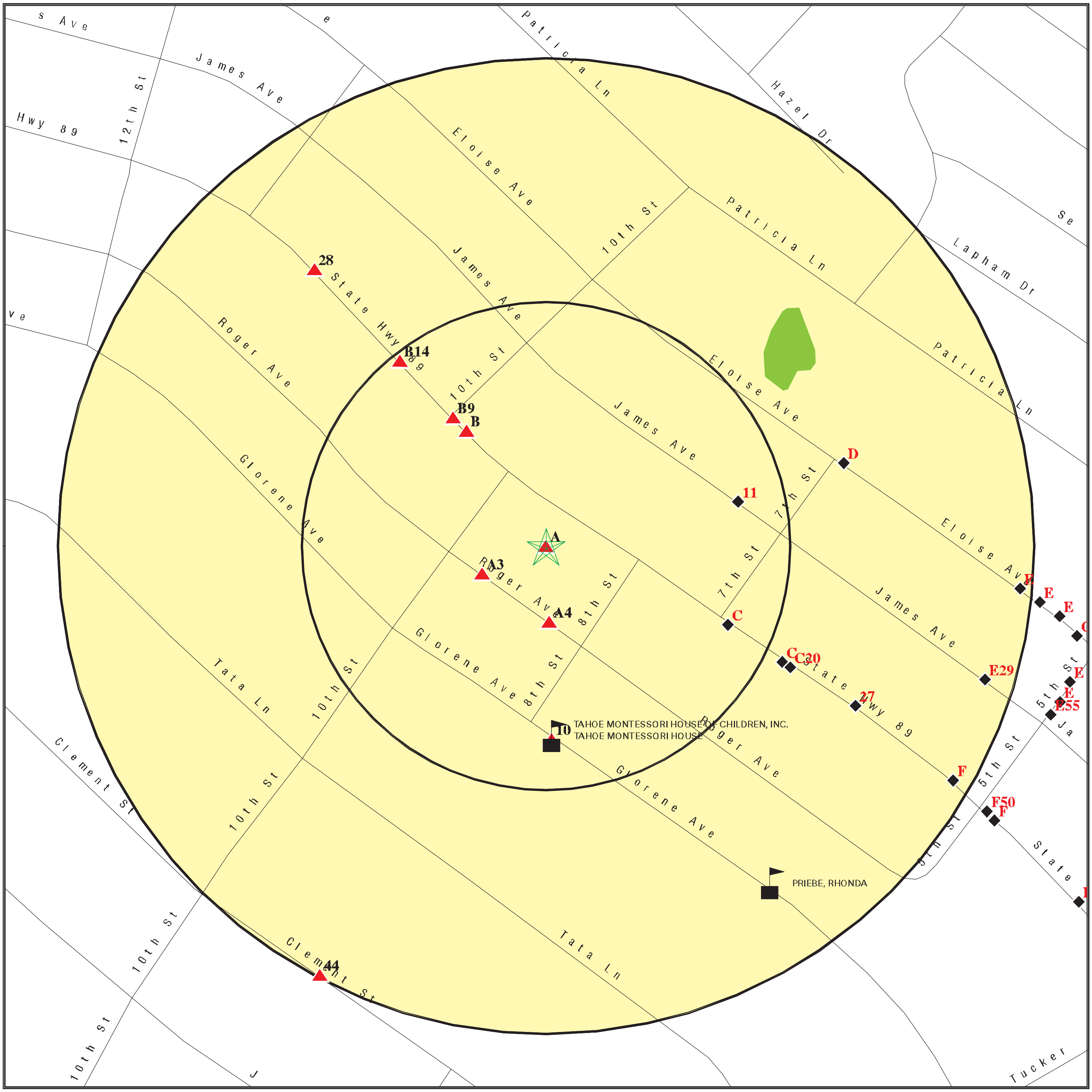


- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Manufactured Gas Plants
- ▨ National Priority List Sites
- ▨ Dept. Defense Sites
- ▨ Indian Reservations BIA
- ⚡ Power transmission lines
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- 🟩 National Wetland Inventory
- ▦ Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Lukins Service Area PCE Investigation	CLIENT:	AECOM
ADDRESS:	800 Emerald Bay Road South Lake Tahoe CA 96150	CONTACT:	Chani Hutto
		INQUIRY #:	4429845.2s
LAT/LONG:	38.9175 / 120.011	DATE:	October 05, 2015 5:45 pm

DETAIL MAP - 4429845.2S



0 1/16 1/8 1/4 Miles

- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ♟ Manufactured Gas Plants
- ⚑ Sensitive Receptors
- ▨ National Priority List Sites
- ▨ Dept. Defense Sites
- ▨ Indian Reservations BIA
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- 🟩 National Wetland Inventory
- ▦ Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Lukins Service Area PCE Investigation	CLIENT:	AECOM
ADDRESS:	800 Emerald Bay Road	CONTACT:	Chani Hutto
	South Lake Tahoe CA 96150	INQUIRY #:	4429845.2s
LAT/LONG:	38.9175 / 120.011	DATE:	October 05, 2015 5:51 pm

APPENDIX B

Boring Logs/
Well Completion Information

APPENDIX B1

Boring Logs

Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

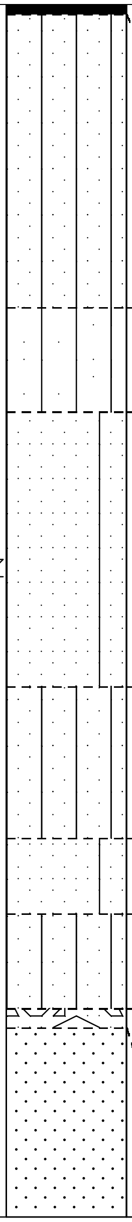
Log of Boring SB-1

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-1	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/29/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 32	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:

Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0					1625			ASPHALT 0-3"
								Hand Auger to 5'.
								Silty Sand (SM). Brown (10YR 4/3), 75% very fine to coarse sand, 20% fines, 5% gravel, loose, dry.
5			0.0	0.0	1640			
		36/36						
								Sandy Silt (ML). Olive (5Y 5/3), 80% fines, 20% very fine sand, firm, damp.
10		42/48						
								Sand w/ Silt (SW). Grayish brown (10YR 5/2), 90% very fine to coarse sand, 10% fines, medium density, wet.
			0.0	0.0				
								Fe staining
		42/48						
15							▽	Saturated at 15'
	☒		0.0	0.0				
	☒	48/48				SB-1-16-NS		Silty Sand (SM). Brown (10YR 4/3), 60% very fine to fine sand, 40% fines, medium density, wet. Color change to dark gray (5Y 4/1) at 19.25'.
20			0.0	0.0	1645			
		40/48						Sand w/ Silt (SW). Light gray (5Y 7/1), 90% very fine to coarse sand, 10% fines, medium density, wet.
			0.0	0.0				Silty Sand (SM). Dark greenish gray (GLEY1 4/1), 75% very fine to fine sand, 25% fines, dense, wet.
25								
	☒	48/48						Weathered Rock. Dark greenish gray (GLEY1 4/1), coarse grained with gravel, saturated.
	☒		0.0	0.0	1709			Sand (SW). Dark greenish gray (GLEY1 4/1), fine to coarse sand, medium density, saturated.
	☒					SB-1-26-NS		
30	☒	48/48						
	☒		0.0	0.0	1732			

Graphic Log



URS 2870 Gateway Oaks Dr., Ste 300
Sacramento, CA 95833
916-679-2000

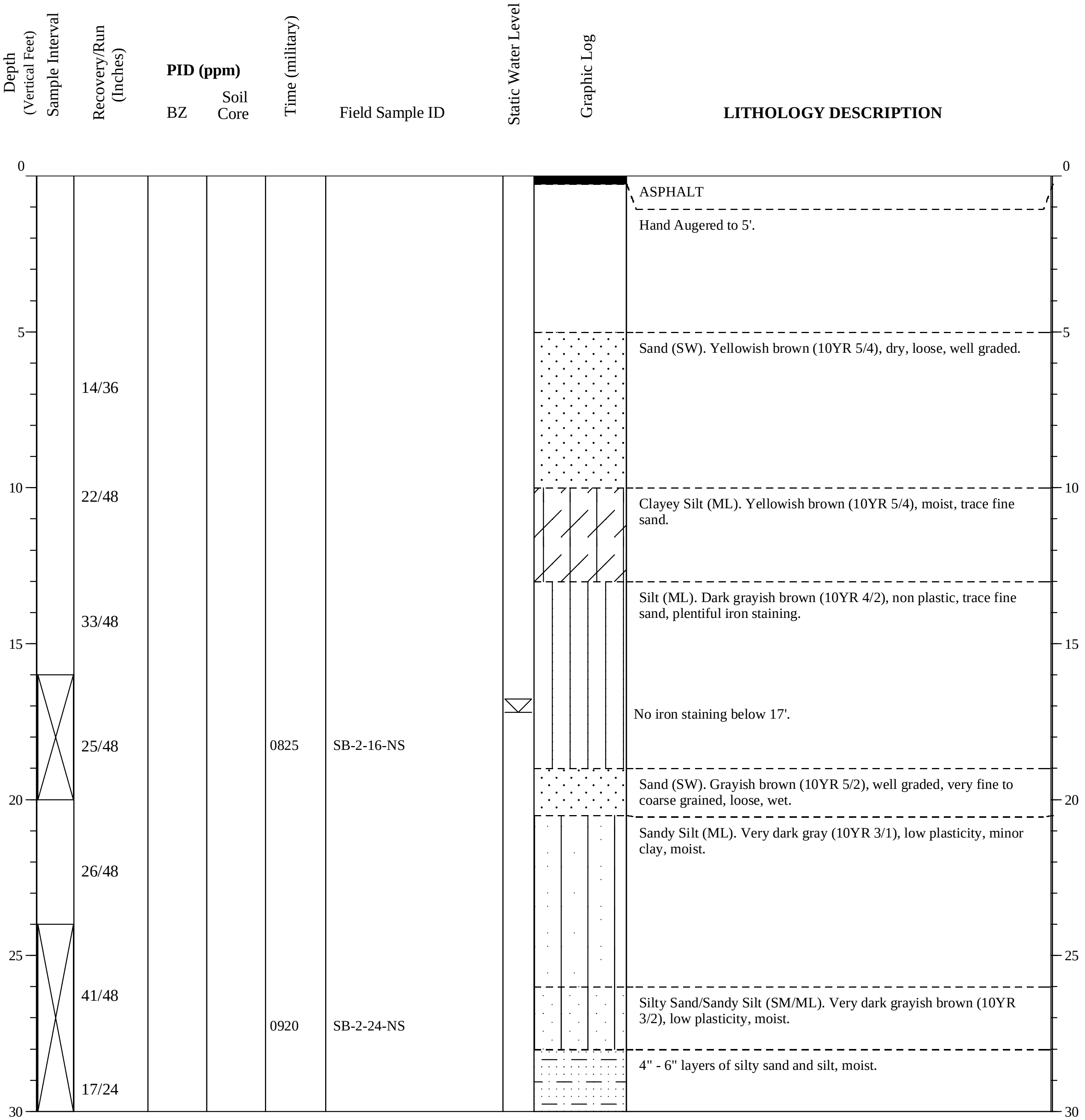
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-2

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-2	Logged By: P. Barbree
Drilling Method: Geoprobe	Dates Drilled: 11/13/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 30	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



Recovery/Run (Inches)	Time (military)	Field Sample ID	LITHOLOGY DESCRIPTION
			ASPHALT
			Hand Augered to 5'.
14/36			Sand (SW). Yellowish brown (10YR 5/4), dry, loose, well graded.
22/48			Clayey Silt (ML). Yellowish brown (10YR 5/4), moist, trace fine sand.
33/48			Silt (ML). Dark grayish brown (10YR 4/2), non plastic, trace fine sand, plentiful iron staining.
			No iron staining below 17'.
25/48	0825	SB-2-16-NS	
			Sand (SW). Grayish brown (10YR 5/2), well graded, very fine to coarse grained, loose, wet.
26/48			Sandy Silt (ML). Very dark gray (10YR 3/1), low plasticity, minor clay, moist.
41/48			Silty Sand/Sandy Silt (SM/ML). Very dark grayish brown (10YR 3/2), low plasticity, moist.
	0920	SB-2-24-NS	
17/24			4" - 6" layers of silty sand and silt, moist.

URS

2870 Gateway Oaks Dr., Ste 300
Sacramento, CA 95833
916-679-2000

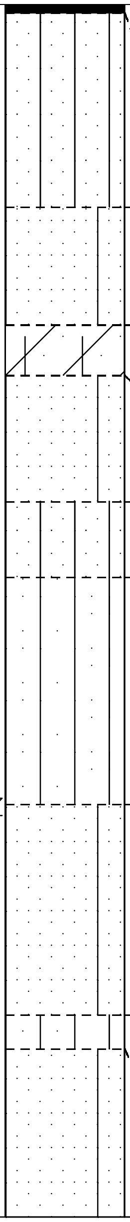
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-3

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-3	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/30/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 36'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0					1010			ASPHALT 0-3"
								Hand Augered to 5'. Silty Sand (SM). Dark brown (10YR 3/3), 80% very fine to coarse sand, 15% fines, 5% gravel, loose, dry.
5					1024			
		32/36						Sand w/ Silt (SW). Yellowish brown (10YR 5/6), 90% very fine to coarse sand, 10% fines, loose, dry.
10		36/48						Clayey Sandy Silt (ML). Brown (10YR 4/3), 80% fines, 20% very fine sand, dense, damp.
				0.0				Sand w/ Silt (SW). Light yellowish brown (10YR 6/4), 90% very fine to coarse sand, 10% fines, loose, damp. Fe staining.
		36/48						
15								Silty Sand (SM). Very dark gray (10YR 3/1), 75% fines, 25% very fine sand, soft to firm, damp.
			0.0	0.0				
		48/48						Sandy Silt (ML). Very dark gray (10YR 3/1), 75% fines, 25% very fine sand, soft to firm, damp.
20			0.0	0.0	1030			
		48/48						
	☒						▽	
			0.0	0.0				Sand w/ Silt (SW). Dark gray (10YR 4/1), 90% very fine to coarse sand, 10% fines, medium density, saturated.
25		48/48				SB-3-24-NS SB-3-24-FD		Siilty lense at 26-26.5', color change to greenish gray (GLEY1 4/1).
			0.0	0.0	1045			Flowing sands at 28'.
30		48/48						Sandy Silt (ML). Dark brown (10YR 3/3), 80% fines, 20% very fine sand, dense, medium plasticity, damp.
	☒		0.0	0.0	1147			Sand w/ Silt (SW). Greenish gray (GLEY1 5/1), 90% very fine to coarse sand, 10% fines, saturated, dense at 31-32', loose at 32-34'.
		48/48				SB-3-32-NS		Medium density at 34-36' 10% gravel at 34.5-35'
35								
			0.0	0.0	1150			

URS
2870 Gateway Oaks Dr., Ste 300
Sacramento, CA 95833
916-679-2000

Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

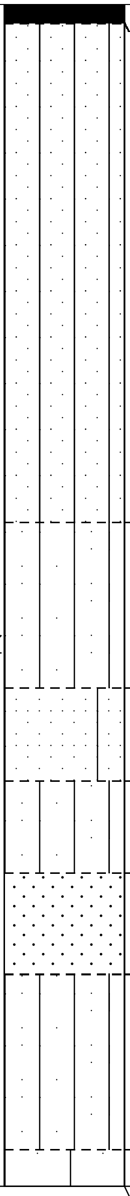
Log of Boring SB-4

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-4	Logged By: P. Barbree
Drilling Method: Geoprobe	Dates Drilled: 11/12/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 32'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:

Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0								ASPHALT 0-6"
								Hand Augered to 5'. Silty Sand (SM). Yellowish brown (10YR 5/4), very fine to coarse sand, loose, dry.
5								
				0.0				
		18/36						
10		34/48		0.0				
				0.0				
		38/48		0.0				
15								Sandy Silt (ML). Dark yellowish brown (10YR 4/6), 20% very fine sand, dense, medium plasticity, damp.
	☒						▽	
		32/48		0.0	0935	SB-4-16-NS		
								Sand w/ Silt (SP). Brown (10YR 5/3), medium to coarse sand, 10% silts, loose, wet.
20								
		43/48		0.0				Sandy Silt (ML). Dark yellowish brown (10YR 4/6), 30% very fine sand, dense, low to medium plasticity, damp.
								Sand (SP). Very dark grayish brown (10YR 3/2), very fine to medium grained, loose, trace silt, damp.
25								
		31/48		0.0				Silty Sand/Sandy Silt (SM/ML). Very dark grayish brown (10YR 3/2), damp. Trace clay, gleyed appearance at 26.5-31'.
	☒				1005	SB-4-29-NS		4-8" layers of sand and silty sand to 31'
30				0.0				
								Silt w/ Sand (ML). Dark gray (2.5Y 4/1), medium plasticity, dense, moist.

Graphic Log



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916-679-2000

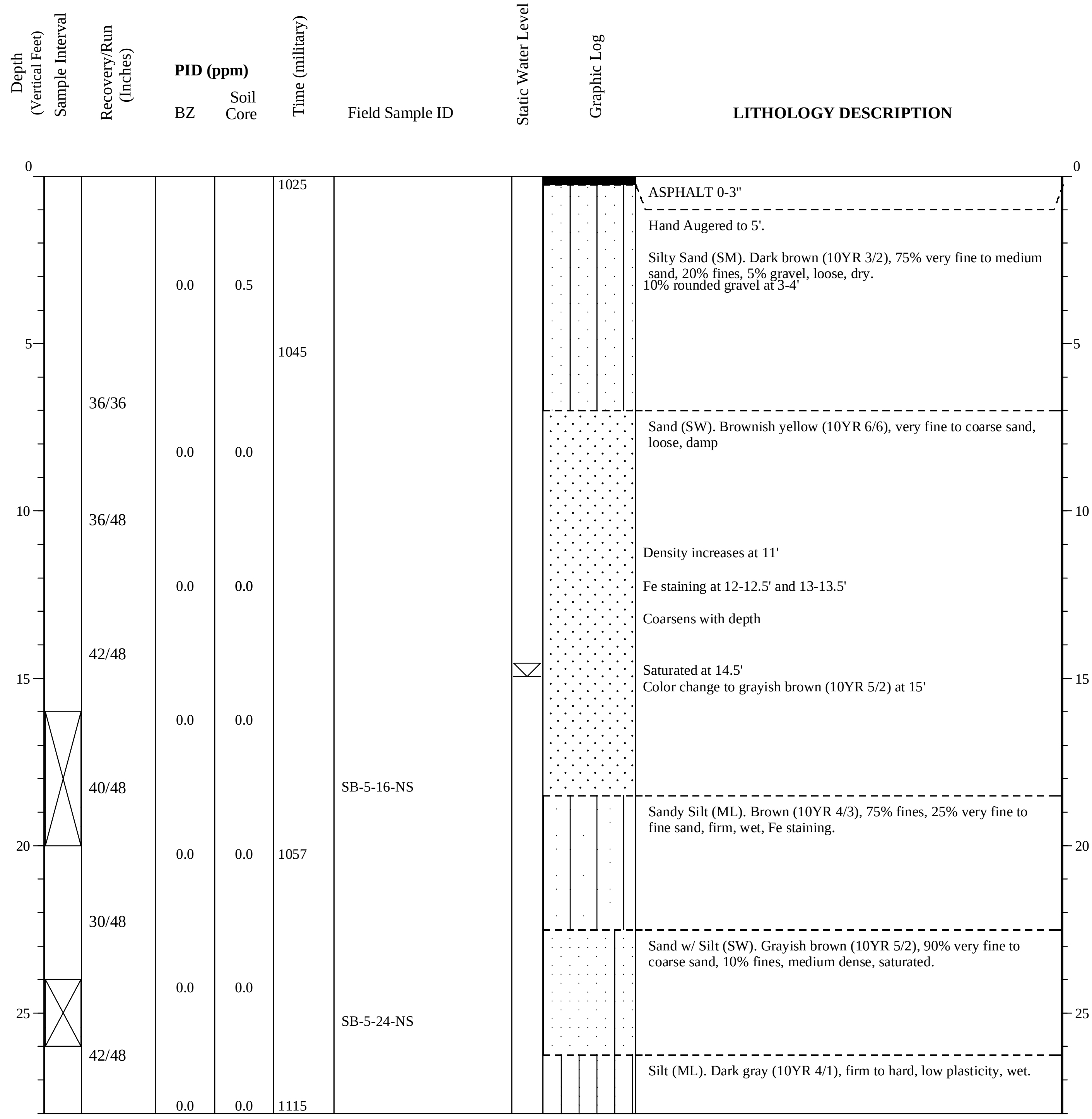
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-5

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-5	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/28/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 28'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



LITHOLOGY DESCRIPTION

ASPHALT 0-3"

Hand Augered to 5'.

Silty Sand (SM). Dark brown (10YR 3/2), 75% very fine to medium sand, 20% fines, 5% gravel, loose, dry.
10% rounded gravel at 3-4'

Sand (SW). Brownish yellow (10YR 6/6), very fine to coarse sand, loose, damp

Density increases at 11'

Fe staining at 12-12.5' and 13-13.5'

Coarsens with depth

Saturated at 14.5'
Color change to grayish brown (10YR 5/2) at 15'

Sandy Silt (ML). Brown (10YR 4/3), 75% fines, 25% very fine to fine sand, firm, wet, Fe staining.

Sand w/ Silt (SW). Grayish brown (10YR 5/2), 90% very fine to coarse sand, 10% fines, medium dense, saturated.

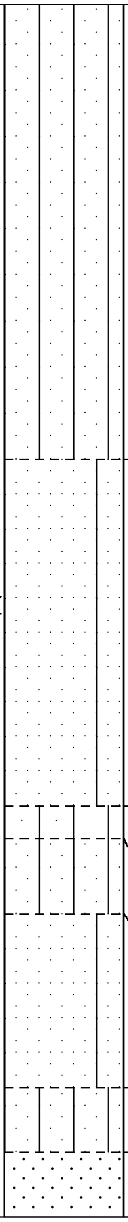
Silt (ML). Dark gray (10YR 4/1), firm to hard, low plasticity, wet.

Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-6

Drilling Contractor: Enprobe
Drilled by: Josh Zwemke
Borehole Name: SB-6
Logged By: B. Russell
Drilling Method: Geoprobe
Dates Drilled: 10/30/15
Well Construction: NA
Checked By:
Borehole Diameter: 2-inch
Casing Diameter: NA
Casing Type: NA
QC Initial:
Total Depth Drilled: 28'
Screen Interval: NA
Slot Size: NA
Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)
Northing: Easting:
Comments:



Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0					0812			Hand Augered to 5'.
								Silty Sand (SM). Brown (10YR 4/3), 75% very fine to coarse sand, 20% fines, 5% gravel, loose, dry
5			0.0	0.0				
		36/36						Damp at 7'
			0.0	0.0				
10		36/48						Sand w/ Silt (SW). Light yellowish brown (10YR 6/4), 90% very fine to coarse sand, loose, damp to wet.
			0.0	0.0				
	☒	42/48					▽	Saturated at 14'
15	☒					SB-6-14-NS		
			0.0	0.0	0820			
		40/48						Sandy Silt (ML). Brown (10YR 4/3), 75% fines, 25% very fine sand, dense, damp
20			0.0	0.0				Silty Sand (SM). Grayish brown (10YR 5/2), 60% very fine to fine sand, 40% fines, medium density, wet, Fe staining.
		30/48						Sand w/ Silt (SW). Grayish brown (10YR 5/2), 90% very fine to coarse sand, 10% fines, medium dense, saturated.
								Fe staining at 23-24'
25	☒							Silty Sand (SM). Dark greenish gray (GLEY1 4/1), 80% very fine to medium sand, 20% fines, medium density, saturated.
	☒	42/48				SB-6-24-NS		
	☒							Sand (SW). Dark greenish gray (GLEY1 4/1), fine to coarse sand, medium density, saturated.
					0857			

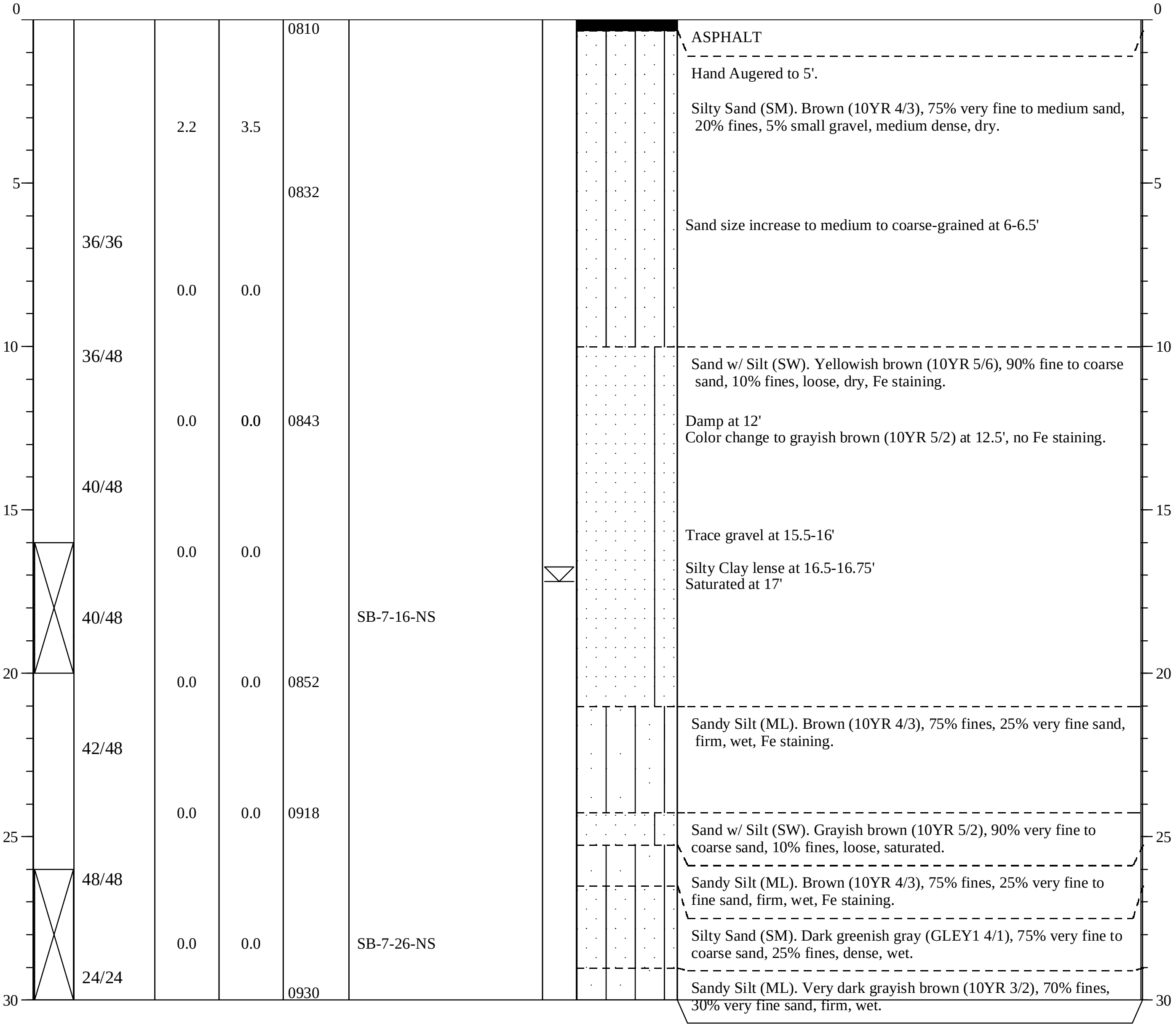
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-7

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-7	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/28/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 30'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



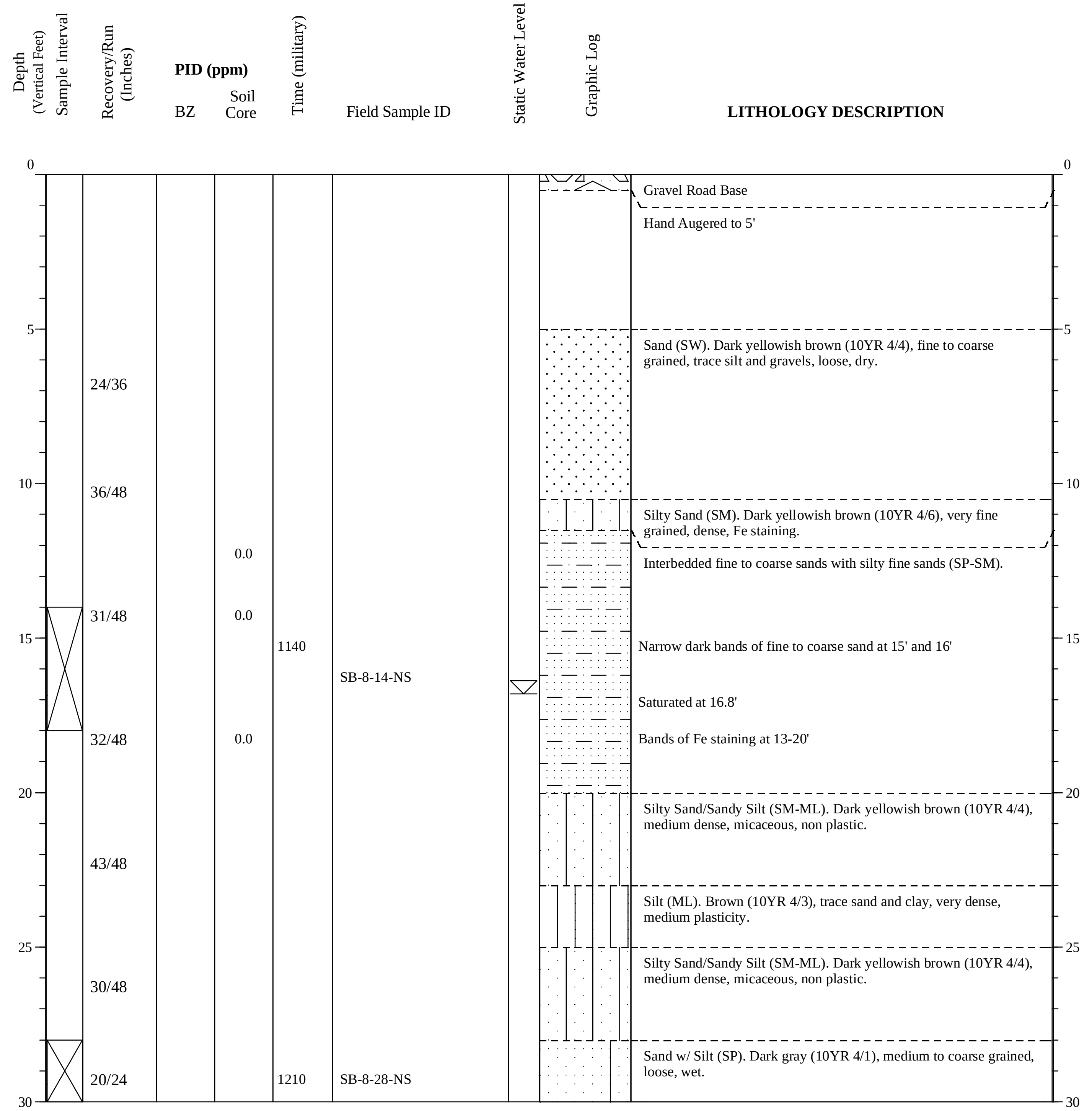
Depth (Vertical Feet)	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	LITHOLOGY DESCRIPTION
0				0810		ASPHALT
						Hand Augered to 5'.
						Silty Sand (SM). Brown (10YR 4/3), 75% very fine to medium sand, 20% fines, 5% small gravel, medium dense, dry.
		2.2	3.5			
5				0832		
						Sand size increase to medium to coarse-grained at 6-6.5'
	36/36					
		0.0	0.0			
10	36/48					Sand w/ Silt (SW). Yellowish brown (10YR 5/6), 90% fine to coarse sand, 10% fines, loose, dry, Fe staining.
		0.0	0.0	0843		Damp at 12' Color change to grayish brown (10YR 5/2) at 12.5', no Fe staining.
	40/48					
15						Trace gravel at 15.5-16'
		0.0	0.0			Silty Clay lense at 16.5-16.75' Saturated at 17'
	40/48				SB-7-16-NS	
20		0.0	0.0	0852		
						Sandy Silt (ML). Brown (10YR 4/3), 75% fines, 25% very fine sand, firm, wet, Fe staining.
	42/48					
		0.0	0.0	0918		
25						Sand w/ Silt (SW). Grayish brown (10YR 5/2), 90% very fine to coarse sand, 10% fines, loose, saturated.
	48/48					Sandy Silt (ML). Brown (10YR 4/3), 75% fines, 25% very fine to fine sand, firm, wet, Fe staining.
						Silty Sand (SM). Dark greenish gray (GLEY1 4/1), 75% very fine to coarse sand, 25% fines, dense, wet.
		0.0	0.0		SB-7-26-NS	
	24/24					
30				0930		Sandy Silt (ML). Very dark grayish brown (10YR 3/2), 70% fines, 30% very fine sand, firm, wet.

Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring
SB-8

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-8	Logged By: P. Barbree
Drilling Method: Geoprobe	Dates Drilled: 11/2/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 30'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:
Comments:			



Depth (Vertical Feet)	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0							Gravel Road Base
							Hand Augered to 5'
5							Sand (SW). Dark yellowish brown (10YR 4/4), fine to coarse grained, trace silt and gravels, loose, dry.
	24/36						
10	36/48						
							Silty Sand (SM). Dark yellowish brown (10YR 4/6), very fine grained, dense, Fe staining.
							Interbedded fine to coarse sands with silty fine sands (SP-SM).
			0.0				
	31/48		0.0				
15				1140			Narrow dark bands of fine to coarse sand at 15' and 16'
					SB-8-14-NS	▽	
							Saturated at 16.8'
	32/48		0.0				Bands of Fe staining at 13-20'
20							Silty Sand/Sandy Silt (SM-ML). Dark yellowish brown (10YR 4/4), medium dense, micaceous, non plastic.
	43/48						
							Silt (ML). Brown (10YR 4/3), trace sand and clay, very dense, medium plasticity.
25							Silty Sand/Sandy Silt (SM-ML). Dark yellowish brown (10YR 4/4), medium dense, micaceous, non plastic.
	30/48						
							Sand w/ Silt (SP). Dark gray (10YR 4/1), medium to coarse grained, loose, wet.
	20/24			1210	SB-8-28-NS		
30							

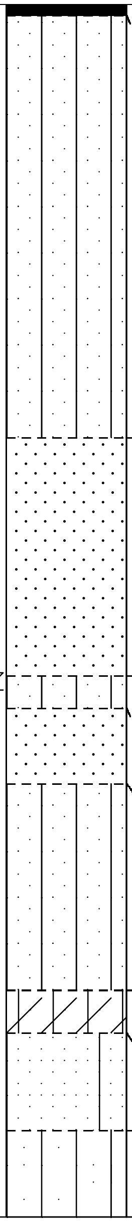
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-9

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-9	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/28/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 28'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0								
					1437			ASPHALT 0-3"
								Hand Augered to 5'.
								Silty Sand (SM). Brown (10YR 4/3), 75% very fine to medium sand, 20% fines, 5% gravel, loose, dry.
5								
		36/36						Fe staining at 6.5-7'
					1440			
10		40/48						Sand (SW). Light yellowish brown (2.5Y 6/3), fine to coarse grained, loose, damp.
			0.0	0.0				
		36/48						
15							▽	
	☒		0.0	0.0				Silty Sand (SM). Grayish brown (10YR 5/2), 80% very fine to medium sand, 20% fines, medium density, wet.
	☒							Sand (SW). Grayish brown (10YR 5/2), medium to coarse sand, medium density, saturated.
	☒	40/48				SB-9-16-NS SB-9-16-FD		Silty Sand (SM). Brown (10YR 4/3), 75% very fine to fine sand, 25% fines, medium density, saturated, Fe staining.
20			0.0	0.0	1445			
		48/48						
								Clayey Silt (ML). Dark greenish gray (GLEY1 4/1), firm, low plasticity, wet.
	☒		0.0	0.0				Sand w/ Silt (SW). Dark gray (5Y 4/1), 90% very fine to medium sand, 10% fines, medium dense, saturated.
25	☒	48/48				SB-9-24-NS		Sandy Silt (ML). Dark greenish gray (GLEY1 4/1), firm, 70% fines, 30% very fine to fine sand, wet.
	☒							Medium grained sand lense at 26.75-27.5'.
			0.0	0.0	1520			

Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-10

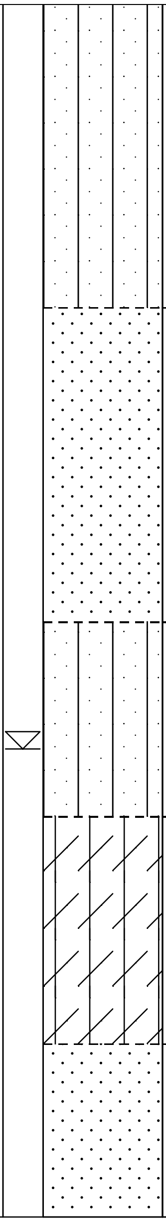
Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-10	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/28/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 28'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:

Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	LITHOLOGY DESCRIPTION
0					1207		Hand Augered to 5'. Silty Sand (SM). Brown (10YR 4/3), 75% very fine to fine sand, 20% fines, 5% gravel, loose, dry.
5			0.0	0.0			
		36/36					Sand w/ Silt (SW). Brownish yellow (10YR 6/6), 90% very fine to fine sand, 10% fines, loose, damp.
			0.0	0.0			Silt lense at 9-9.5'
10		48/48					
			0.0	0.0	1209		
		42/48					Silty Sand (SM). Grayish brown (10YR 5/2), 60% very fine to fine sand, 40% fines, medium density, wet, Fe staining.
15							
	☒		0.0	0.0	1217		
	☒	48/48				SB-10-16-NS	Clayey Silt (ML). Brown (10YR 4/3), medium plasticity, firm, wet, Fe staining.
20			0.0	0.0	1222		
		48/48					
			0.0	0.0	1301		Sand (SW). Dark gray (5Y 4/1), fine to coarse sand, medium density, saturated.
25							
	☒	24/48				SB-10-26-NS	
	☒		0.0	0.0	1307		

Static Water Level

Graphic Log



Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-11

Drilling Contractor: Enprobe
Drilled by: Josh Zwemke
Borehole Name: SB-11
Logged By: B. Russell

Drilling Method: Geoprobe
Dates Drilled: 10/28/15
Well Construction: NA
Checked By:

Borehole Diameter: 2-inch
Casing Diameter: NA
Casing Type: NA
QC Initial:

Total Depth Drilled: 24'
Screen Interval: NA
Slot Size: NA
Ground Surface Elevation:

Sampling Method: Acetate Liner (soil core); Bailer (water)
Northing: Easting:

Comments:

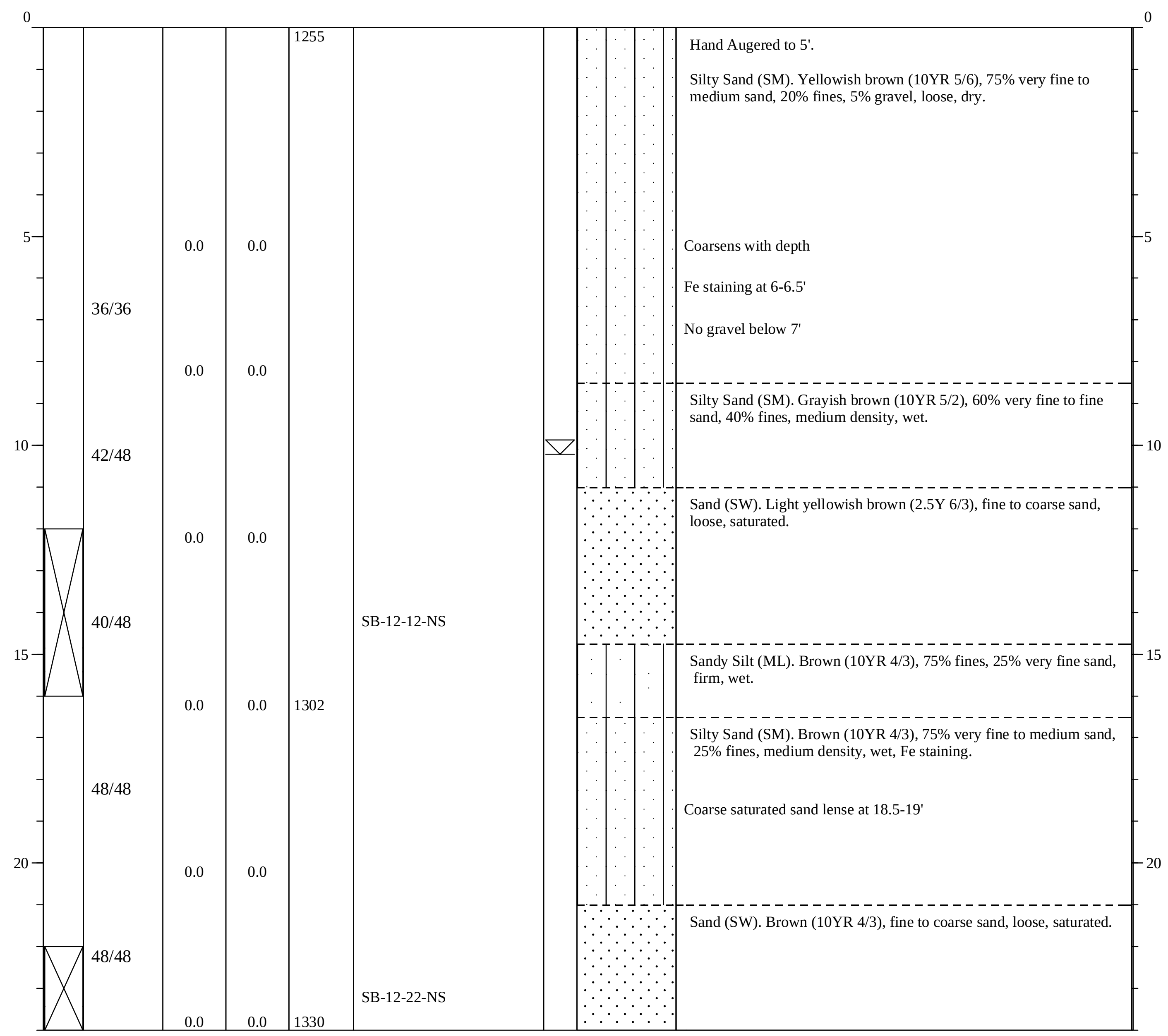
Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0					1607			Hand Augered to 5'. Silty Sand (SM). Brown (10YR 4/3), 75% very fine to medium sand, 20% fines, 5% gravel, loose, dry.
5								No gravel below 5' Sand coarsens with depth
		36/36						
					1610			
								Weathered granitic rock at 9.5-10', Fe staining
10		40/48						
								Silty Sand (SM). Grayish brown (10YR 5/2), 75% very fine to fine sand, 25% fines, medium density, saturated, Fe staining.
	☒		0.0	0.0				
	☒						▽	
	☒	48/48				SB-11-12-NS		
15	☒							Sand (SW). Light yellowish brown (2.5Y 6/3), 90% very fine to coarse sand, 10% fines, loose, saturated.
			0.0	0.0	1615			
								Silty Sand (SM). Brown (10YR 4/3), 70% very fine to fine sand, 30% fines, firm, wet, Fe staining.
								Clayey Silt lense at 19-19.5'
20					1638			
	☒	48/48						Sand w/ Silt (SW). Light gray (2.5Y 7/2), 90% very fine to coarse sand, 10% fines, loose, saturated.
	☒					SB-11-22-NS		
	☒		0.0	0.0	1642			

Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-12

Drilling Contractor: Enprobe
Drilled by: Josh Zwemke
Borehole Name: SB-12
Logged By: B. Russell
Drilling Method: Geoprobe
Dates Drilled: 10/29/15
Well Construction: NA
Checked By:
Borehole Diameter: 2-inch
Casing Diameter: NA
Casing Type: NA
QC Initial:
Total Depth Drilled: 24'
Screen Interval: NA
Slot Size: NA
Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)
Northing: Easting:
Comments:



Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	Graphic Log
0					1255			
5			0.0	0.0				
		36/36						
			0.0	0.0				
10		42/48					▽	
			0.0	0.0				
15	☒	40/48				SB-12-12-NS		
			0.0	0.0	1302			
		48/48						
20			0.0	0.0				
	☒	48/48						
						SB-12-22-NS		
			0.0	0.0	1330			

LITHOLOGY DESCRIPTION

Hand Augered to 5'.

Silty Sand (SM). Yellowish brown (10YR 5/6), 75% very fine to medium sand, 20% fines, 5% gravel, loose, dry.

Coarsens with depth

Fe staining at 6-6.5'

No gravel below 7'

Silty Sand (SM). Grayish brown (10YR 5/2), 60% very fine to fine sand, 40% fines, medium density, wet.

Sand (SW). Light yellowish brown (2.5Y 6/3), fine to coarse sand, loose, saturated.

Sandy Silt (ML). Brown (10YR 4/3), 75% fines, 25% very fine sand, firm, wet.

Silty Sand (SM). Brown (10YR 4/3), 75% very fine to medium sand, 25% fines, medium density, wet, Fe staining.

Coarse saturated sand lense at 18.5-19'

Sand (SW). Brown (10YR 4/3), fine to coarse sand, loose, saturated.

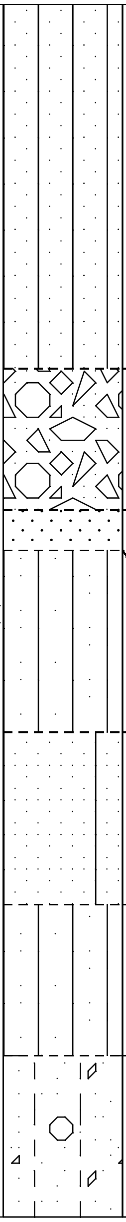
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-13

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-13	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/27/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 30'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	Graphic Log	LITHOLOGY DESCRIPTION
0					1430				Hand Augered to 5'. Silty Sand (SM). Yellowish brown (10YR 5/6), 75% very fine to medium sand, 20% fines, 5% gravel, loose, dry.
5			0.0	0.0	1450				10% coarse gravel
		36/36							Damp at 7' Wet at 8'
10		32/48							Weathered granitic rock, mottled reddish brown, fine to coarse-grained, saturated.
			0.0	0.0					Sand (SW). Grayish brown (2.5Y 5/2), fine to coarse sand, loose, saturated.
		36/48							Sandy Silt (ML). Brown (10YR 4/3), 75% fines, 25% very fine to fine sand, firm, wet, Fe staining.
15							▽		
	☒		0.0	0.0					Very soft and saturated at 16.5-18'
	☒	48/48				SB-13-16-NS			Sand w/ Silt (SW). Grayish brown (2.5Y 5/2), 90% fine to coarse sand, 10% fines, loose, saturated, Fe staining at 18-19.5'.
20			0.0	0.0	1505				
		36/48							Sandy Silt (ML). Brown (10YR 4/3), 80% fines, 20% very fine sand, firm, wet, Fe staining.
25			0.0	0.0	1525				
	☒	48/48							Silty Sand w/ Gravel (SM). Mottled reddish brown. 75% fine to coarse sand, 15% fines, 10% angular gravel, dense, saturated.
	☒		0.0	0.0		SB-13-26-NS			
	☒	12/24							
30			0.0	0.0	1537				

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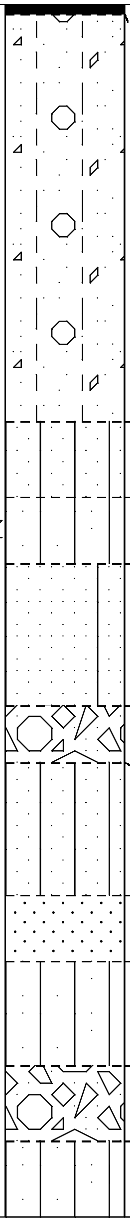
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-14

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-14	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/27/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 32'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0					1201			ASPHALT 0-3"
								Hand Augered to 5'.
								Silty Sand w/ gravel (SM). Dark yellowish brown (10YR 4/6), 75% very fine to medium sand, 20% fines, 5% gravel, loose, dry.
5			0.0	0.0				
								Color change to pale brown (2.5Y 7/4) at 6', <5% gravel
		36/36						
			0.0	0.0				
10		32/48						
								Silty Sand (SM). Light olive brown (2.5Y 5/4), 60% very fine to fine sand, 40% fines, medium density, wet.
			0.0	0.0				
							▽	Sandy Silt (ML). Brown (10YR 4/3), 70% fines, 30% very fine sand, firm, wet, Fe staining.
		40/48						
15								Sand w/ Silt (SW). Brown (10YR 4/3), 90% very fine to medium sand, 10% fines, loose, wet, Fe staining.
			0.0	0.0				
								Coarsens with depth
		36/48						
								Weathered granitic rock, mottled grayish brown, fine to coarse grained, dense, saturated.
20	☒		0.0	0.0				Silty Sand (SM). Brown (10YR 4/3), 65% very fine to medium sand, 35% fines, medium density. Coarse sand lense at 21-21.75' and 22.25-23'
		48/48				SB-14-20-NS SB-14-20-FD		
			0.0	0.0	1215			Sand (SW). Brown (10YR 4/3), fine to coarse sand, medium density, saturated.
25								Sandy Silt (ML). Brown (10YR 4/3), 75% fines, 25% very fine to fine sand, firm, wet to saturated. Fine to medium sand lense at 26.5-26.75' and 27.5-28'
		48/48						
			0.0	0.0				Weathered granitic rock, mottled reddish brown, fine to coarse grained, dense, saturated.
30	☒	48/48						Sandy Silt (ML). Dark grayish brown (2.5Y 4/2), 75% fines, 25% very fine sand, firm, Fe staining.
						SB-14-30-NS		
			0.0	0.0	1314			

Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

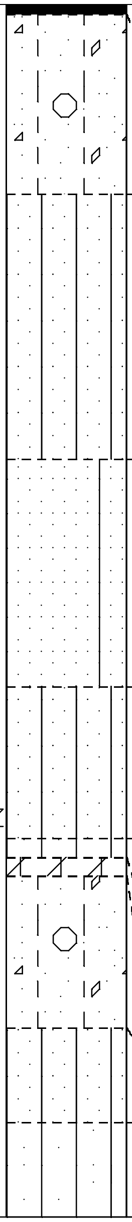
Log of Boring
SB-15

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-15	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/27/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 32'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:

Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0					0805			ASPHALT 0-3"
								Hand Augered to 5'.
								Silty Sand w/ gravel (SM). Brown (7.5YR 4/4), 70% very fine to coarse sand, 20% fines, 10% small gravel, loose to medium density, dry.
5								Silty Sand (SM). Yellowish brown (10YR 5/4), 70% very fine to fine sand, 30% fines, loose, dry.
		32/36						
10		36/48						Increase in silt content to 50% at 9.5'
								Fe staining at 11.5-12'
			0.0	0.0				Sand w/ Silt (SW). Yellowish brown (10YR 5/4), 90% very fine to coarse sand, 10% fines, loose to medium density, damp to wet, Fe staining throughout.
15		37/48						
			0.0	0.0				Coarse sand and heavy Fe staining at 17-17.5'
		39/48						Silty Sand (SM). Brown (10YR 4/3), 75% very fine to fine sand, 25% fines, medium density, damp to wet, Fe staining throughout.
20	☒		0.0	0.0				Medium to coarse saturated sand lense at 20-20.75' and 21.5-22'.
							▽	
		48/48				SB-15-20-NS		Sandy Silt (ML). Brown (10YR 4/3), 75% fines, 25% very fine to fine sand, soft to firm, wet.
			0.0	0.0	0845			Silty Clay (CL). Light olive brown (2.5Y 5/3), soft, medium plasticity, wet.
25		42/48						Silty Sand w/ Gravel (SM). Grayish brown (2.5Y 5/2), 70% very fine to coarse sand, 20% fines, 10% small gravel, dense, saturated, Fe staining.
			0.0	0.0	0935			Silty Sand (SM). Light olive brown (2.5Y 5/4), 60% very fine to fine sand, 40% fines, medium density, saturated, Fe staining throughout.
30	☒	48/48						Sandy Silt (ML). Dark grayish brown (2.5Y 4/2), 70% fines, 30% very fine to fine sand, firm to hard, wet.
						SB-15-30-NS		
			0.0	0.0	0947			

Graphic Log



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916-679-2000

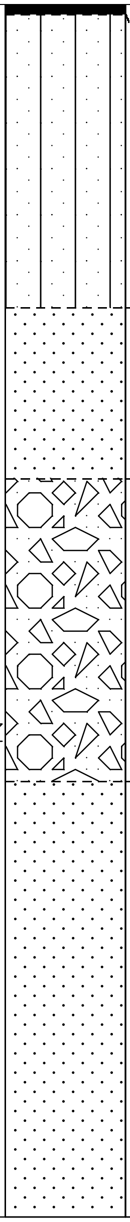
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-16

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-16	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/26/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 32'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:

Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	Graphic Log	LITHOLOGY DESCRIPTION
0					1450				ASPHALT 0-3"
									Hand Augered to 5'.
									Silty Sand (SM). Brownish yellow (10YR 6/6), 60% very fine to fine sand, 40% fines, loose, dry, trace small gravels.
5			0.0	0.0	1510				
									Black organic material at 5.5-5.75' Dense clayey silt lense at 6-6.75'
		36/36							
									Sand (SW). Yellowish brown (10YR 5/6), fine to coarse sand, loose, damp, Fe staining.
10		40/48							
									Very fine and fine sand only at 11-12'
									Saturated at 12'
									Weathered granitic rock, fine to coarse grained, dark brown (10YR 4/4), medium density, wet, Fe staining.
		32/48							
15									
									White mottling at 16.5-18'
		36/48							Cobble at 18'
							▽		
20	☒								Sand (SW). Olive gray (5Y 5/2), fine to coarse sand, 10% fines, loose, saturated.
	☒	48/48				SB-16-20-NS			
			0.0	0.0	1528				
25									
		48/48							Fe staining at 26'
			0.0	0.0	1606				Grain size decrease to very fine to fine sand at 28'
									Fe staining at 28.5-32'
30	☒	48/48							
	☒					SB-16-30-NS			
			0.0	0.0	1608				

Project: PCE Investigation

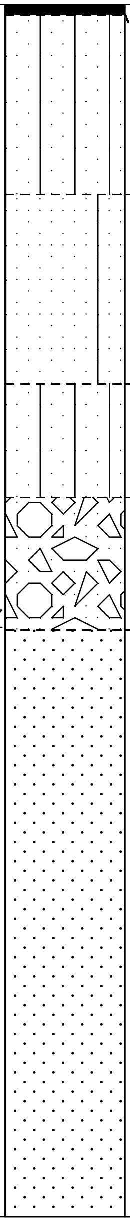
Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-17

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-17	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/26/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 32'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:

Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0					1200			ASPHALT 0-3" Hand Augered to 5'. Silty Sand (SM). Brown (10YR 4/3), 70% very fine to medium sand, 25% fines, 5% small gravel, loose, dry.
5			0.0	0.0	1222			Sand w/ Silt (SW). Light brownish gray (2.5Y 6/2), 90% fine to coarse sand, 10% fines, dry to 7', damp to wet below.
		36/36						
			0.0	0.0				
10		36/48						Silty Sand (SM). Strong brown (7.5YR 5/6), 60% fine to coarse sand, 40% fines, medium density, wet, Fe staining.
			0.0	0.0				
								Weathered granitic rock, fine to coarse grained, mottled white and gray, dense, wet.
		28/48						
15								
			0.0	0.0			▽	
								Sand (SW). Olive gray (5Y 5/2), fine to coarse grained sand, loose to medium density, saturated.
		24/48						
20	☒		0.0	0.0	1240			
	☒	48/48				SB-17-20-NS		
			0.0	0.0	1248			
25		48/48						
								Fe staining at 27-28'
					1315			
30	☒	48/48						
	☒					SB-17-30-NS		
			0.0	0.0	1332			



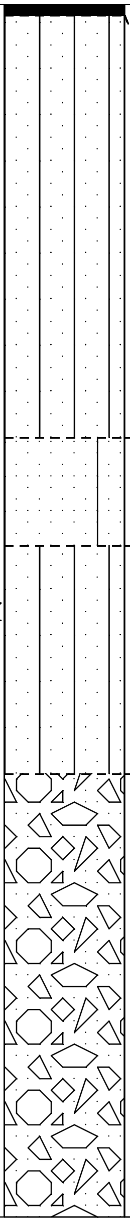
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-18

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-18	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/29/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 28'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0								
					1420			ASPHALT
								Hand Augered to 5'.
								Silty Sand (SM). Brown (10YR 4/3), 80% very fine to coarse sand, 15% fines, 5% gravel, loose, dry to damp.
5			0.0	0.0	1435			
		36/36						Grain size decreases to 70% very fine to medium sand, 30% fines.
			0.0	0.0				
10		42/48						Sand w/ Silt (SW). Light brownish gray (2.5Y 6/3), 90% very fine to coarse sand, 10% fines, medium density, wet. Coarsens with depth. Fe staining at 11-12'
	☒		0.0	0.0				
								Silty Sand (SM). Grayish brown (10YR 5/2), 60% very fine to fine sand, 40% fines, medium density, wet.
		48/48				SB-18-12-NS	▽	Saturated coarse sand lense at 13.5-14' and 15.5-16'
15								Silt content decreases with depth
			0.0	0.0				
		42/48						Weathered granitic rock, fine to coarse grained, mottled reddish brown and black, Fe staining.
20			0.0	0.0				
		42/48						
			0.0	0.0	1450			Very hard drilling
25								
		48/48						
			0.0	0.0	1548			

Project: PCE Investigation

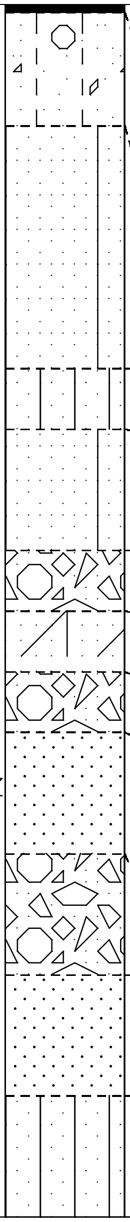
Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-19

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-19	Logged By: B. Russell
Drilling Method: Geoprobe	Dates Drilled: 10/26/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 40'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:

Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level
0					0804		
5			0.0	1.2	0820		
		20/36					
10		48/48	0.0	0.0	0830		
			0.0	0.0			
		48/48					
15							
		36/48					
20					0845		
		48/48					
			0.0	0.0	0908		
25	☒	0/48					▽
						SB-19-26-NS	
			0.1	0.0	0945		
30		36/48					
			0.0	0.0	1030		
		48/48					
35							
	☒		0.0	0.0	1040		
		48/48				SB-19-36-NS	
40					1044		



LITHOLOGY DESCRIPTION

ASPHALT 0-3"

Hand Augered to 5'.

Silty Sand w/ Gravel (SM). Dark grayish brown (10YR 4/2), 65% very fine to medium sand, 25% fines, 10% small gravel, loose, dry. Less gravel below 2'

Sand w/ Silt (SW). Light yellowish brown (2.5Y 6/4), 90% very fine to fine sand, 10% fines, very loose, dry.

Fe staining at 8-12'

Silty Sand (SM). Strong brown (7.5YR 5/6), 40% fines, 60% fine to medium sand, medium density, wet.

Sand w/ Silt (SW). Strong brown (7.5YR 5/6), 90% fine to coarse sand, 10% fines, medium dense, wet.

Weathered granitic rock, fine to coarse sand, Fe staining 18-19', light gray (5Y 7/1) 19-20', wet.

Silty Sand w/ Clay (SM). Brown (10YR 4/3), 60% very fine to fine sand, 40% fines, soft, wet.

Weathered granitic rock, 90% quartz, fine to coarse-grained, white (5Y 8/1), medium dense, damp.

No Recovery at 24-28'
Shoe clogged with hard weathered granitic rock, clean out shoe and re-push.

Sand (SW). Olive gray (5Y 5/2), fine to coarse grained, loose, saturated.

Weathered granitic rock, mottled white and gray, fine to coarse-grained, dense, saturated.

Sand (SW). Olive gray (5Y 5/2), 95% fine to coarse sand, 5% fines, loose, saturated.

Silty Sand (SM). Olive gray (5Y 5/2), 60% very fine to medium sand, 40% fines, medium density, saturated.

Medium to coarse sand lense at 37-37.5' and 38-38.5'

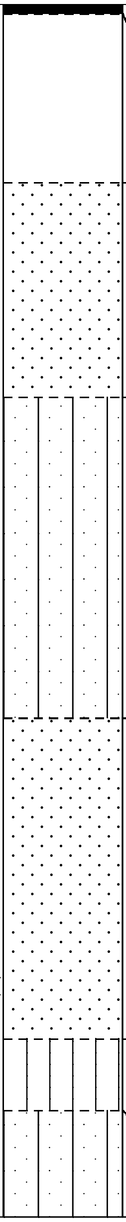
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-20

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-20	Logged By: P. Barbree
Drilling Method: Geoprobe	Dates Drilled: 11/13/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 34'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0								ASPHALT
								Hand Augered to 5'.
5								Sand (SP). Yellowish brown (10YR 5/4), fine grained, coarsens to fine to medium with depth, trace silt, loose, dry.
		28/36		0.0				
10		46/48		0.0				
								Silty Sand (SM). Dark yellowish brown (10YR 4/6), fine to medium grained sand, non plastic fines, trace gravels, damp.
		30/48		0.0				
15								Granitic rock at 14.5-15
								Heavy Fe staining
		37/48		0.0				
20								Sand (SP). Brown (10YR 5/3), fine to medium grained, trace silt, occassional gravel/rock, layers of weathered granite.
		42/48		0.0				
25								
							▽	
								Silt (ML). Brown (10YR 5/3), non plastic, slow dilatanc, trace sand, damp. Increase in clay with depth.
30		46/48						
	☒							Silty Sand (SM). Brown (10YR 4/3), fine to medium grained.
					1330	SB-20-32-NS		Saturated at 32.75'

URS

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916-679-2000

Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

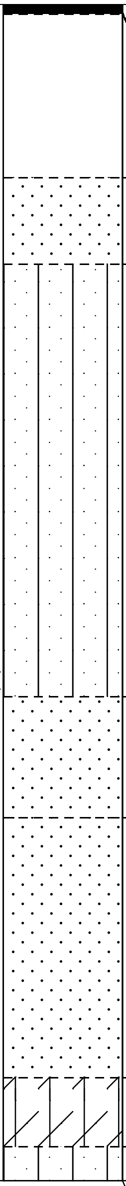
Log of Boring SB-21

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-21	Logged By: P. Barbree
Drilling Method: Geoprobe	Dates Drilled: 11/12/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 34'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:

Depth (Vertical Feet)	Sample Interval	Recovery/Run (Inches)	PID (ppm) BZ	PID (ppm) Soil Core	Time (military)	Field Sample ID	Static Water Level	LITHOLOGY DESCRIPTION
0								ASPHALT
								Hand Augered to 5'.
5								Sand (SP). Yellowish brown (10YR 5/4), fine grained, trace silt, loose, dry, Fe staining.
				0.0				
		24/36						
								Silty Sand (SM). Dark yellowish brown (10YR 4/6), dense, no plasticity, dry to damp.
					1317			
10		38/48		0.0				
								Gravels at 13-13.5'
		32/48		0.0				
15								Gravels at 15.5-16'
		20/48						
							▽	
20	☒							Sand (SW). Yellowish brown (10YR 5/4), fine to medium sand, trace silt, wet.
	☒	38/48		0.0		SB-21-20-NS SB-21-20-FD		
								White quartz lense at 23-23.5'
								Sand (SW). Brown (10YR 5/3), very fine to coarse grained, trace silt, wet.
				0.0				
25								Increasing silt with depth.
		45/48						
				0.0				
30		47/48						
								Clayey Silt (ML). Yellowish brown (10YR 5/6), medium dilatancy, medium plasticity, damp.
	☒	24/24			1445	SB-21-32-NS		Silty Sand (SM). Yellowish brown (10YR 5/6), fine to medium grained sand, saturated.

Graphic Log



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916-679-2000

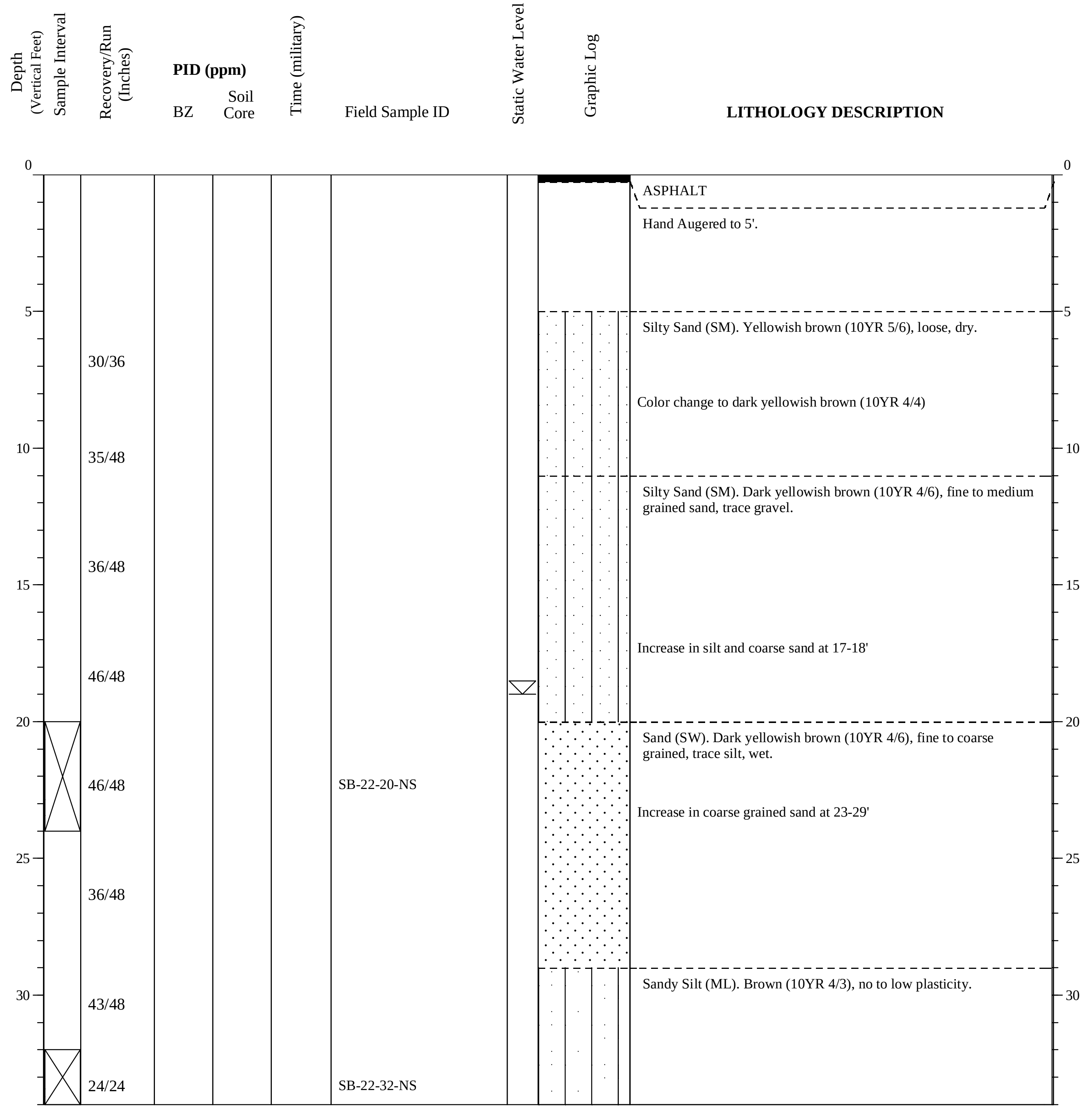
Project: PCE Investigation

Location: South Lake Tahoe, CA **Project: 60443271**

Log of Boring SB-22

Drilling Contractor: Enprobe	Drilled by: Josh Zwemke	Borehole Name: SB-22	Logged By: P. Barbree
Drilling Method: Geoprobe	Dates Drilled: 11/13/15	Well Construction: NA	Checked By:
Borehole Diameter: 2-inch	Casing Diameter: NA	Casing Type: NA	QC Initial:
Total Depth Drilled: 34'	Screen Interval: NA	Slot Size: NA	Ground Surface Elevation:
Sampling Method: Acetate Liner (soil core); Bailer (water)			Northing: Easting:

Comments:



Recovery/Run (Inches)	Field Sample ID
30/36	
35/48	
36/48	
46/48	
46/48	SB-22-20-NS
36/48	
43/48	
24/24	SB-22-32-NS

ASPHALT

Hand Augered to 5'.

Silty Sand (SM). Yellowish brown (10YR 5/6), loose, dry.

Color change to dark yellowish brown (10YR 4/4)

Silty Sand (SM). Dark yellowish brown (10YR 4/6), fine to medium grained sand, trace gravel.

Increase in silt and coarse sand at 17-18'

Sand (SW). Dark yellowish brown (10YR 4/6), fine to coarse grained, trace silt, wet.

Increase in coarse grained sand at 23-29'

Sandy Silt (ML). Brown (10YR 4/3), no to low plasticity.

APPENDIX B2

Well Completion Information

SWISS MART GASOLINE STATION
SCREENED DEPTH ELEVATION RANGES

WELL I.D.	Date Installed	Measuring Point Elevation (ft msl)	Top of Screen Depth (ft)	Top of Screen Elev. (ft msl)	Bottom of Screen Depth (ft)	Bottom of Screen Elev. (ft msl)	Total Depth (ft)	Bottom of Well Elev. (ft msl)	Depth to Water (Dec. 2000) (ft)	Water Level Elev. (Dec. 2000) (ft msl)
MW-1		6264.24	7.00	6257.24	30.00	6234.24	30.00	6234.24	12.40	6251.84
MW-2A		6266.43	15.00	6251.43	25.00	6241.43	25.00	6241.43	22.82	6243.61
MW-2B		6266.22	34.00	6232.22	49.00	6217.22	49.00	6217.22	27.42	6238.80
MW-2C		6266.40	61.00	6205.40	81.00	6185.40	81.00	6185.40	27.55	6238.85
MW-3A		6264.99	15.00	6249.99	30.00	6234.99	30.00	6234.99	17.20	6247.79
MW-3B		6264.58	35.00	6229.58	50.00	6214.58	50.00	6214.58	16.55	6248.03
MW-3C		6265.33	58.00	6207.33	78.00	6187.33	78.00	6187.33	26.37	6238.96
MW-4A		6255.85	15.00	6240.85	25.00	6230.85	25.00	6230.85	12.70	6243.15
MW-4B		6256.02	35.00	6221.02	50.00	6206.02	50.00	6206.02	17.20	6238.82
MW-4C		6256.32	59.00	6197.32	79.00	6177.32	79.00	6177.32	19.35	6236.97
MW-5A		6265.04	15.00	6250.04	25.00	6240.04	25.00	6240.04	13.75	6251.29
MW-5B		6265.18	35.00	6230.18	50.00	6215.18	50.00	6215.18	25.80	6239.38
MW-5C		6264.93	60.00	6204.93	79.50	6185.43	79.50	6185.43	26.50	6238.43
MW-5D		6265.19	120.00	6145.19	140.00	6125.19	140.00	6125.19	33.45	6231.74
MW-6A		6263.15	20.00	6243.15	30.00	6233.15	30.00	6233.15	21.55	6241.60
MW-6C		6263.27	69.50	6193.77	79.50	6183.77	80.00	6183.27	26.70	6236.57
MW-6D		6263.09	120.00	6143.09	140.00	6123.09	140.00	6123.09	32.11	6230.98
MW-7A		6251.61	15.00	6236.61	25.00	6226.61	25.00	6226.61	13.25	6238.36
MW-7C		6251.12	70.00	6181.12	80.00	6171.12	80.00	6171.12	19.81	6231.31
MW-7D		6251.25	120.00	6131.25	140.00	6111.25	140.00	6111.25	20.85	6230.60
EW-2D		6265.41	120.00	6145.41	140.00	6125.41	140.00	6125.41		
EW-4A		6261.62	15.00	6246.62	30.00	6231.62	30.00	6231.62	19.81	6241.81
EW-4C		6261.83	60.00	6201.83	77.50	6184.33	77.50	6184.33	27.60	6234.23
EW-4D		6261.68	120.00	6141.68	140.00	6121.68	140.00	6121.68	31.10	6230.58
EW-5A		6262.35	15.00	6247.35	30.00	6232.35	30.00	6232.35	21.00	6241.35
EW-5C		6262.16	58.50	6203.66	78.50	6183.66	78.50	6183.66	27.65	6234.51
EW-5D		6262.30	105.00	6157.30	115.00	6147.30	115.00	6147.30	31.10	6231.20
DVE-1			15.00		30.00		30.00		20.50	
DVE-2		6265.00	15.00	6250.00	30.00	6235.00	30.00	6235.00	21.00	6244.00
DVE-3		6265.80	15.00	6250.80	23.00	6242.80	23.00	6242.80	17.65	6248.15
DVE-4		6265.11	15.00	6250.11	25.00	6240.11	25.00	6240.11	21.50	6243.61

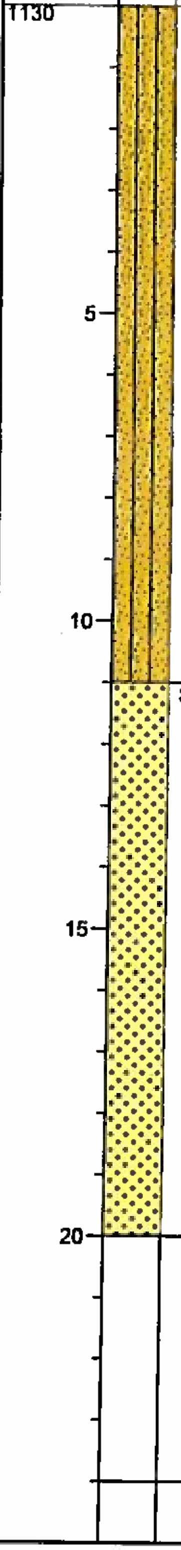
PROJECT: **Hurzel Properties, LLC**
LOCATION: **949 Emerald Bay Drive, South Lake Tahoe**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO:
MW-3 PAGE 1 OF 1

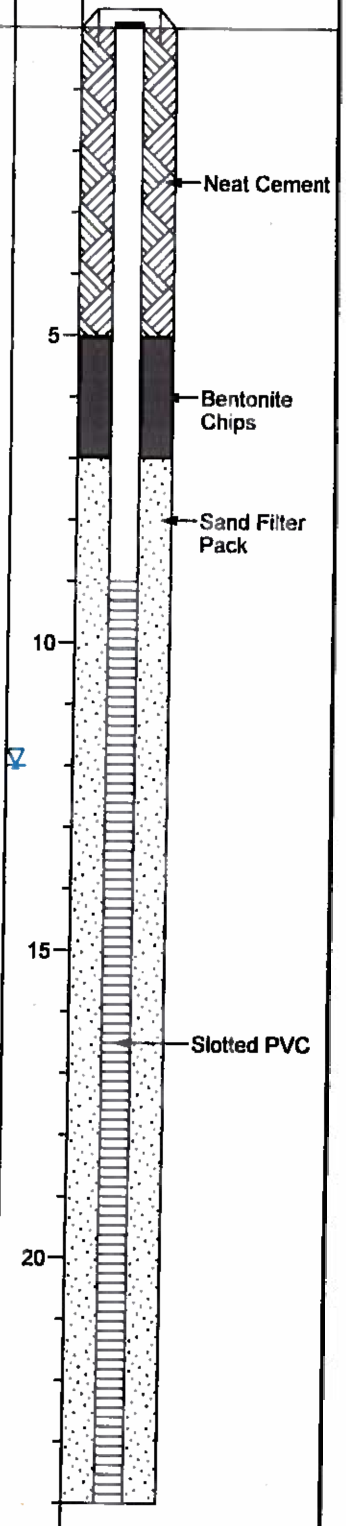
SECOR

DRILLING: STARTED **11/6/07** COMPLETED: **11/6/07**
INSTALLATION: STARTED **11/6/07** COMPLETED: **11/6/07**
DRILLING COMPANY: **Gregg Drilling**
DRILLING EQUIPMENT:
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Continuous Core**

NORTHING (ft):
EASTING (ft):
LATITUDE: **38° 54' 54.7986"**
LONGITUDE: **120° 0' 19.677"**
GROUND ELEV (ft):
TOC ELEV (ft): **6265.13**
INITIAL DTW (ft): **12 11/6/07**
BOREHOLE DEPTH (ft): **24.0**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **24.0**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **E. Farrar**
CHECKED BY: **J. Collins**



Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
1130		SM	**SILTY SAND WITH GRAVEL**; SM; reddish brown; loose; dry; gravel to 1", iron oxide staining at 8'							
		SW	**SAND WITH SILT AND GRAVEL**; SW; grayish brown; dense; moist to wet; gravel to 1", sampler refused at 20'							
20			Soil logging terminated at 20 feet.							
			Hole terminated at 24 feet.							



APPENDIX C

Field Data Sheets

Lukins - 10/28/15 - 6044327I

Purge Log

Location: Lukins - Patricia Lane & Southshore - Shallow well

Purge Method: Peristaltic Pump

Purge Rate (GPM): 1/6 GPM

Required Purge Volume: 3 gal

Sampler Initials: Pm B

Water Level Meter #: 11 858

1020 · Sampled PatLn55-5

Time	Volume Purged	Temp °C	pH	Conductivity mS/cm	Turbidity	D.O. ~~(ppm)~~ mg/L	ORP mV	Comments
0928	0	11.52	5.27	0.343	536	7.47	226	light tan odorless
0932	1	11.70	5.33	0.383	526	7.81	233	↓
0937	2	11.66	5.31	0.398	355	7.67	242	↓ WL = 16.80
0943	3	11.60	5.32	0.390	275	7.27	249	turbidity ↓ not stable, cont. purge
0949	4	11.60	5.32	0.404	107	7.05	255	↓
0955	5	11.61	5.32	0.394	40.3	6.95	260	nearly clear, colorless, odorless WL = 16.81

Cont.

TD = 22.4

Initial water level = 16.22

Site Calibration Log

pH Meter #:	Time	pH Readings Initial pH 7.0	pH 10.0	pH Readings Adjusted pH 7.0	pH 10.0
LRowmC70	0854	Auto Cal			
Horiba U-52					
Post Check					

Turbidity Meter #: LRowmC70	
Initial (NTU)	**Adjusted Reading (NTU)**
0854 Auto Cal	

Conductivity Meter #:	Time	Conductivity Initial 70μs	700μs	1410μs	Conductivity Adjusted 70μs	700μs	1410μs
LRowmC70	0854	Auto		cal			
Post Check							

D.O. Meter #: LRowmC70	
Diss. Oxy	
Initial	**Adjusted**
9.38	11.30

1001	6	11.62	5.33	0.398	0.0	6.71	265	clear, colorless, odorless
1009	7	11.61	5.33	0.398	10.5	6.48	270	↓
1013	8	11.64	5.33	0.395	9.8	6.33	272	↓

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 OF 1

SITE: BevMo property, 949 Emerald Bay Rd
DATE: 10/30/15
WEATHER: clear
CONSULTING FIRM: RWQCB
FIELD PERSONNEL: L. Dernbach

MONITOR WELL #: Hunzel - N
WELL PERMIT #: (MW - 4)
WELL DEPTH: 24 ft
WELL DIAMETER: 2 **Inches**
SCREENED/OPEN INTERVAL: 9 to 24 ft
mud inside well vault

PID/FID READINGS (ppm):
BACKGROUND: ____
BENEATH OUTER CAP: ____
BENEATH INNER CAP: ____
PUMP INTAKE DEPTH: ____ **ft below TOC**
DEPTH TO WATER BEFORE PUMP INSTALLATION : 14.5 **ft below TOC**

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
12:20	✓		6.4	NA		NA		NA	0.9	NA		NA	62.8	NA	<250/ml	14.5'
12:25	✓		}						0.8				62.4			
12:35	✓								0.9				62.6			

COMMENTS:
water got muddier with purging

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 OF 1

SITE: 933 Eloise Ave
DATE: 10/30/15
WEATHER: Clear

CONSULTING FIRM: RWQCB
FIELD PERSONNEL: L. Dernbach

MONITOR WELL #: MW-4B
WELL PERMIT #:
WELL DEPTH: 50 ft
WELL DIAMETER: 2 Inches
SCREENED/OPEN INTERVAL: 35 to 50 ft

PID/FID READINGS (ppm):
BACKGROUND:
BENEATH OUTER CAP:
BENEATH INNER CAP:

PUMP INTAKE DEPTH: _______ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : _______ ft below TOC

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1330			6.6	NA		NA		NA	0.8	NA		NA	60.6	NA	>250/ml	18.8'
1340			〃						0.7				60.7			
1350									0.7				60.6			

COMMENTS:

Very clean sample

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 **OF** 1

SITE: 933 Eloise Ave

DATE: 10/30/15

WEATHER: clear

CONSULTING FIRM: RWQCB

FIELD PERSONNEL: L. Dernbach

MONITOR WELL #: MW-4A

WELL PERMIT #:

WELL DEPTH: 25 ft

WELL DIAMETER: 2 **inches**

SCREENED/OPEN INTERVAL: 15 to 25 ft

PID/FID READINGS (ppm):

BACKGROUND:

BENEATH OUTER CAP:

BENEATH INNER CAP:

PUMP INTAKE DEPTH: — **ft below TOC**

DEPTH TO WATER BEFORE PUMP INSTALLATION : ______ **ft below TOC**

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1405			6.4	NA		NA		NA	0.7	NA		NA	61.8	NA	>250/ml	18.7'
1410			S						0.8				62.0			
1415									0.8				61.7			

COMMENTS:

clean samples

***INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity**

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 OF 1

SITE: 883 Eloise Ave
DATE: 10/30/15
WEATHER: clear

CONSULTING FIRM: RWQCB
FIELD PERSONNEL: L. Dernbach

MONITOR WELL #: EW-4B
WELL PERMIT #:
WELL DEPTH: 77.5 ft
WELL DIAMETER: 2 Inches
SCREENED/OPEN INTERVAL: 60 - 77.5 ft

PID/FID READINGS (ppm):
BACKGROUND:
BENEATH OUTER CAP:
BENEATH INNER CAP:

PUMP INTAKE DEPTH: — ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : ft below TOC

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1400			6.7	NA		NA		NA	.7	NA		NA	59.2	NA	250/ml	29.6'
1410			〃						.7				59.6			
1415									.7				59.7			

COMMENTS:

slightly turbid sample

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 **OF** 1

SITE: ~~912~~ 883 Eloise Ave
DATE: 10/30/15
WEATHER: Clear

CONSULTING FIRM: RWQCB
FIELD PERSONNEL: L. Dernbach

MONITOR WELL #: EW-4A
WELL PERMIT #:
WELL DEPTH: 30 ft
WELL DIAMETER: 2 **inches**
SCREENED/OPEN INTERVAL: 15 to 30 ft

PID/FID READINGS (ppm):
BACKGROUND:
BENEATH OUTER CAP:
BENEATH INNER CAP:

PUMP INTAKE DEPTH: — **ft below TOC**
DEPTH TO WATER BEFORE PUMP INSTALLATION : ______ **ft below TOC**

mud inside well vault

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1425			6.5	NA		NA		NA	0.8	NA		NA	62.4	NA	<250/ml	19.2'
1430			5						0.8				62.5			
1435									0.8				62.5			

COMMENTS:
water got muddier with purging

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

APPENDIX D

Laboratory Analytical Reports with QA/QC Review

Introduction

This section summarizes the quality assurance effort and quality control (QC) results for the samples collected and data generated for Lukins. Based on the data review, all data collected and analyzed during this period are of known and acceptable quality in relation to the data quality objectives of this project. All data are considered usable, as qualified, for the intended purposes.

Groundwater samples were collected from 22 boreholes and 1 monitoring well at this site on 26 through 29 October and 12 through 13 November 2015 and analyzed for the following constituents:

- Gasoline by United States Environmental Protection Agency (EPA) Method SW8015B
- Diesel by EPA Method SW8015B
- Volatile organic compounds (VOCs) by EPA Method SW8260B

Two composite soil samples and two purge water samples were also collected and analyzed for the above analytes and lead by EPA Method SW6010B. These samples were collected for waste disposal characterization only.

All analyses were performed by Curtis & Tompkins in Berkeley, California. Data were reviewed and qualified by AECOM using the laboratory control limits for each method. Precision and accuracy were evaluated from field and laboratory QC samples. The calculated relative percent difference (RPD) from matrix spike (MS)/MS duplicate (MSD), laboratory control samples (LCSs)/LCS duplicates (LCSDs) and/or laboratory duplicate pairs provided information on the precision of chemical analyses and field sampling procedures. Evaluation of the percent recoveries of spiked analytes in LCSs, project-specific MSs, and surrogate spikes were used to evaluate accuracy. External contamination was assessed through the evaluation of method blanks (MBs) and trip blanks (TBs) for volatile methods. Comparability of the data was ensured by having project personnel follow standardized field procedures and having laboratories follow analytical methods and standard operating procedures. The completeness of the data is measured by the percentage of valid data for each method and matrix. Completeness and integrity of data were evaluated by validating all project data, ensuring that all analytical requests were met, noting whether samples were received in proper condition, and verification that analyses were performed within the appropriate holding times.

The analytical results can be used with the following exceptions. Data results qualified with a “UJ” indicate that the analyte was not detected and the reporting limit is estimated. There is a potential for false negative results. Results qualified with a “J” indicate the presence of the analyte; however, the result is considered an estimated concentration. Results qualified with a “J+” are considered potentially high biased concentrations. Table 1 lists all qualified results.

A total of 317 results (including field duplicate samples) are qualified. The following summarize the qualified results by method:

- Method SW6010B (Lead) – No results are qualified and the data can be used as reported. This analysis was used only for investigation-derived waste characterization.
- Method SW8015B (Diesel) – A total of 30 results are qualified. Nineteen results are qualified as estimated concentrations (J) because the petroleum pattern did not match the diesel standard pattern use for quantitation. Two of these 19 are also qualified for field duplicate imprecision. Nine results are qualified for potential high bias (J+) because of potential blank contamination

and the chromatographic pattern did not match diesel. Two additional not detected results are qualified for field duplicate imprecision (UJ).

- Method SW8015B (Gasoline) – A total of 19 results are qualified. Fifteen results (2 detected [J-] and 13 not detected [UJ]) are qualified because the sample was analyzed using a container with headspace greater than 6 millimeters. The two detected results are also qualified because the petroleum pattern did not match the gasoline standard used for quantitation. Four additional results are qualified only because the petroleum pattern did not match the gasoline standard used for quantitation.
- Method SW8260B (VOCs) – A total of 268 results are qualified for potential low bias (J-) (266 results) or potential for false negative results (UJ) (2 results) because the sample was analyzed using a container with headspace greater than 6 millimeters.

Summary of Data Usability

Based on the validation performed, all data for this effort are acceptable and can be used for data interpretation with the limitations of potential biased data. Data qualified as estimated can be used for interpretation (modeling or risk assessment) as long as the associated data qualifier flags are considered. The number of qualified results and percent completeness is presented in Table 2.

Quality Control Results

QC results of the samples collected concluded that all of the data produced are usable. There are no rejected results. However, gasoline range organic results from 15 samples (including the field duplicate) and VOCs for 4 samples are qualified for potential low bias and/or false negative results; these samples were analyzed from containers where there was noted headspace.

External Contamination

Laboratory contamination was assessed by the use of MBs for all methods and TBs for gasoline and VOCs. MBs are processed through the same analytical procedures as the associated samples. MBs are analyzed with each batch of samples to provide information on contamination originating in the analytical process. No target analytes were detected in TBs. Diesel was detected in MBs and associated samples are qualified for potential high bias.

Precision and Accuracy

Precision and accuracy were evaluated based on the results of QC samples (LCSs/LCSDs, MS/MSDs, laboratory duplicates and surrogate spikes. The calculated RPD for MS/MSDs and laboratory duplicates provided information on the precision of sampling and analytical procedures. All data were reviewed for accuracy based surrogate spike, MSs, and LCS percent recoveries. Laboratory criteria were used for the evaluation.

Representativeness

Representativeness was evaluated through the use of standard sampling and analytical procedures that meet required data quality objectives. Representativeness is also influenced by appropriate sample collection and handling, as well as sample locations and frequency. All sample bottles were received in good condition as received as noted on the chain-of-custody. The review of field QC samples is also used to determine the representativeness of the data set.

Completeness

Completeness is quantitatively defined as the percentage of measurements that are determined useable compared to the total number of measurements planned. Completeness of data was evaluated by assuring that all analytical requests were met, samples were received in proper condition, and all analyses were performed using the correct method within the appropriate holding times.

Comparability

Comparability is a quantitative objective that expresses the confidence with which one data set can be compared to another for similar samples and sample conditions. It is also evaluated using precision and bias. Comparability was evaluated for this sampling event by analyzing all samples according to the specified EPA analytical methods, which use standard units of measurement.

Table 1. Qualified Data

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
M8015D								
11/13/15 15:00	COMP-1-NS	Diesel	24	mg/kg	J	6H	0.35	1.1
11/13/15 15:00	COMP-2-NS	Diesel	31	mg/kg	J	6H	0.35	1.1
11/13/15 9:20	SB-02-24-NS	Diesel	61	µg/L	J	6H	16	50
10/30/15 11:15	SB-03-24-FD	Diesel	140	µg/L	J	3D,6H	16	50
10/30/15 11:15	SB-03-24-NS	Diesel	0	µg/L	UJ	3D	16	50
11/12/15 10:05	SB-04-18-NS	Diesel	52	µg/L	J	6H	16	50
10/30/15 9:10	SB-06-24-NS	Diesel	260	µg/L	J	6H	21	63
10/28/15 9:00	SB-07-16-NS	Diesel	78	µg/L	J	6H	19	59
10/28/15 9:40	SB-07-26-NS	Diesel	66	µg/L	J	6H	21	63
10/28/15 12:50	SB-10-16-NS	Diesel	190	µg/L	J	6H	23	69
10/28/15 13:25	SB-10-26-NS	Diesel	97	µg/L	J	6H	21	64
10/29/15 13:15	SB-12-12-NS	Diesel	140	µg/L	J	6H	21	63
10/27/15 15:20	SB-13-16-NS	Diesel	260	µg/L	J	6H	17	52
10/27/15 15:45	SB-13-26-NS	Diesel	380	µg/L	J	6H	17	52
10/27/15 12:30	SB-14-20-NS	Diesel	130	µg/L	J+	1A,6H	16	50
10/27/15 12:30	SB-14-20-FD	Diesel	130	µg/L	J+	1A,6H	16	50
10/27/15 14:00	SB-14-30-NS	Diesel	150	µg/L	J+	1A,6H	16	50
10/27/15 9:15	SB-15-20-NS	Diesel	60	µg/L	J+	1A,6H	16	50
10/27/15 10:00	SB-15-30-NS	Diesel	370	µg/L	J	6H	16	50
10/26/15 15:45	SB-16-20-NS	Diesel	180	µg/L	J+	1A,6H	16	50
10/26/15 16:20	SB-16-30-NS	Diesel	99	µg/L	J+	1A,6H	16	50
10/26/15 13:00	SB-17-20-NS	Diesel	210	µg/L	J+	1A,6H	16	50
10/26/15 13:45	SB-17-30-NS	Diesel	150	µg/L	J+	1A,6H	16	50
10/26/15 10:15	SB-19-26-NS	Diesel	170	µg/L	J+	1A,6H	16	50
10/26/15 10:50	SB-19-36-NS	Diesel	220	µg/L	J	6H	16	50
11/13/15 13:30	SB-20-32-NS	Diesel	62	µg/L	J	6H	16	50
11/12/15 13:50	SB-21-20-FD	Diesel	0	µg/L	UJ	3D	16	50
11/12/15 13:50	SB-21-20-NS	Diesel	130	µg/L	J	3D,6H	16	50
11/13/15 10:50	SB-22-20-NS	Diesel	62	µg/L	J	6H	16	50
11/13/15 11:30	SB-22-32-NS	Diesel	190	µg/L	J	6H	16	50
M8015V								
11/13/15 9:20	SB-02-24-NS	Gasoline	0	µg/L	UJ	4A	11	50
10/28/15 9:00	SB-07-16-NS	Gasoline	0	µg/L	UJ	4A	11	50

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
M8015V (cont'd)								
10/28/15 9:40	SB-07-26-NS	Gasoline	0	µg/L	UJ	4A	11	50
10/28/15 12:50	SB-10-16-NS	Gasoline	170	µg/L	J	6H	13	50
10/28/15 16:50	SB-11-22-NS	Gasoline	0	µg/L	UJ	4A	13	50
10/29/15 13:15	SB-12-12-NS	Gasoline	51	µg/L	J	6H	13	50
10/27/15 15:20	SB-13-16-NS	Gasoline	0	µg/L	UJ	4A	5.7	50
10/27/15 15:45	SB-13-26-NS	Gasoline	0	µg/L	UJ	4A	5.7	50
10/27/15 12:30	SB-14-20-NS	Gasoline	0	µg/L	UJ	4A	5.7	50
10/27/15 12:30	SB-14-20-FD	Gasoline	0	µg/L	UJ	4A	5.7	50
10/27/15 14:00	SB-14-30-NS	Gasoline	0	µg/L	UJ	4A	5.7	50
10/27/15 10:00	SB-15-30-NS	Gasoline	53	µg/L	J-	4A,6H	5.7	50
10/26/15 16:20	SB-16-30-NS	Gasoline	0	µg/L	UJ	4A	5.7	50
10/26/15 13:45	SB-17-30-NS	Gasoline	0	µg/L	UJ	4A	5.7	50
10/29/15 15:30	SB-18-12-NS	Gasoline	56	µg/L	J-	4A,6H	13	50
10/26/15 10:15	SB-19-26-NS	Gasoline	0	µg/L	UJ	4A	5.7	50
10/26/15 10:50	SB-19-36-NS	Gasoline	0	µg/L	UJ	4A	5.7	50
11/12/15 13:50	SB-21-20-NS	Gasoline	56	µg/L	J	6H	11	50
11/13/15 11:30	SB-22-32-NS	Gasoline	64	µg/L	J	6H	11	50
SW8260B								
10/27/15 10:00	SB-15-30-NS	1,1,1,2-Tetrachloroethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Dibromomethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Carbon Disulfide	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,1-Dichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Dichlorodifluoromethane	0	µg/L	UJ	4A	0.1	1
10/27/15 10:00	SB-15-30-NS	Trichloroethylene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,2-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Isopropylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	n-Butyl Benzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	4-Methyl-2-pentanone (MIBK)	0	µg/L	UJ	4A	0.4	10
10/27/15 10:00	SB-15-30-NS	Chlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	tert-Butyl methyl ether	0.9	µg/L	J-	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	2-Hexanone	0	µg/L	UJ	4A	0.4	10
10/27/15 10:00	SB-15-30-NS	Chloromethane	0	µg/L	UJ	4A	0.1	1

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
SW8260B (cont'd)								
10/27/15 10:00	SB-15-30-NS	Bromochloromethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,1-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Trichlorofluoromethane	0	µg/L	UJ	4A	0.1	1
10/27/15 10:00	SB-15-30-NS	1,2-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	2-Chlorotoluene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	trans 1,3-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,2-Dichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,3,5-Trimethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Toluene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,3-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	trans 1,2-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	2,2-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,2-Dibromo-3-chloropropane	0	µg/L	UJ	4A	0.3	2
10/27/15 10:00	SB-15-30-NS	1,2,3-Trichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Styrene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	n-Propylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,2-Dibromoethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,2,4-Trichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	cis-1,2-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Bromoform	0	µg/L	UJ	4A	0.1	1
10/27/15 10:00	SB-15-30-NS	2-Butanone (MEK)	0	µg/L	UJ	4A	0.6	10
10/27/15 10:00	SB-15-30-NS	1,1,2-Trichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Ethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	4-Chlorotoluene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,4-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Vinyl Acetate	0	µg/L	UJ	4A	0.9	10
10/27/15 10:00	SB-15-30-NS	Bromobenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Dibromochloromethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Tetrachloroethene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Carbon tetrachloride	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,1-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Methylene Chloride	0	µg/L	UJ	4A	0.1	10
10/27/15 10:00	SB-15-30-NS	Bromodichloromethane	0	µg/L	UJ	4A	0.1	0.5

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
SW8260B (cont'd)								
10/27/15 10:00	SB-15-30-NS	1,2,4-Trimethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,3-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,1,1-Trichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,1,2,2-Tetrachloroethane	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Hexachlorobutadiene	0	µg/L	UJ	4A	0.1	2
10/27/15 10:00	SB-15-30-NS	o-Xylene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	tert-Butylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	sec-Butylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Acetone	11	µg/L	J-	4A	3.3	10
10/27/15 10:00	SB-15-30-NS	Benzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Chloroethane	0	µg/L	UJ	4A	0.2	1
10/27/15 10:00	SB-15-30-NS	Vinyl Chloride	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	1,2,3-Trichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	cis-1,3-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Chloroform	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	Bromomethane	0	µg/L	UJ	4A	0.1	1
10/27/15 10:00	SB-15-30-NS	1,1,2-Trichloro-1,2,2-trifluoroethane	0	µg/L	UJ	4A	0.1	2
10/27/15 10:00	SB-15-30-NS	Naphthalene	0	µg/L	UJ	4A	0.1	2
10/27/15 10:00	SB-15-30-NS	p-Isopropyltoluene	0	µg/L	UJ	4A	0.1	0.5
10/27/15 10:00	SB-15-30-NS	m,p-Xylenes	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,4-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Vinyl Acetate	0	µg/L	UJ	4A	0.9	10
10/26/15 13:45	SB-17-30-NS	1,3,5-Trimethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	cis-1,2-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Bromoform	0	µg/L	UJ	4A	0.1	1
10/26/15 13:45	SB-17-30-NS	1,1,2,2-Tetrachloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Isopropylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Toluene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Vinyl Chloride	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Methylene Chloride	0	µg/L	UJ	4A	0.1	10
10/26/15 13:45	SB-17-30-NS	Carbon Disulfide	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Trichlorofluoromethane	0	µg/L	UJ	4A	0.1	1
10/26/15 13:45	SB-17-30-NS	1,1,2-Trichloroethane	0	µg/L	UJ	4A	0.1	0.5

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
SW8260B (cont'd)								
10/26/15 13:45	SB-17-30-NS	2-Chlorotoluene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,2-Dibromo-3-chloropropane	0	µg/L	UJ	4A	0.3	2
10/26/15 13:45	SB-17-30-NS	sec-Butylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,1-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Bromodichloromethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,1-Dichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,2,4-Trimethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Ethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,2,4-Trichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	2-Hexanone	0	µg/L	UJ	4A	0.4	10
10/26/15 13:45	SB-17-30-NS	Chloroform	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Bromochloromethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,1-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Dichlorodifluoromethane	0	µg/L	UJ	4A	0.1	1
10/26/15 13:45	SB-17-30-NS	Hexachlorobutadiene	0	µg/L	UJ	4A	0.1	2
10/26/15 13:45	SB-17-30-NS	1,2-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	cis-1,3-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	trans 1,3-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,2-Dichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Dibromochloromethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,3-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	tert-Butyl methyl ether	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Carbon tetrachloride	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Acetone	0	µg/L	UJ	4A	3.3	10
10/26/15 13:45	SB-17-30-NS	Chloromethane	0	µg/L	UJ	4A	0.1	1
10/26/15 13:45	SB-17-30-NS	Trichloroethylene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Naphthalene	0	µg/L	UJ	4A	0.1	2
10/26/15 13:45	SB-17-30-NS	tert-Butylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Styrene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,2-Dibromoethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	4-Methyl-2-pentanone (MIBK)	0	µg/L	UJ	4A	0.4	10
10/26/15 13:45	SB-17-30-NS	Bromobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Chlorobenzene	0	µg/L	UJ	4A	0.1	0.5

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
SW8260B (cont'd)								
10/26/15 13:45	SB-17-30-NS	Tetrachloroethene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	trans 1,2-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	2,2-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Benzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Bromomethane	0	µg/L	UJ	4A	0.1	1
10/26/15 13:45	SB-17-30-NS	Chloroethane	0	µg/L	UJ	4A	0.2	1
10/26/15 13:45	SB-17-30-NS	1,2-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	2-Butanone (MEK)	0	µg/L	UJ	4A	0.6	10
10/26/15 13:45	SB-17-30-NS	1,2,3-Trichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	p-Isopropyltoluene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	n-Propylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	n-Butyl Benzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	4-Chlorotoluene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,1,1,2-Tetrachloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,1,2-Trichloro-1,2,2-trifluoroethane	0	µg/L	UJ	4A	0.1	2
10/26/15 13:45	SB-17-30-NS	m,p-Xylenes	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,3-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,1,1-Trichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	Dibromomethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	o-Xylene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 13:45	SB-17-30-NS	1,2,3-Trichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	4-Chlorotoluene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	sec-Butylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,3-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	cis-1,2-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,1-Dichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Dichlorodifluoromethane	0	µg/L	UJ	4A	0.2	1
10/29/15 15:30	SB-18-12-NS	1,2,3-Trichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Styrene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	n-Propylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	2-Hexanone	0	µg/L	UJ	4A	0.2	10
10/29/15 15:30	SB-18-12-NS	2,2-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Vinyl Chloride	0	µg/L	UJ	4A	0.2	0.5

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
SW8260B (cont'd)								
10/29/15 15:30	SB-18-12-NS	Bromoform	0	µg/L	UJ	4A	0.1	1
10/29/15 15:30	SB-18-12-NS	Trichlorofluoromethane	0	µg/L	UJ	4A	0.1	1
10/29/15 15:30	SB-18-12-NS	1,2,3-Trichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Ethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,4-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,3,5-Trimethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,2,4-Trichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,1,1,2-Tetrachloroethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Benzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Dibromomethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Chloroethane	0	µg/L	UJ	4A	0.2	1
10/29/15 15:30	SB-18-12-NS	Trichloroethylene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,1,2,2-Tetrachloroethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,2,4-Trimethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	n-Butyl Benzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Toluene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Dibromochloromethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Tetrachloroethene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	trans 1,2-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Carbon tetrachloride	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,1,1-Trichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Methylene Chloride	0	µg/L	UJ	4A	0.1	10
10/29/15 15:30	SB-18-12-NS	Carbon Disulfide	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,1,2-Trichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	2-Chlorotoluene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Vinyl Acetate	0	µg/L	UJ	4A	0.3	10
10/29/15 15:30	SB-18-12-NS	tert-Butyl methyl ether	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,3-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Chloroform	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Bromomethane	0	µg/L	UJ	4A	0.2	1
10/29/15 15:30	SB-18-12-NS	1,1,2-Trichloro-1,2,2-trifluoroethane	0	µg/L	UJ	4A	0.2	2
10/29/15 15:30	SB-18-12-NS	1,2-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	2-Butanone (MEK)	0	µg/L	UJ	4A	0.4	10

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
SW8260B (cont'd)								
10/29/15 15:30	SB-18-12-NS	tert-Butylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Isopropylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	p-Isopropyltoluene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Bromobenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,1-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,1-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	trans 1,3-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	4-Methyl-2-pentanone (MIBK)	0	µg/L	UJ	4A	0.1	10
10/29/15 15:30	SB-18-12-NS	Chloromethane	0	µg/L	UJ	4A	0.1	1
10/29/15 15:30	SB-18-12-NS	Hexachlorobutadiene	0	µg/L	UJ	4A	0.3	2
10/29/15 15:30	SB-18-12-NS	m,p-Xylenes	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	cis-1,3-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,2-Dibromoethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,2-Dichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Chlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Acetone	0	µg/L	UJ	4A	3.3	10
10/29/15 15:30	SB-18-12-NS	Bromochloromethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Bromodichloromethane	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	Naphthalene	0	µg/L	UJ	4A	0.1	2
10/29/15 15:30	SB-18-12-NS	o-Xylene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,2-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/29/15 15:30	SB-18-12-NS	1,2-Dibromo-3-chloropropane	0	µg/L	UJ	4A	0.3	2
10/26/15 10:15	SB-19-26-NS	n-Propylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	4-Chlorotoluene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,3,5-Trimethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Toluene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	tert-Butyl methyl ether	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,1-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	2-Hexanone	0	µg/L	UJ	4A	0.4	10
10/26/15 10:15	SB-19-26-NS	Acetone	0	µg/L	UJ	4A	3.3	10
10/26/15 10:15	SB-19-26-NS	Chloroform	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,1-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,1,2,2-Tetrachloroethane	0	µg/L	UJ	4A	0.1	0.5

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
SW8260B (cont'd)								
10/26/15 10:15	SB-19-26-NS	o-Xylene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,2,4-Trimethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,2-Dibromo-3-chloropropane	0	µg/L	UJ	4A	0.3	2
10/26/15 10:15	SB-19-26-NS	Ethylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Vinyl Acetate	0	µg/L	UJ	4A	0.9	10
10/26/15 10:15	SB-19-26-NS	Bromobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Chlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	cis-1,2-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Methylene Chloride	0	µg/L	UJ	4A	0.1	10
10/26/15 10:15	SB-19-26-NS	2-Butanone (MEK)	0	µg/L	UJ	4A	0.6	10
10/26/15 10:15	SB-19-26-NS	Trichloroethylene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,4-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	4-Methyl-2-pentanone (MIBK)	0	µg/L	UJ	4A	0.4	10
10/26/15 10:15	SB-19-26-NS	1,2,4-Trichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Tetrachloroethene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,3-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,1,1,2-Tetrachloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,2,3-Trichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	2-Chlorotoluene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	cis-1,3-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	sec-Butylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Carbon tetrachloride	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,1,1-Trichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Bromomethane	0	µg/L	UJ	4A	0.1	1
10/26/15 10:15	SB-19-26-NS	Vinyl Chloride	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Dichlorodifluoromethane	0	µg/L	UJ	4A	0.1	1
10/26/15 10:15	SB-19-26-NS	Hexachlorobutadiene	0	µg/L	UJ	4A	0.1	2
10/26/15 10:15	SB-19-26-NS	1,2-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Dibromochloromethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,3-Dichlorobenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,2,3-Trichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,2-Dibromoethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,2-Dichloroethane	0	µg/L	UJ	4A	0.1	0.5

Table 1. (Continued)

Sample Date	Sample Name	Analyte	Result	Unit	EPA Flag	Reason	DL	RL
SW8260B (cont'd)								
10/26/15 10:15	SB-19-26-NS	trans 1,2-Dichloroethene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Dibromomethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Bromodichloromethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Trichlorofluoromethane	0	µg/L	UJ	4A	0.1	1
10/26/15 10:15	SB-19-26-NS	1,1,2-Trichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	trans 1,3-Dichloropropene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Styrene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	n-Butyl Benzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	2,2-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Benzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Bromochloromethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Carbon Disulfide	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	1,1,2-Trichloro-1,2,2-trifluoroethane	0	µg/L	UJ	4A	0.1	2
10/26/15 10:15	SB-19-26-NS	1,2-Dichloropropane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	tert-Butylbenzene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	p-Isopropyltoluene	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	m,p-Xylenes	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Chloromethane	0	µg/L	UJ	4A	0.1	1
10/26/15 10:15	SB-19-26-NS	Chloroethane	0	µg/L	UJ	4A	0.2	1
10/26/15 10:15	SB-19-26-NS	Bromoform	0	µg/L	UJ	4A	0.1	1
10/26/15 10:15	SB-19-26-NS	1,1-Dichloroethane	0	µg/L	UJ	4A	0.1	0.5
10/26/15 10:15	SB-19-26-NS	Naphthalene	0	µg/L	UJ	4A	0.1	2
10/26/15 10:15	SB-19-26-NS	Isopropylbenzene	0	µg/L	UJ	4A	0.1	0.5

DL = detection limit
EPA = United States Environmental Protection Agency
J = estimated result
J+ = estimated result; potential for high bias
J- = estimated result; potential for low bias
mg/kg = milligrams per kilogram
RL = reporting limit
UJ = estimated reporting limit (analyte not detected); potential for false negative result
µg/L = micrograms per liter

1A = associated with blank contamination
3D = field duplicate imprecision
4A = sample integrity issues
6H = chromatogram does not resemble the standard chromatogram

Table 2. Method Completeness

Method	Number of Samples	Number of Analytes	Total Number of Results	Number of Qualified Results	Number of Rejected Results	Percent Completeness[a]
SW8015-diesel	49	1	49	30	0	100
M8015V	49	1	49	19	0	100
SW8260B	49	67	3,283	268	0	100

[a] Percent of results (field duplicate samples included) that are not qualified as unusable (rejected).

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Analytical Laboratories, Since 1878

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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 271127
ANALYTICAL REPORT

URS Corporation
2870 Gateway Oaks Drive
Sacramento, CA 95833

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

Sample ID	Lab ID
SB-13-16-NS	271127-001
SB-13-26-NS	271127-002
SB-14-20-FD	271127-003
SB-14-20-NS	271127-004
SB-14-30-NS	271127-005
SB-15-20-NS	271127-006
SB-15-30-NS	271127-007
SB-16-20-NS	271127-008
SB-16-30-NS	271127-009
SB-17-20-NS	271127-010
SB-17-30-NS	271127-011
SB-19-26-NS	271127-012
SB-19-36-NS	271127-013

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.

Signature: ______________________ Date: 11/12/2015

Mike Dahlquist
Project Manager
mike.dahlquist@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number:	**271127**
Client:	**URS Corporation**
Project:	**RWQCB PCE LUKIN**
Location:	**RWQCB PCE LUKIN**
Request Date:	**10/29/15**
Samples Received:	**10/29/15**

This data package contains sample and QC results for thirteen water samples, requested for the above referenced project on 10/29/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

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

SB-15-30-NS (lab # 271127-007) was analyzed with more than 1 mL of headspace in the VOA vial.

No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

Diesel C10-C24 was detected between the MDL and the RL in the method blank for batch 228909.

No other analytical problems were encountered.

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

High response was observed for vinyl acetate in the CCV analyzed 11/02/15 11:58; this analyte was not detected at or above the RL in the associated samples.

SB-15-30-NS (lab # 271127-007) was analyzed with more than 1 mL of headspace in the VOA vial.

SB-15-30-NS (lab # 271127-007) had pH greater than 2.

SB-15-30-NS (lab # 271127-007) had multiple vials combined due to sediment.

No other analytical problems were encountered.

Chain of Custody

271127

CHAIN OF CUSTODY RECORD

USE A BALLPOINT PEN AND PRESS FIRMLY
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URS

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

409792

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
1 SB-13-16-NS	10/27/15	1520	BK	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-13-16-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-13-16-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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409793

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
2	SB-13-26-NS	10/27/15	1515	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
	SB-13-26-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
	SB-13-26-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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CHAIN OF CUSTODY RECORD

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409794

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							
3	SB-14-20-FD	10/27/15	1230	BP	2.00	1 L Amber Glass	WG	NONE	SW8015D	
	SB-14-20-FD				3.00	40 ml VOA	WG	HCL	SW8015G	
	SB-14-20-FD				3.00	40 ml VOA	WG	HCL	SW8260B	
4	SB-14-20-NS				2.00	1 L Amber Glass	WG	NONE	SW8015D	
	SB-14-20-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
	SB-14-20-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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FAX (916) 679-2900

409795

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
5 SB-14-30-NS	10/27/15	1400	BL	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-14-30-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8015G	
SB-14-30-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	15:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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409796

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							
6	SB-15-20-NS	10/27/15	0915	BR	3.00	1 L Amber Glass	WG	NONE	SW8015D	M
	SB-15-20-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
	SB-15-20-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

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409797

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-15-30-NS	10/27/15	1000	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-15-30-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-15-30-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

URS

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

409798

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
8	SB-16-20-NS	10/26/15	15 45	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
	SB-16-20-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8015G	
	SB-16-20-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	20:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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SACRAMENTO, CA 95833
PH. (916) 679-2000
FAX (916) 679-2900

409799

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	QC
	DATE	TIME							
9 SB-16-30-NS	10/26/15	1600	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-16-30-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-16-30-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	20:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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PH. (916) 679-2000
FAX (916) 679-2900

409800

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							
10	SB-17-20-NS	10/26/15	1300	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
	SB-17-20-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
	SB-17-20-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/28/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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SACRAMENTO, CA 95833
PH. (916) 679-2000
FAX (916) 679-2900

409801

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							
11 SB-17-30-NS	10/26/15	1345	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-17-30-NS	|	|	|	5.00	40 ml VOA	WG	HCL	SW8015G	M
SB-17-30-NS	|	|	|	3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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

409804

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							
12 SB-19-26-NS	10/26/15	1015	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-19-26-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-19-26-NS				5.00	40 ml VOA	WG	HCL	SW8260B	M

RELEASED BY	DATE	TIME
	10/27/15	12:30

COOLER ID:

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/27/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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SACRAMENTO, CA 95833
PH. (916) 679-2000
FAX (916) 679-2900

409805

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	QC
		DATE	TIME							
13	SB-19-36-NS	10/26/15	1050	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
	SB-19-36-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
	SB-19-36-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/27/15	18:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/29/15	10:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 271127 Date Received 10/29/15 Number of coolers 2
Client URS Project RWQCB PCE LUKIN

Date Opened 10/29 By (print) CN (sign)
Date Logged in 10/30 By (print) BL (sign)

1. Did cooler come with a shipping slip (airbill, etc) Fed Ex [✓ YES] ~~NO~~ CN
   Shipping info 7816 0004 1890

2A. Were custody seals present? .... ☒ YES (circle) [✓ on cooler] on samples ☐ NO
    How many 2 Name BR Date 10/27/15
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) 2.7°

☐ 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

9. 2 VOA containers for sample 2 arrived broken
20. 1 of 4 VOAs for sample 2 have bubbles > 6mm, 3 of 6 VOAs for sample 4 have bubbles > 6mm, 6 of 6 VOAs for samples 3 & 7 are > 6mm, 2 of 6 VOAs for sample 5 are > 6mm, 1 of 6 VOAs for sample 8 are > 6mm, 2 of 6 are > 6mm for sample 9, 8 of 8 are > 6mm for samples 11 and 12

Rev 11, 10/15

Detections Summary for 271127

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 : SB-13-16-NS Laboratory Sample ID : 271127-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	260	Y	52	17	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-13-26-NS Laboratory Sample ID : 271127-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	380	Y	52	17	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
1,2-Dichlorobenzene	0.6		0.5		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-14-20-FD Laboratory Sample ID : 271127-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	130	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
1,1,1-Trichloroethane	1.1		0.5		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-14-20-NS Laboratory Sample ID : 271127-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	130	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
1,1,1-Trichloroethane	1.2		0.5		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-14-30-NS Laboratory Sample ID : 271127-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	150	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-15-20-NS Laboratory Sample ID : 271127-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	60	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
MTBE	2.8		0.5		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-15-30-NS Laboratory Sample ID : 271127-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	53	Y	50		ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	370	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Acetone	11		10		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
MTBE	0.9		0.5		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-16-20-NS Laboratory Sample ID : 271127-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	180	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-16-30-NS Laboratory Sample ID : 271127-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	99	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-17-20-NS Laboratory Sample ID : 271127-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	210	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-17-30-NS Laboratory Sample ID : 271127-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	150	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-19-26-NS Laboratory Sample ID : 271127-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	170	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-19-36-NS Laboratory Sample ID : 271127-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	220	Y	50	16	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Tetrachloroethene	0.6		0.5		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 271127

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Water

Total Volatile Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	228901
Units:	ug/L	Received:	10/29/15
Diln Fac:	1.000		

Field ID:	SB-13-16-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	10/30/15
Lab ID:	271127-001		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	80-132

Field ID:	SB-13-26-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	10/30/15
Lab ID:	271127-002		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	80-132

Field ID:	SB-14-20-FD	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	10/30/15
Lab ID:	271127-003		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	80-132

Field ID:	SB-14-20-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-004		

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

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

Total Volatile Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	228901
Units:	ug/L	Received:	10/29/15
Diln Fac:	1.000		

Field ID:	SB-14-30-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-005		

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-15-20-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-006		

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-15-30-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-007		

Analyte	Result	RL
Gasoline C7-C12	53 Y	50

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

Field ID:	SB-16-20-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-008		

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

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

Total Volatile Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	228901
Units:	ug/L	Received:	10/29/15
Diln Fac:	1.000		

Field ID:	SB-16-30-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-009		

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-17-20-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-010		

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-17-30-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-011		

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-19-26-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-012		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	80-132

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

Total Volatile Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	228901
Units:	ug/L	Received:	10/29/15
Diln Fac:	1.000		

Field ID:	SB-19-36-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	10/31/15
Lab ID:	271127-013		

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Type:	BLANK	Analyzed:	10/30/15
Lab ID:	QC810609		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	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 #:	271127	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:	QC810608	Batch#:	228901
Matrix:	Water	Analyzed:	10/30/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,046	105	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	80-132

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	228901
MSS Lab ID:	271076-001	Sampled:	10/29/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	10/30/15
Diln Fac:	1.000		

Type: MS Lab ID: QC810610

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	362.4	2,000	2,401	102	76-120

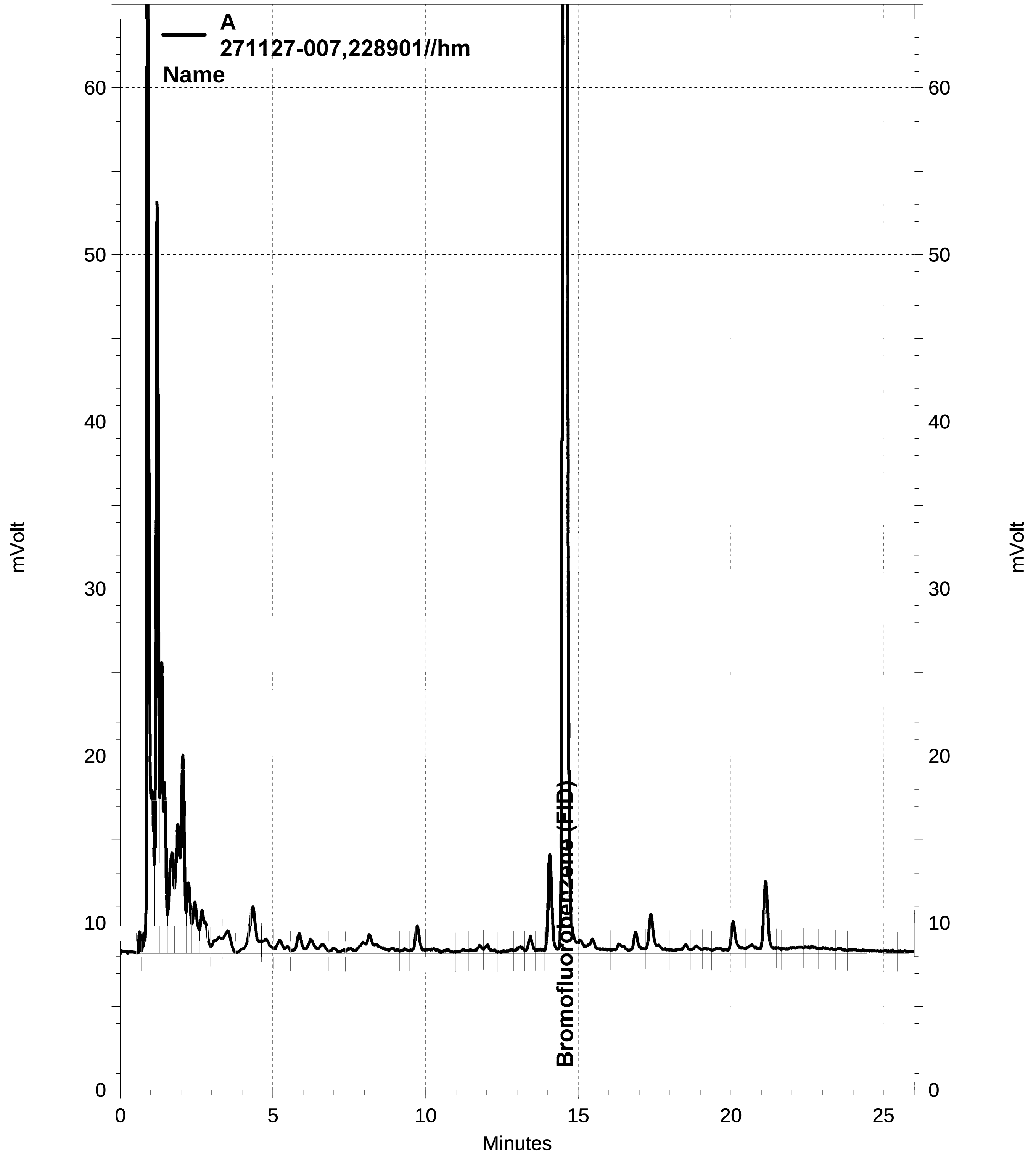
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	80-132

Type: MSD Lab ID: QC810611

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,263	95	76-120	6	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	80-132

RPD= Relative Percent Difference



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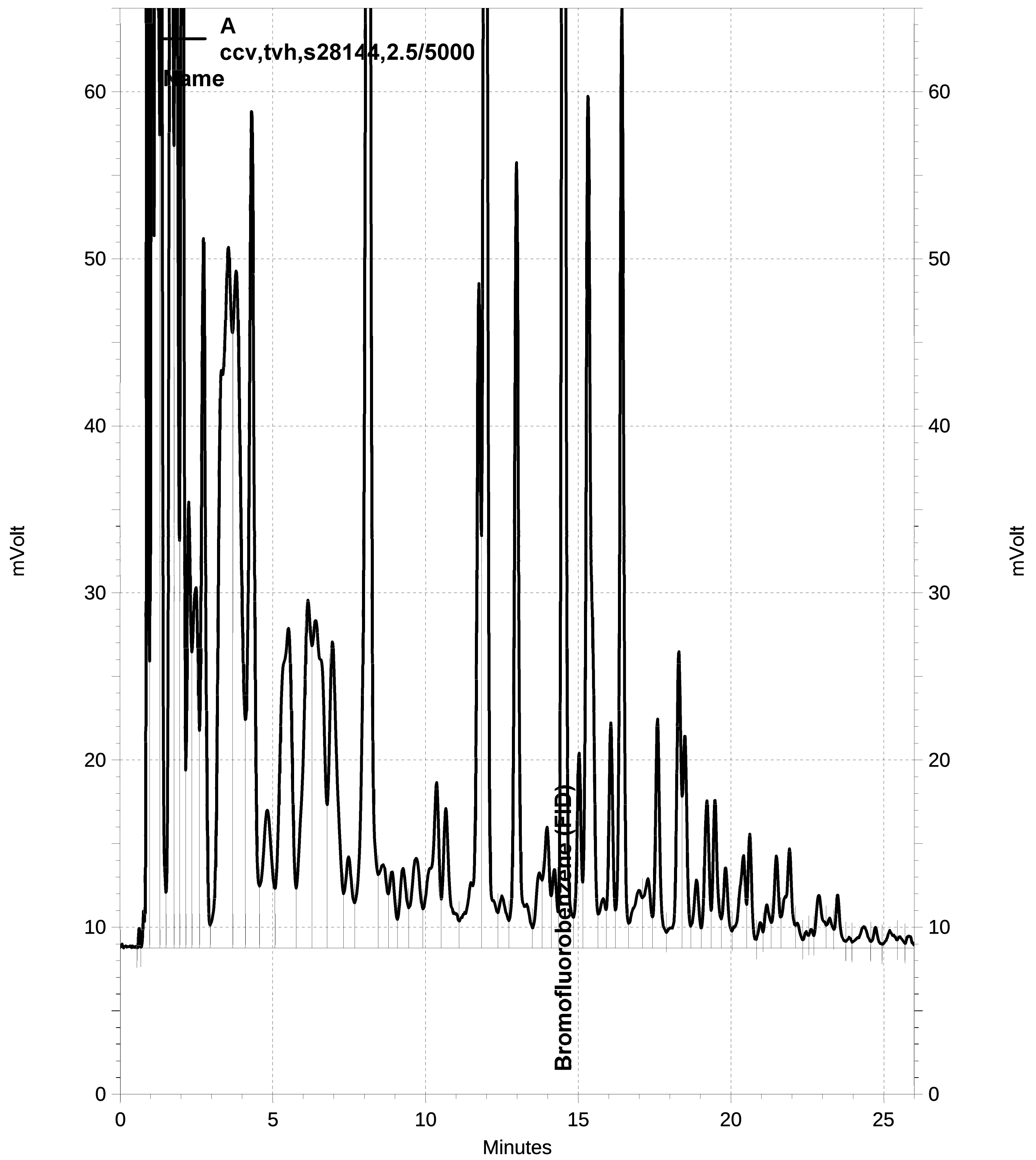

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Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271127 GCVOA Water: EPA 8015B

Inst   : GC19
Calnum : 345282641001
Units : ng

Name   : tvh_bfb196
Date   : 15-JUL-2015 09:20
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	196_004	345282641004	TVH_14	15-JUL-2015 09:20	S27569 (1000X), S27207 (5000X)
L2	196_005	345282641005	TVH_15	15-JUL-2015 09:58	S27568 (1000X), S27207 (5000X)
L3	196_006	345282641006	TVH_16	15-JUL-2015 10:35	S27567 (1000X), S27207 (5000X)
L4	196_007	345282641007	TVH_17	15-JUL-2015 11:13	S27566 (2000X), S27207 (5000X)
L5	196_008	345282641008	TVH_18	15-JUL-2015 11:50	S27566 (1000X), S27207 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	2168.2	1852.1	1751.5	1836.8	1753.5	AVRG		5.34E-4		1872.4	9	0.995	20	
Bromofluorobenzene (FID)	A	1558.2	1503.1	1561.6	1512.8	1774.1	AVRG		6.32E-4		1581.9	7	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	250.00	16	2500.0	-1	10000	-6	25000	-2	50000	-6
Bromofluorobenzene (FID)	A	900.00	-2	900.00	-5	900.00	-1	900.00	-4	900.00	12

Analyst: ERR Date: 07/16/15 Reviewer: EAH Date: 07/16/15

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

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271127 GCVOA Water
EPA 8015B

Inst : GC19
Calnum : 345282641001

Name : tvh_bfb196
Cal Date : 15-JUL-2015

ICV 345282641010 (196_010 15-JUL-2015) stds: S27613 (1000X), S27207 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9962	ng	0	15	

Analyst: ERR Date: 07/16/15 Reviewer: EAH Date: 07/16/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271127 GCVOA Water
EPA 8015B

Inst : GC19   Run Name : QC810608   IDF : 1.0
Seqnum : 345436957003.3   File : 303_003   Time : 30-OCT-2015 11:53
Cal : 345282641001   Caldate : 15-JUL-2015
Standards: S28144 (2000X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	1872.4	1959.4	5000	5232	ng	5	15	u
Bromofluorobenzene (FID)	A	1581.9	1488.0	900.0	846.5	ng	-6	15	u

CAR 11/02/15 : ccv/lcs, qc810608, 228901 [general version]

Analyst: CAR   Date: 11/02/15   Reviewer: EAH   Date: 11/04/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCVOA Water
EPA 8015B

Inst : GC19
Run Name : TVH
IDF : 1.0
Seqnum : 345436957012
File : 303_012
Time : 30-OCT-2015 19:18
Cal : 345282641001
Caldate : 15-JUL-2015
Standards: S28144 (1000X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	1872.4	1860.1	10000	9934	ng	-1	15	
Bromofluorobenzene (FID)	A	1581.9	1738.9	900.0	989.3	ng	10	15	

Analyst: CAR Date: 11/02/15 Reviewer: EAH Date: 11/02/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCVOA Water
EPA 8015B

Inst : GC19
Seqnum : 345436957013
Cal : 345282641001
Standards: S28144 (1000X), S28390 (5000X)

Run Name : TVH
File : 303_013
Caldate : 15-JUL-2015

IDF : 1.0
Time : 30-OCT-2015 19:56

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	1872.4	1850.5	10000	9883	ng	-1	15	
Bromofluorobenzene (FID)	A	1581.9	1618.3	900.0	920.7	ng	2	15	

Analyst: CAR Date: 11/02/15 Reviewer: EAH Date: 11/02/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCVOA Water
EPA 8015B

Inst : GC19
Run Name : TVH
IDF : 1.0
Seqnum : 345436957025
File : 303_025
Time : 31-OCT-2015 03:26
Cal : 345282641001
Caldate : 15-JUL-2015
Standards: S28144 (666.7X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	1872.4	1892.3	15000	15160	ng	1	15	
Bromofluorobenzene (FID)	A	1581.9	1757.5	900.0	999.9	ng	11	15	

Analyst: CAR Date: 11/02/15 Reviewer: EAH Date: 11/02/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCVOA Water
EPA 8015B

```
Inst   : GC19           Run Name : TVH           IDF  : 1.0
Seqnum : 345436957026   File     : 303_026       Time : 31-OCT-2015 04:04
Cal    : 345282641001   Caldate  : 15-JUL-2015
Standards: S28144 (666.7X), S28390 (5000X)
```

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	1872.4	1807.0	15000	14480	ng	-3	15	
Bromofluorobenzene (FID)	A	1581.9	1699.5	900.0	966.9	ng	7	15	

Analyst: CAR Date: 11/02/15 Reviewer: EAH Date: 11/02/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCVOA Water
EPA 8015B

Inst : GC19
Run Name : TVH
IDF : 1.0
Seqnum : 345436957033
File : 303_033
Time : 31-OCT-2015 08:27
Cal : 345282641001
Caldate : 15-JUL-2015
Standards: S28144 (666.7X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	1872.4	1791.9	15000	14360	ng	-4	15	
Bromofluorobenzene (FID)	A	1581.9	1691.9	900.0	962.6	ng	7	15	

Analyst: CAR Date: 11/02/15 Reviewer: EAH Date: 11/02/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 345282641

Instrument : GC19
Method : EPA 8015B, EPA 8021B

Begun : 07/15/15 06:41
SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	196_001	X	CMARKER			07/15/15 06:41	1.0	1 2	
002	196_002	CCV	BTXE			07/15/15 07:23	1.0	3 2	
003	196_003	IB	CALIB			07/15/15 08:42	1.0	2	
004	196_004	ICAL	TVH_14			07/15/15 09:20	1.0	4 2	
005	196_005	ICAL	TVH_15			07/15/15 09:58	1.0	5 2	
006	196_006	ICAL	TVH_16			07/15/15 10:35	1.0	6 2	
007	196_007	ICAL	TVH_17			07/15/15 11:13	1.0	7 2	
008	196_008	ICAL	TVH_18			07/15/15 11:50	1.0	7 2	
009	196_009	X	IB			07/15/15 12:28	1.0	2	
010	196_010	ICV	TVH			07/15/15 13:06	1.0	8 2	
011	196_011	X	ICV			07/15/15 13:43	1.0	8 2	
012	196_012	CMARKER	CMARK			07/15/15 14:21	1.0	9 2	

ERR 07/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

Reviewed by: ERR Date: 07/16/15

Standards used: 1=S27332 2=S27207 3=S27205 4=S27569 5=S27568 6=S27567 7=S27566 8=S27613 9=S26730

Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 345436957

Instrument : GC19　　Begun : 10/30/15 10:37
Method : EPA 8015B, EPA 8021B　　SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	303_001	X	CMARKER			10/30/15 10:37	1.0	1 2	
002	303_002	CCV/BS	QC810625	Water	228901	10/30/15 11:15	1.0	3 2	
003	303_003	CCV/LCS	QC810608	Water	228901	10/30/15 11:53	1.0	4 2	
004	303_004	BSD	QC810626	Water	228901	10/30/15 12:30	1.0	3 2	
005	303_005	BLANK	QC810609	Water	228901	10/30/15 13:22	1.0	2	
006	303_006	MSS	271076-001	Water	228901	10/30/15 15:32	1.0	2	
007	303_007	MS	QC810610	Water	228901	10/30/15 16:10	1.0	4 2	
008	303_008	MSD	QC810611	Water	228901	10/30/15 16:47	1.0	4 2	
009	303_009	SAMPLE	271076-002	Water	228901	10/30/15 17:25	1.0	2	
010	303_010	SAMPLE	271076-003	Water	228901	10/30/15 18:03	1.0	2	
011	303_011	SAMPLE	271080-001	Water	228901	10/30/15 18:40	1.0	2	
012	303_012	CCV	TVH			10/30/15 19:18	1.0	4 2	
013	303_013	CCV	TVH			10/30/15 19:56	1.0	4 2	
014	303_014	X	CMARKER			10/30/15 20:33	1.0	1 2	
015	303_015	CCV	BTXE			10/30/15 21:11	1.0	3 2	
016	303_016	CCV	BTXE			10/30/15 21:48	1.0	3 2	
017	303_017	SAMPLE	271127-001	Water	228901	10/30/15 22:26	1.0	2	
018	303_018	SAMPLE	271127-002	Water	228901	10/30/15 23:03	1.0	2	headspace <= 1 mL
019	303_019	SAMPLE	271127-003	Water	228901	10/30/15 23:41	1.0	2	headspace <= 1 mL
020	303_020	SAMPLE	271127-004	Water	228901	10/31/15 00:19	1.0	2	headspace <= 1 mL
021	303_021	SAMPLE	271127-005	Water	228901	10/31/15 00:56	1.0	2	headspace <= 1 mL
022	303_022	SAMPLE	271127-006	Water	228901	10/31/15 01:34	1.0	2	
023	303_023	SAMPLE	271127-007	Water	228901	10/31/15 02:11	1.0	2	headspace > 1 mL
024	303_024	SAMPLE	271127-008	Water	228901	10/31/15 02:49	1.0	2	
025	303_025	CCV	TVH			10/31/15 03:26	1.0	4 2	
026	303_026	CCV	TVH			10/31/15 04:04	1.0	4 2	
027	303_027	X	CMARKER			10/31/15 04:42	1.0	1 2	
028	303_028	SAMPLE	271127-009	Water	228901	10/31/15 05:19	1.0	2	headspace <= 1 mL
029	303_029	SAMPLE	271127-010	Water	228901	10/31/15 05:57	1.0	2	
030	303_030	SAMPLE	271127-011	Water	228901	10/31/15 06:34	1.0	2	headspace <= 1 mL
031	303_031	SAMPLE	271127-012	Water	228901	10/31/15 07:12	1.0	2	headspace <= 1 mL
032	303_032	SAMPLE	271127-013	Water	228901	10/31/15 07:49	1.0	2	headspace <= 1 mL
033	303_033	CCV	TVH			10/31/15 08:27	1.0	4 2	
034	303_034	CCV	TVH			10/31/15 09:05	1.0	4 2	
035	303_035	X	CMARKER			10/31/15 09:42	1.0	1 2	

CAR 11/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 35.

Reviewed by: CAR　　Date: 11/02/15

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

Laboratory Job Number 271127

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Total Extractable Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	228909
Units:	ug/L	Received:	10/29/15
Diln Fac:	1.000	Prepared:	10/30/15

Field ID:	SB-13-16-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-001		

Analyte	Result	RL	MDL
Diesel C10-C24	260 Y	52	17

Surrogate	%REC	Limits
o-Terphenyl	104	67-136

Field ID:	SB-13-26-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-002		

Analyte	Result	RL	MDL
Diesel C10-C24	380 Y	52	17

Surrogate	%REC	Limits
o-Terphenyl	107	67-136

Field ID:	SB-14-20-FD	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-003		

Analyte	Result	RL	MDL
Diesel C10-C24	130 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	103	67-136

Field ID:	SB-14-20-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-004		

Analyte	Result	RL	MDL
Diesel C10-C24	130 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	86	67-136

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	228909
Units:	ug/L	Received:	10/29/15
Diln Fac:	1.000	Prepared:	10/30/15

Field ID:	SB-14-30-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-005		

Analyte	Result	RL	MDL
Diesel C10-C24	150 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	95	67-136

Field ID:	SB-15-20-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-006		

Analyte	Result	RL	MDL
Diesel C10-C24	60 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	97	67-136

Field ID:	SB-15-30-NS	Sampled:	10/27/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-007		

Analyte	Result	RL	MDL
Diesel C10-C24	370 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

Field ID:	SB-16-20-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-008		

Analyte	Result	RL	MDL
Diesel C10-C24	180 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	105	67-136

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	228909
Units:	ug/L	Received:	10/29/15
Diln Fac:	1.000	Prepared:	10/30/15

Field ID:	SB-16-30-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-009		

Analyte	Result	RL	MDL
Diesel C10-C24	99 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	104	67-136

Field ID:	SB-17-20-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	11/03/15
Lab ID:	271127-010		

Analyte	Result	RL	MDL
Diesel C10-C24	210 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	91	67-136

Field ID:	SB-17-30-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	11/04/15
Lab ID:	271127-011		

Analyte	Result	RL	MDL
Diesel C10-C24	150 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

Field ID:	SB-19-26-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	11/04/15
Lab ID:	271127-012		

Analyte	Result	RL	MDL
Diesel C10-C24	170 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	88	67-136

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	228909
Units:	ug/L	Received:	10/29/15
Diln Fac:	1.000	Prepared:	10/30/15

Field ID:	SB-19-36-NS	Sampled:	10/26/15
Type:	SAMPLE	Analyzed:	11/04/15
Lab ID:	271127-013		

Analyte	Result	RL	MDL
Diesel C10-C24	220 Y	50	16

Surrogate	%REC	Limits
o-Terphenyl	105	67-136

Type:	BLANK	Analyzed:	11/03/15
Lab ID:	QC810641		

Analyte	Result	RL	MDL
Diesel C10-C24	44 J	50	16

Surrogate	%REC	Limits
o-Terphenyl	97	67-136

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
RL= Reporting Limit
MDL= Method Detection Limit

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC810642	Batch#:	228909
Matrix:	Water	Prepared:	10/30/15
Units:	ug/L	Analyzed:	11/03/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,070	83	60-121

Surrogate	%REC	Limits
o-Terphenyl	97	67-136

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Field ID:	SB-15-20-NS	Batch#:	228909
MSS Lab ID:	271127-006	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Prepared:	10/30/15
Diln Fac:	1.000	Analyzed:	11/03/15

Type: MS   Lab ID: QC810643

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	59.54	2,500	1,939	75	55-122

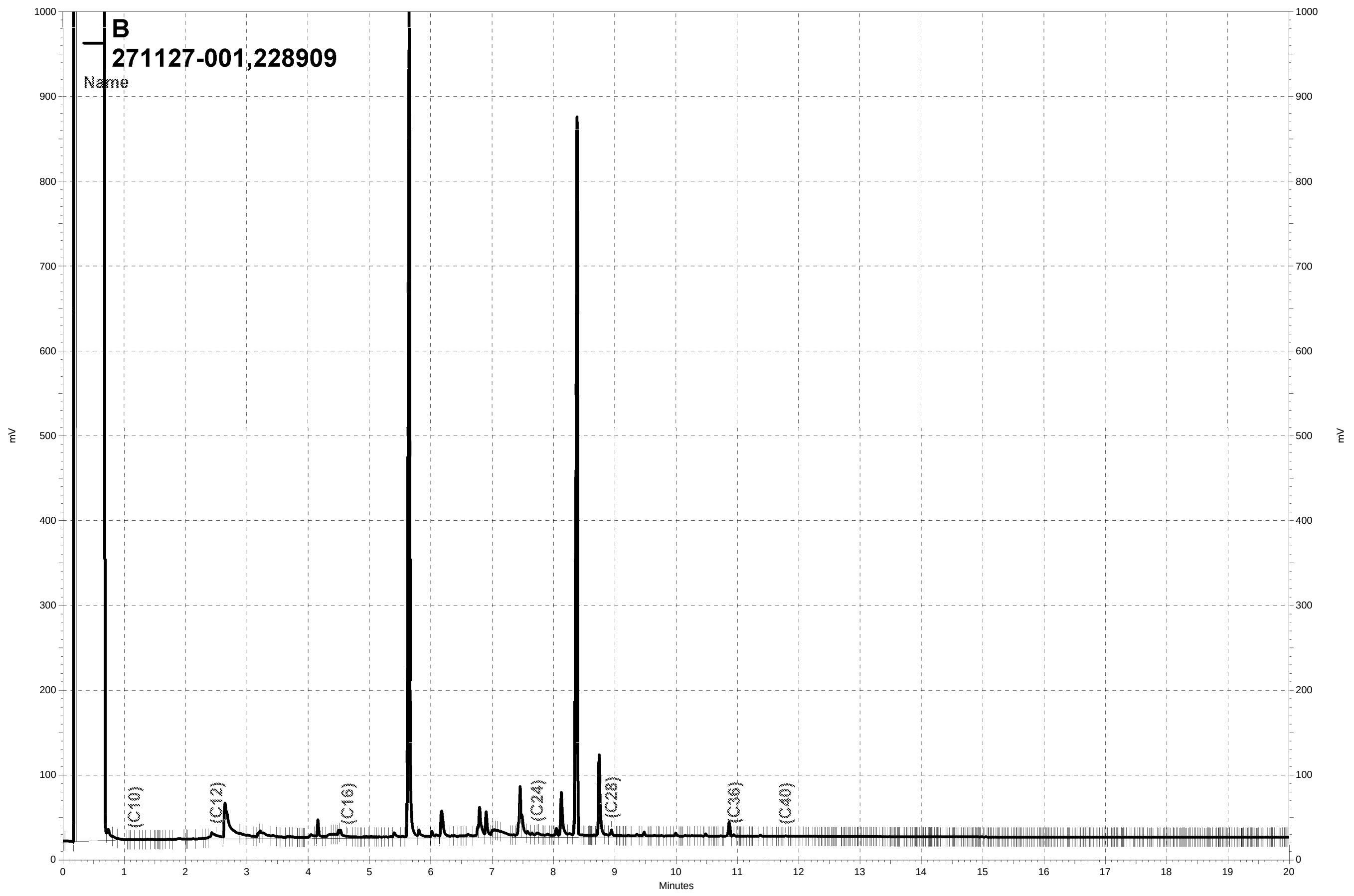
Surrogate	%REC	Limits
o-Terphenyl	72	67-136

Type: MSD   Lab ID: QC810644

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,364	92	55-122	20	53

Surrogate	%REC	Limits
o-Terphenyl	101	67-136

RPD= Relative Percent Difference



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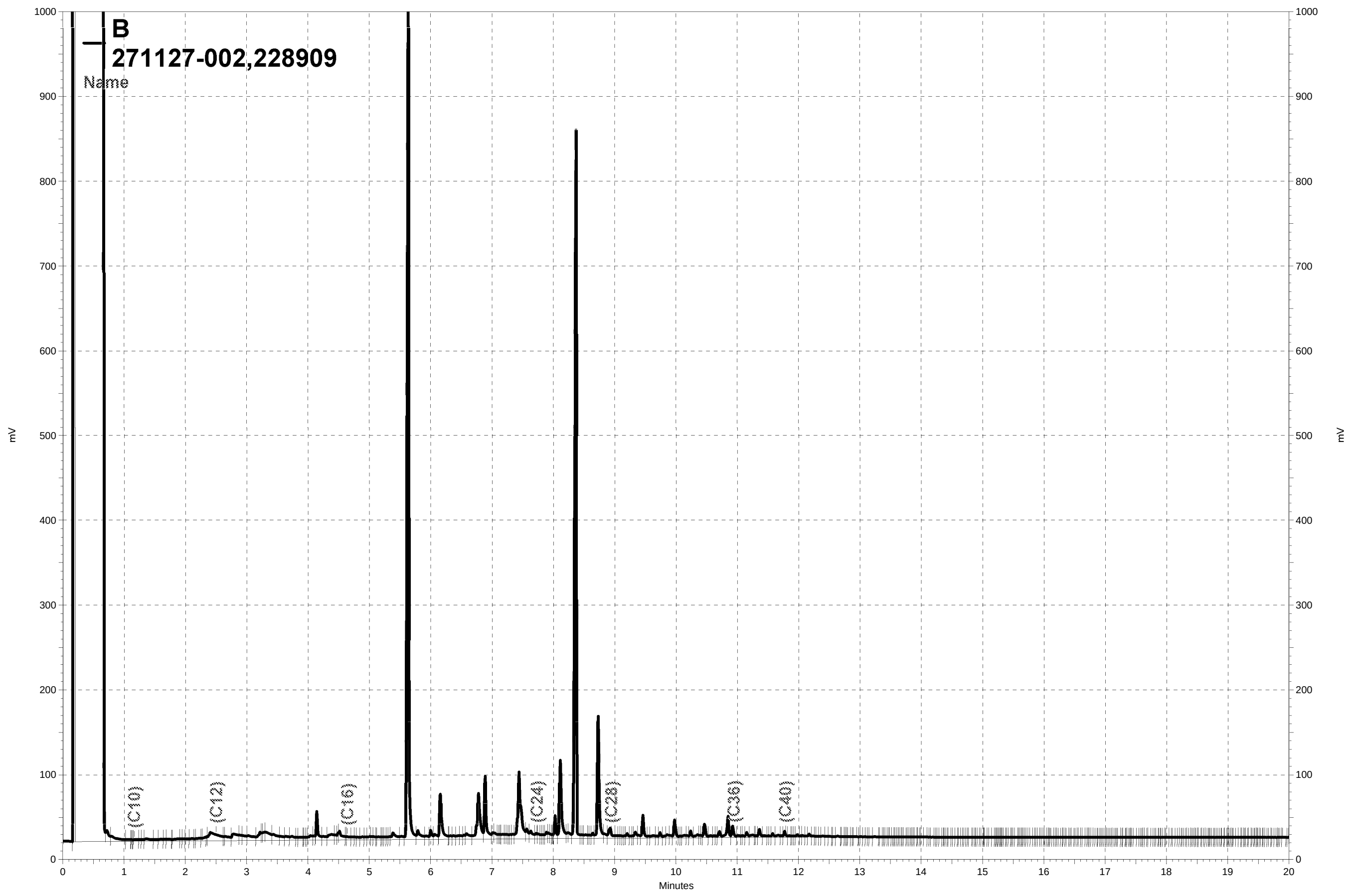

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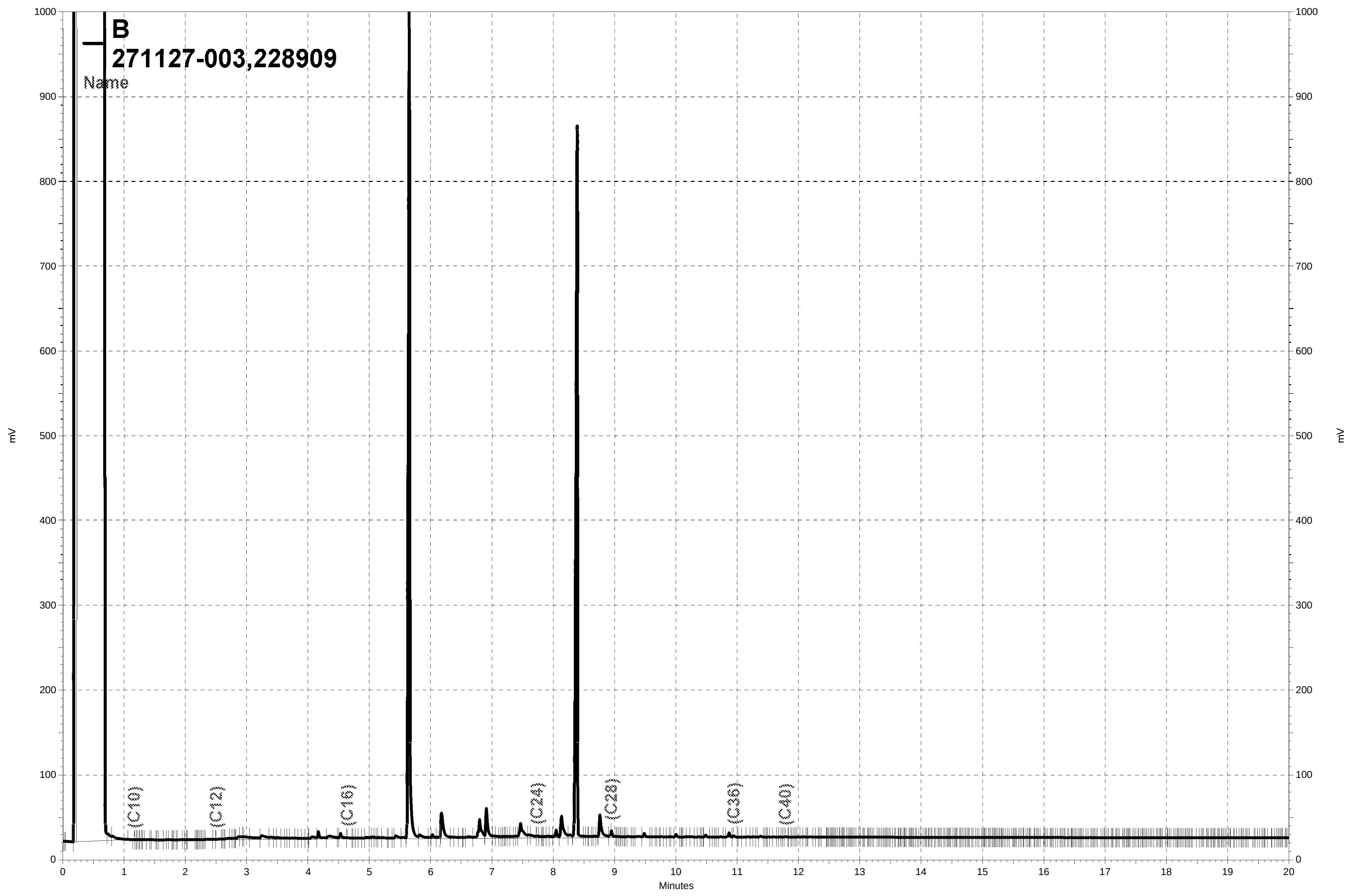

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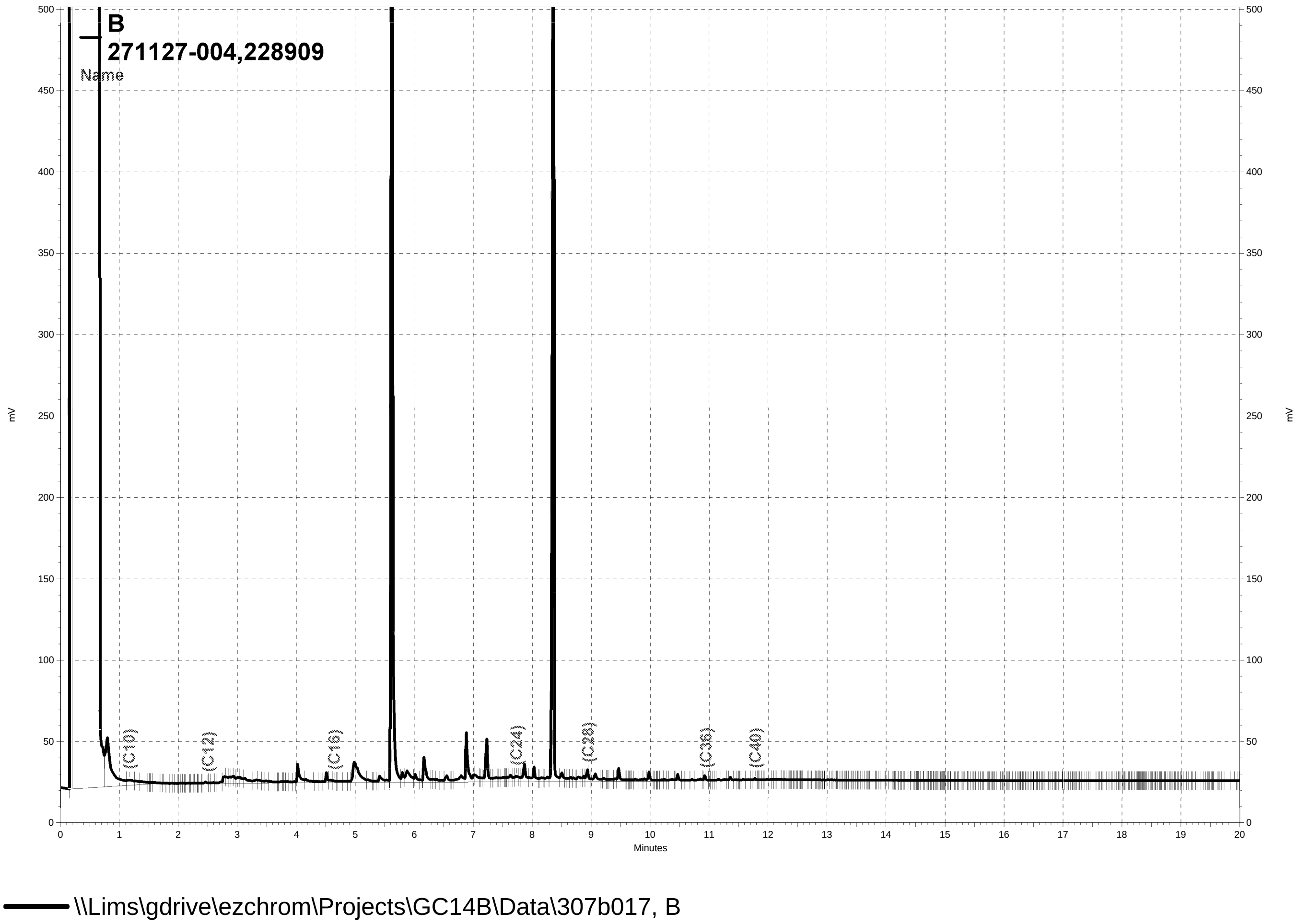
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(C12)
(C16)
(C24)
(C28)
(C36)
(C40)
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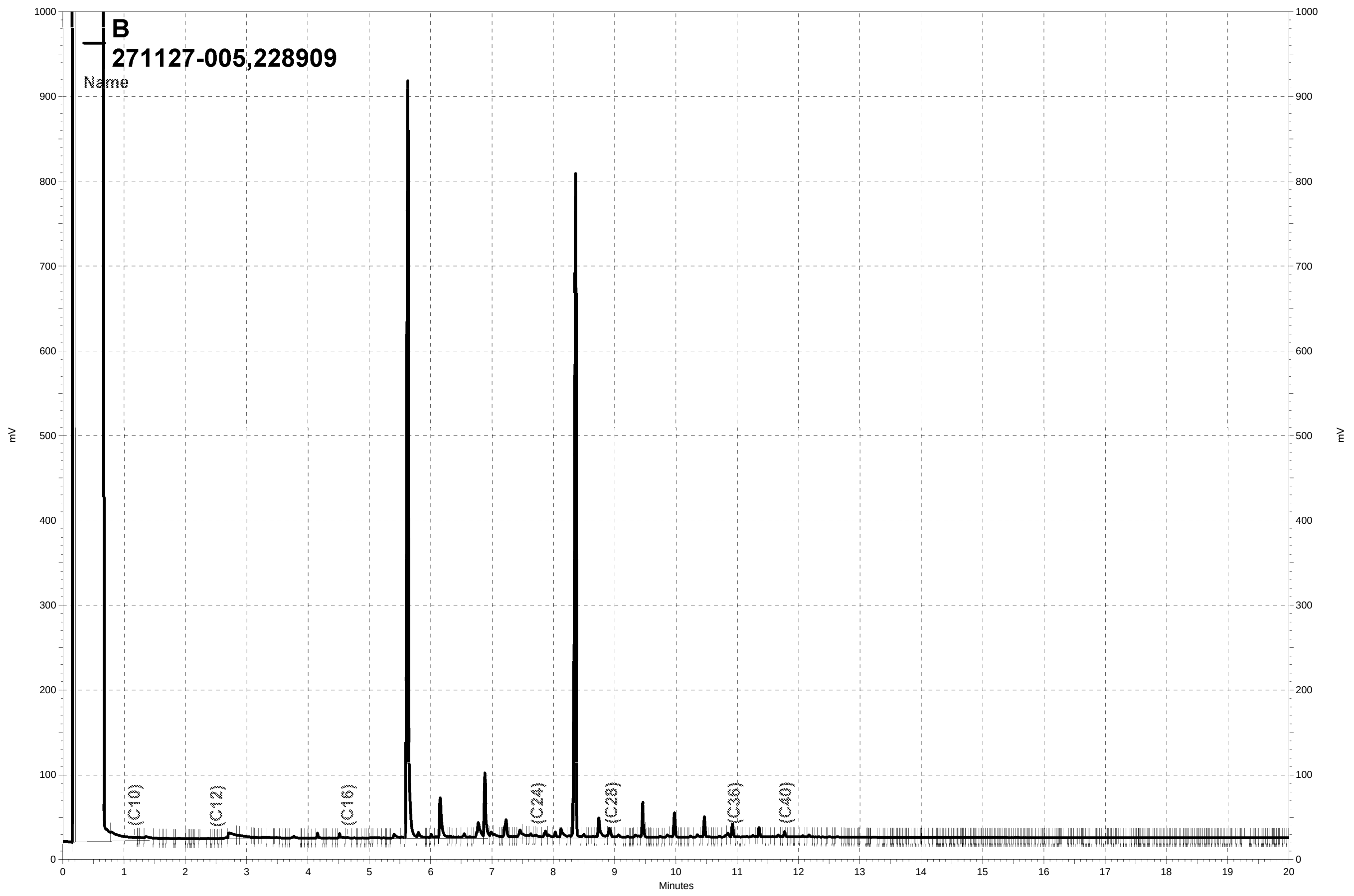

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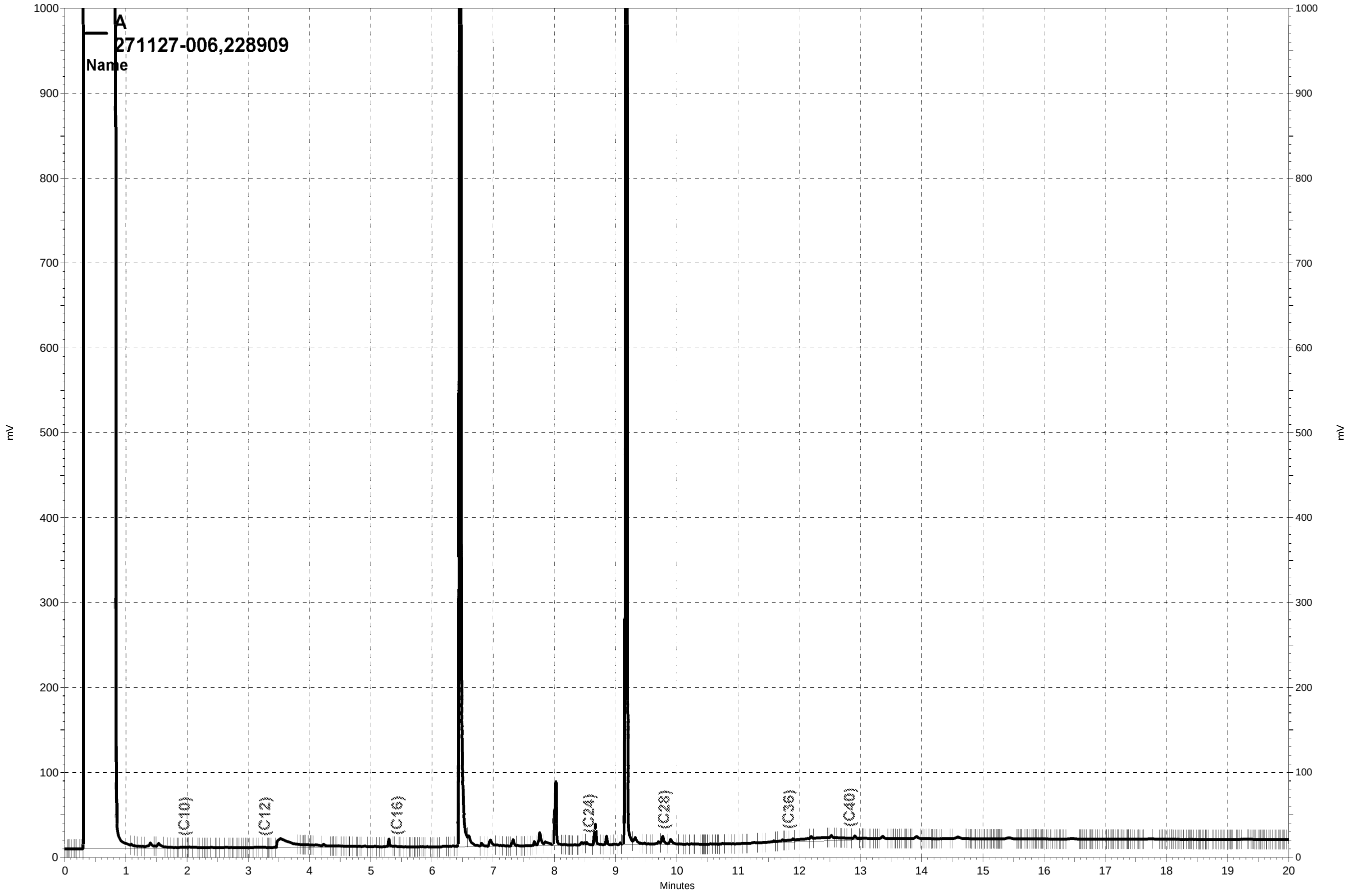

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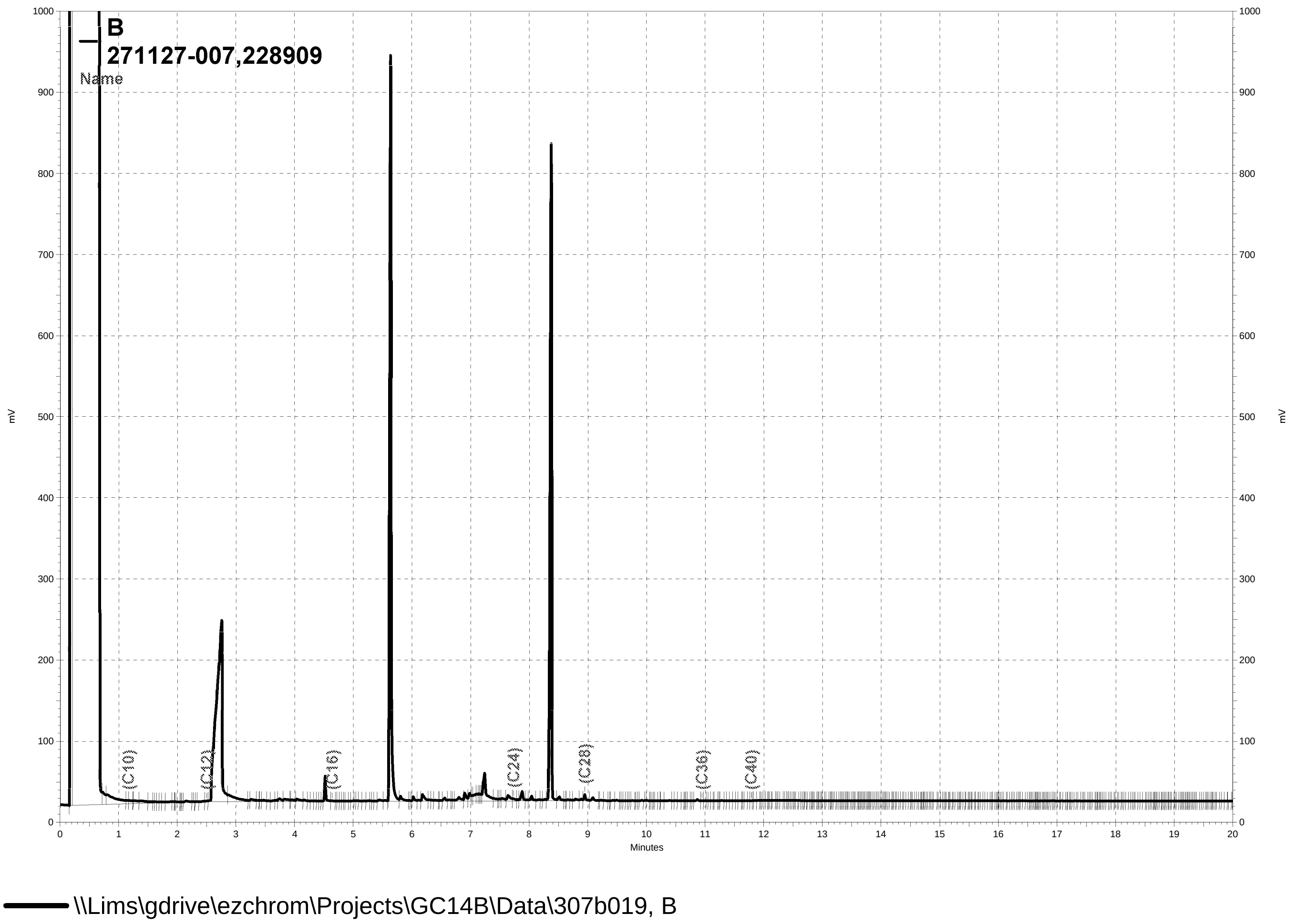
B
271127-007,228909
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800
700
600
500
400
300
200
100
0
mV
(C10)
(C12)
(C16)
(C24)
(C28)
(C36)
(C40)
0
1
2
3
4
5
6
7
8
9
10
11
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19
20
Minutes
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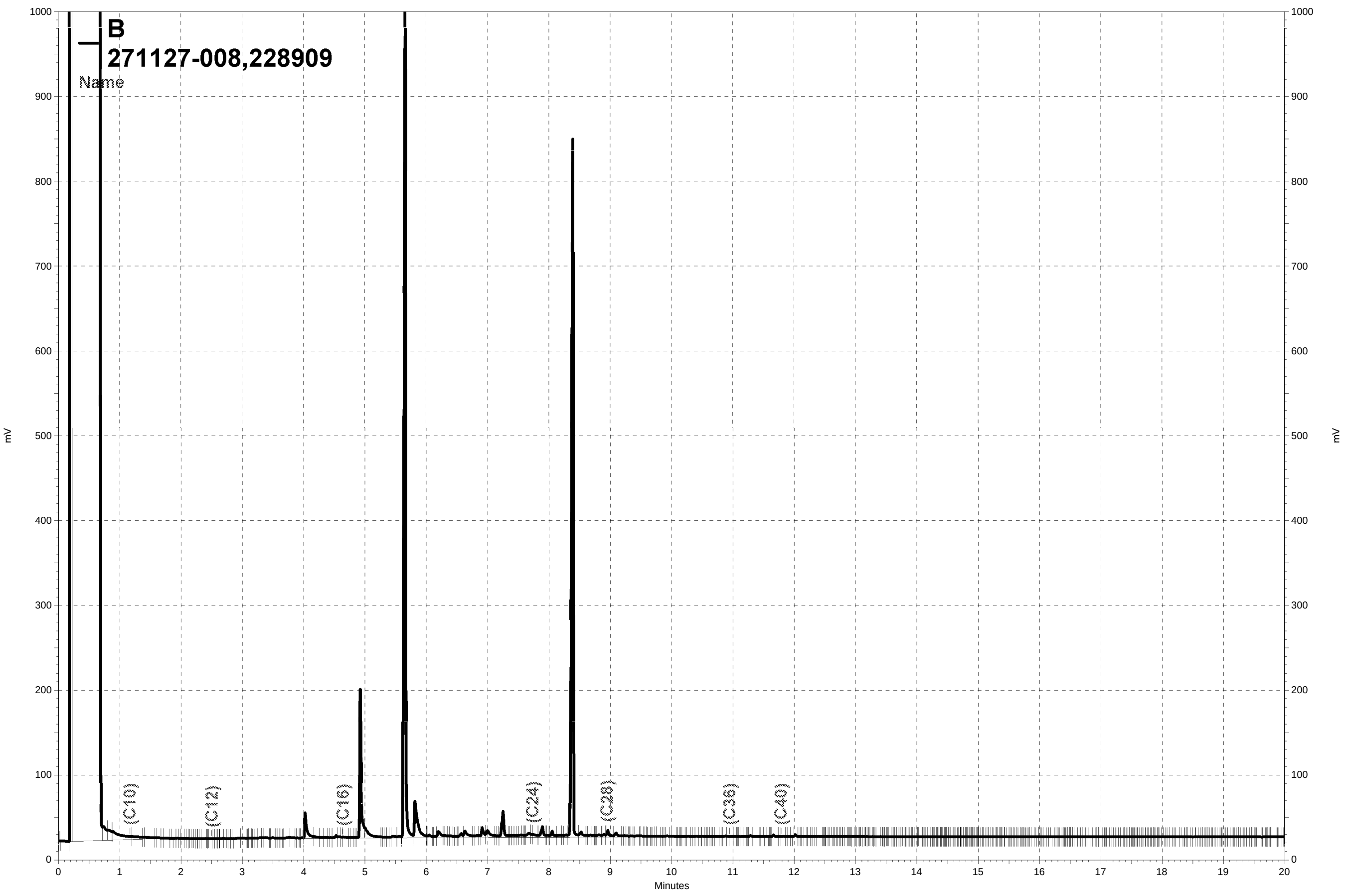

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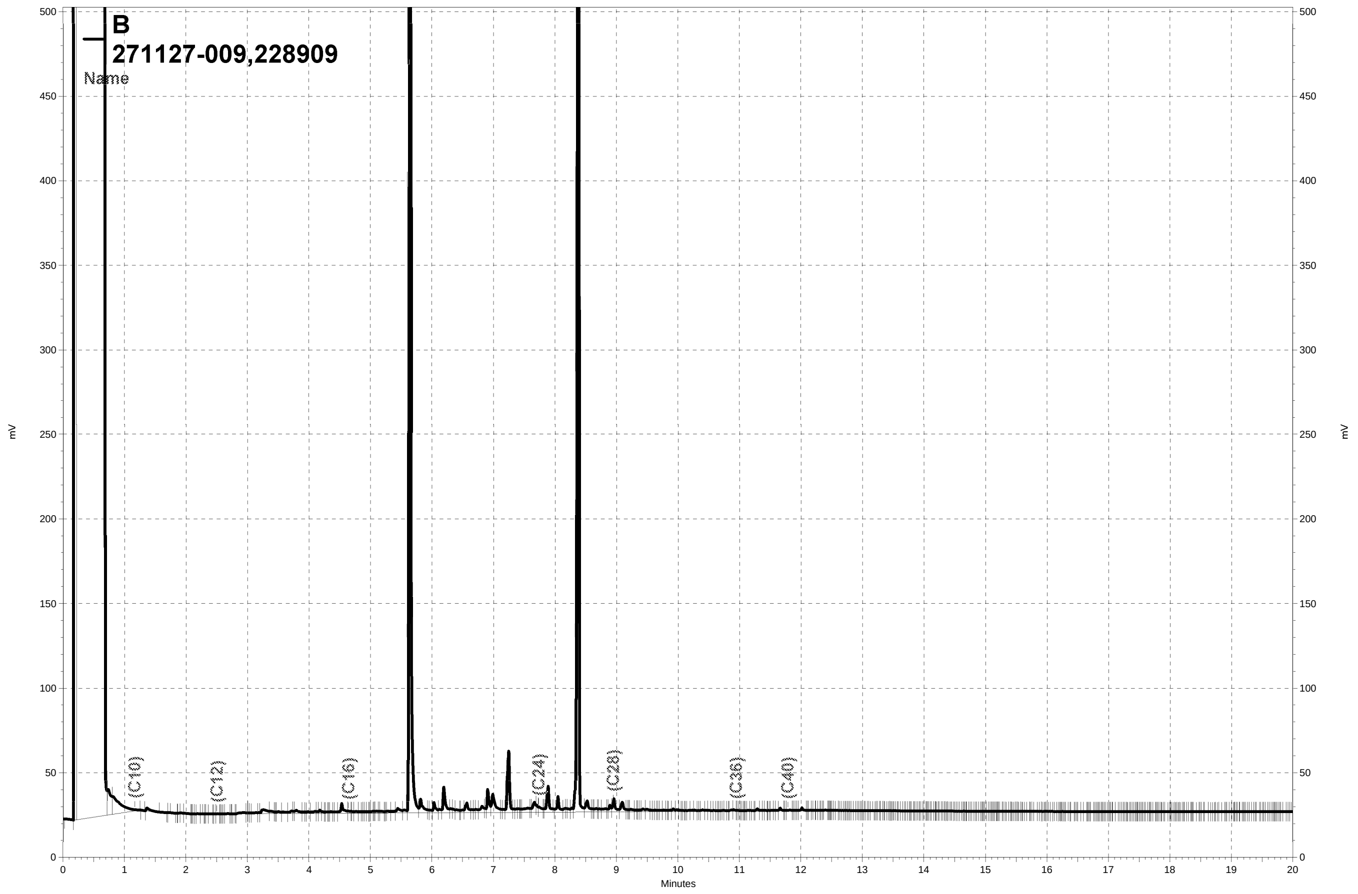

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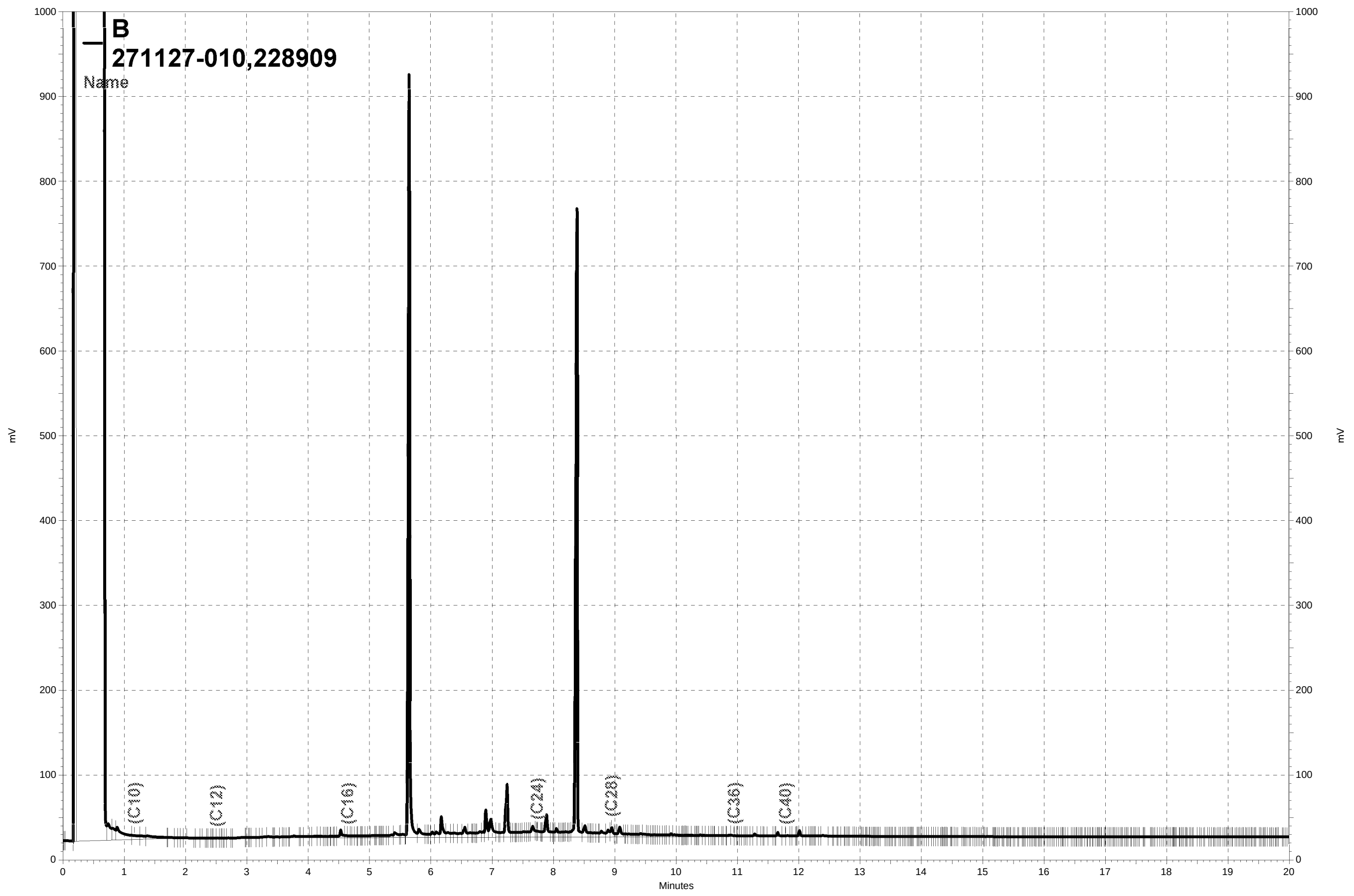

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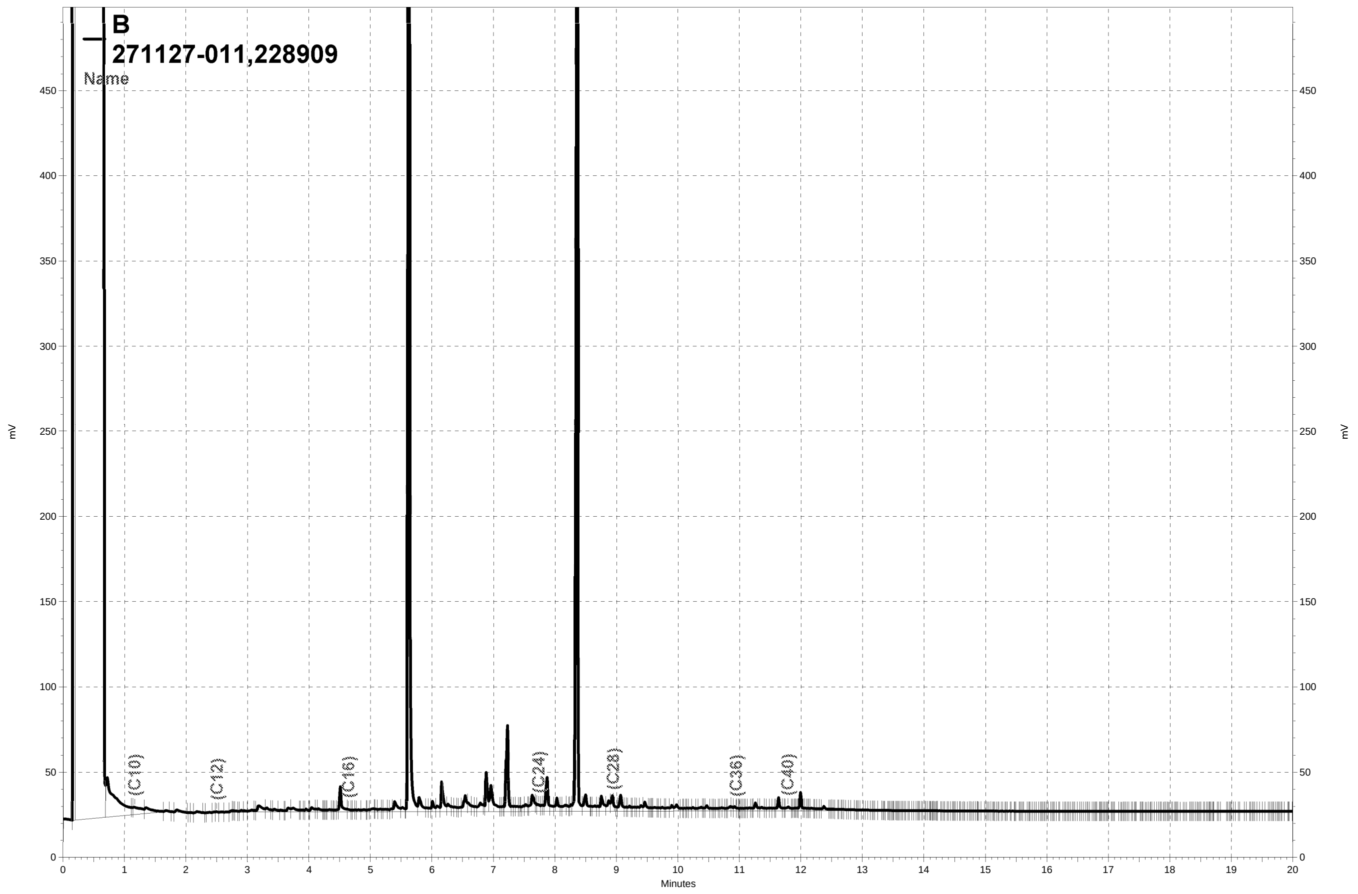

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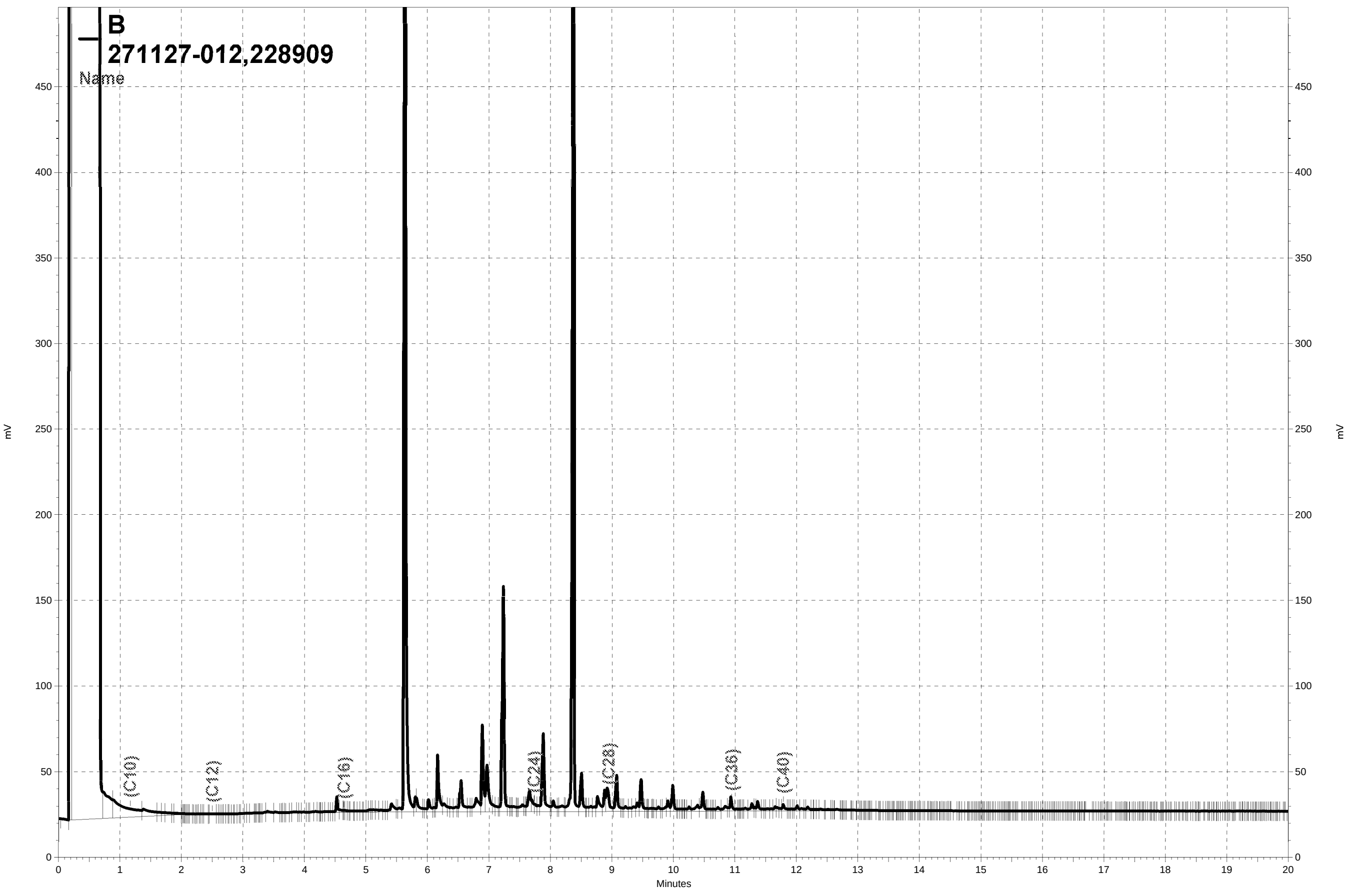

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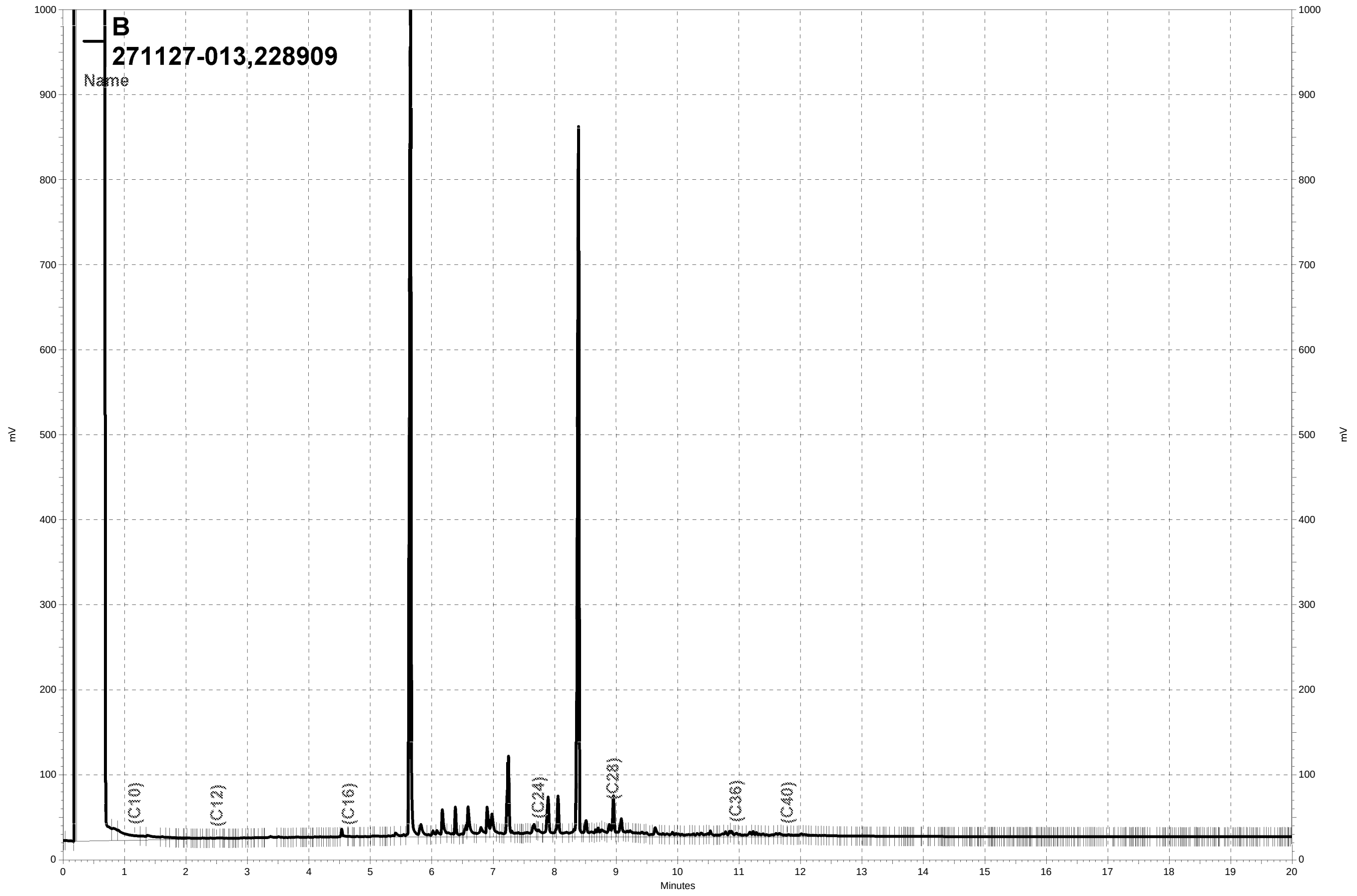

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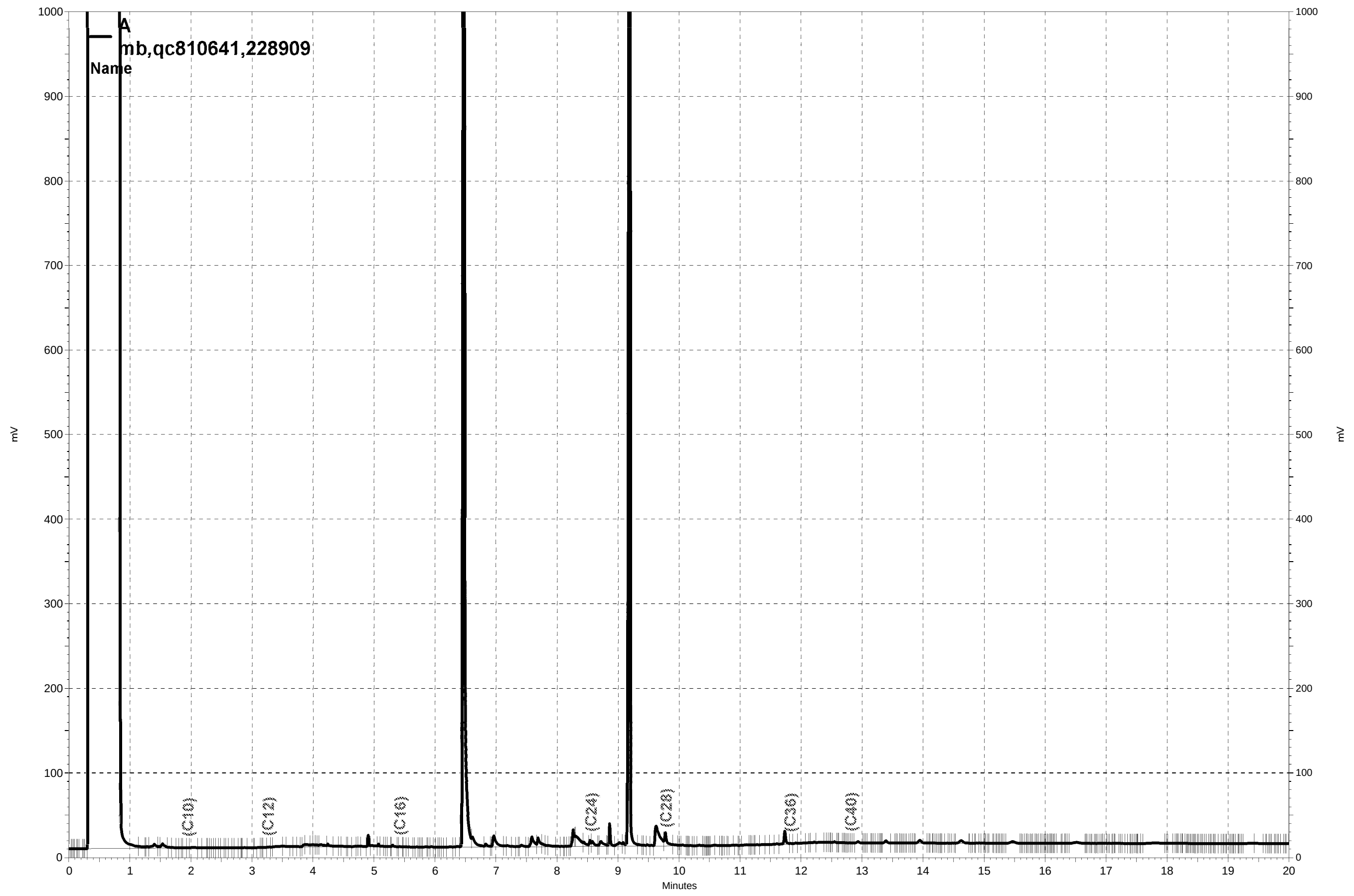

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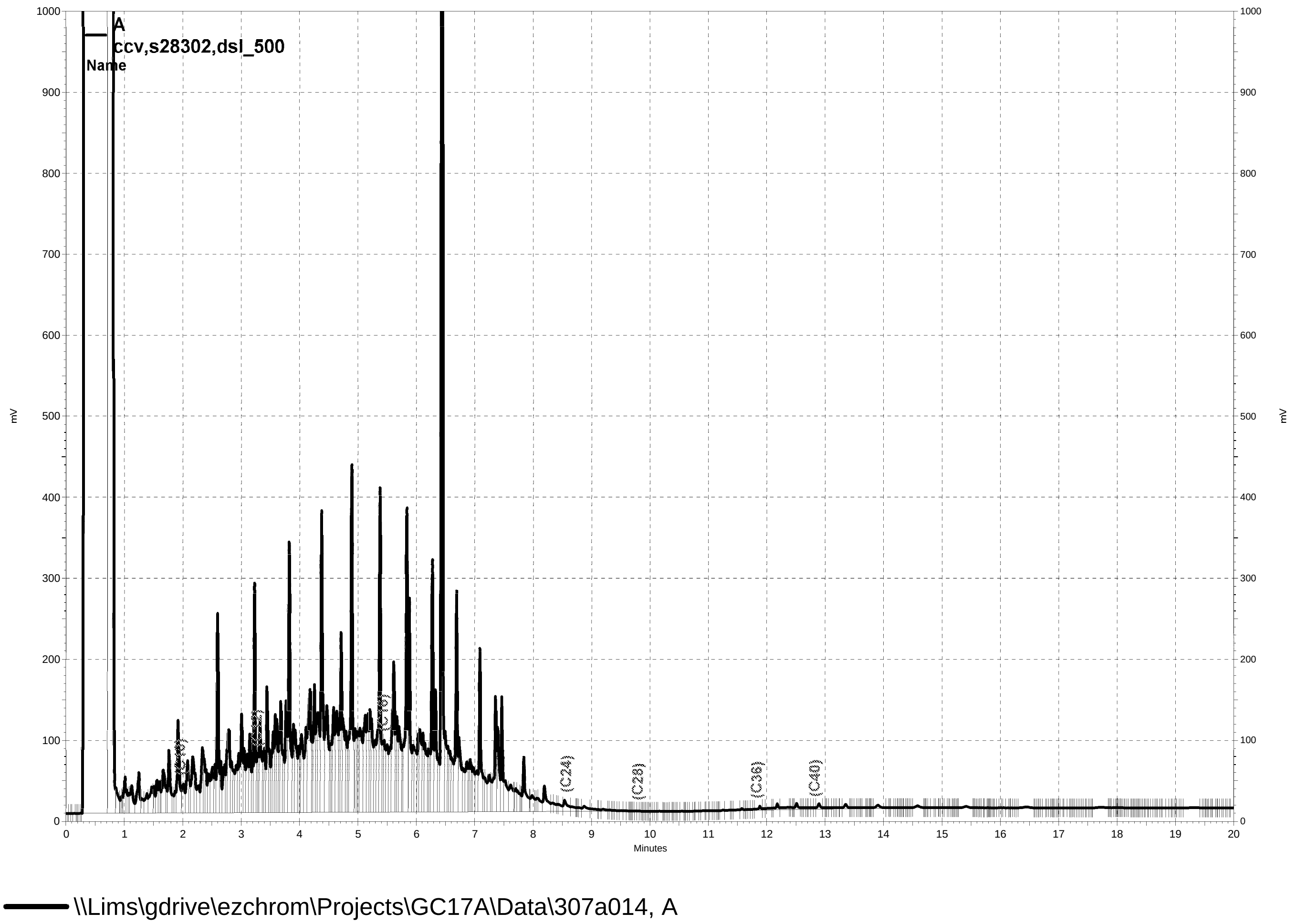
A
ccv,s28302,dsl_500
Name
mV
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900
800
700
600
500
400
300
200
100
0
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Minutes
(C24)
(C28)
(C36)
(C40)
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\307a014, A

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271127 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 224523202001
Units : mg/L

Name : DSL_364
Date : 29-DEC-2014 15:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	364_009	224523202009	DSL_10	29-DEC-2014 15:35	S26213
L2	364_010	224523202010	DSL_100	29-DEC-2014 16:04	S25844
L3	364_011	224523202011	DSL_500	29-DEC-2014 16:32	S25845
L4	364_012	224523202012	DSL_1000	29-DEC-2014 17:00	S25846
L5	364_013	224523202013	DSL_5000	29-DEC-2014 17:28	S25842

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	B	22270	35068	37375	37151	34353	AVRG		3.01E-5		33243	19	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	B	10.000	**-33**	100.00	5	500.00	12	1000.0	12	5000.0	3

SFL 12/30/14 : Samples that require carbon ranges Diesel C16-C24 will not be loaded on this instrument.

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

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

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271127 GCSV Water
EPA 8015B

Inst : GC14B
Calnum : 224523202001

Name : DSL_364
Cal Date : 29-DEC-2014

ICV 224523202016 (364_016 29-DEC-2014) stds: S25996

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	B	500.0	543.3	mg/L	9	15	

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271127 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 225426669001
Units : mg/L

Name : OTPHEX_296
Date : 23-OCT-2015 14:10
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	296_006	225426669006	HEX OTP_5	23-OCT-2015 14:10	S27409
L2	296_007	225426669007	HEX OTP_10	23-OCT-2015 14:40	S27410
L3	296_008	225426669008	HEX OTP_25	23-OCT-2015 15:09	S27411
L4	296_009	225426669009	HEX OTP_50	23-OCT-2015 15:39	S27412
L5	296_010	225426669010	HEX OTP_100	23-OCT-2015 16:09	S27413
L6	296_011	225426669011	HEX OTP_200	23-OCT-2015 16:38	S27414

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	30954	31774	31981	35007	33195	32269	AVRG		3.07E-5		32530	4	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.0000	-5	10.000	-2	25.000	-2	50.000	8	100.00	2	200.00	-1

SFL 10/24/15 : Corrected automatically drawn baseline in HEX OTP_200 (296_011).

SFL 10/24/15 : Any samples that require HEXACOSANE will not be loaded on this instrument.

Analyst: SFL Date: 10/24/15 Reviewer: EAH Date: 10/26/15

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

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271127 GCSV Water: 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 271127 GCSV Water
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 271127 GCSV Water: 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 271127 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_250 IDF : 1.0
Seqnum : 225442498010 File : 307_010 Time : 03-NOV-2015 14:31
Standards: S28301

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	32755	250.0	246.3	mg/L	-1	15	
o-Terphenyl	B	225426669001	23-OCT-2015	32530	34621	50.00	53.21	mg/L	6	15	

JDG 11/04/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/04/15 Reviewer: EAH Date: 11/06/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCSV Water
EPA 8015B

Inst : GC14B
Run Name : DSL_500
IDF : 1.0
Seqnum : 225442498022
File : 307_022
Time : 03-NOV-2015 21:51
Standards: S28302

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	31186	500.0	469.1	mg/L	-6	15	
o-Terphenyl	B	225426669001	23-OCT-2015	32530	35087	50.00	53.93	mg/L	8	15	

JDG 11/04/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/04/15 Reviewer: TKM Date: 11/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCSV Water
EPA 8015B

Inst : GC14B
Run Name : DSL_1000
IDF : 1.0
Seqnum : 225442498037
File : 307_037
Time : 04-NOV-2015 05:15
Standards: S28303

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	30744	1000	924.8	mg/L	-8	15	
o-Terphenyl	B	225426669001	23-OCT-2015	32530	34617	50.00	53.21	mg/L	6	15	

JDG 11/04/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/04/15 Reviewer: TKM Date: 11/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCSV Water
EPA 8015B

```
Inst   : GC17A            Run Name : MO_500          IDF  : 1.0
Seqnum : 175442494013     File     : 307a013         Time : 03-NOV-2015 13:01
Cal    : 175394216001     Caldate  : 30-SEP-2015
Standards: S28150
```

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	71191	78350	50.00	55.03	mg/L	10	15	

JDG 11/03/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/03/15 Reviewer: EAH Date: 11/03/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCSV Water
EPA 8015B

Inst : GC17A
Run Name : DSL_500
IDF : 1.0
Seqnum : 175442494014
File : 307a014
Time : 03-NOV-2015 13:29
Standards: S28302

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	60545	500.0	475.6	mg/L	-5	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	70994	50.00	49.86	mg/L	0	15	

JDG 11/03/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/03/15 Reviewer: EAH Date: 11/03/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCSV Water
EPA 8015B

```
Inst   : GC17A          Run Name : MO_500        IDF  : 1.0
Seqnum : 175442494027   File     : 307a027       Time : 03-NOV-2015 21:09
Cal    : 175394216001   Caldate  : 30-SEP-2015
Standards: S28150
```

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	71191	78179	50.00	54.91	mg/L	10	15	

JDG 11/04/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/04/15 Reviewer: TKM Date: 11/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271127 GCSV Water
EPA 8015B

Inst : GC17A
Run Name : DSL_1000
IDF : 1.0
Seqnum : 175442494028
File : 307a028
Time : 03-NOV-2015 21:37
Standards: S28303

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	61293	1000	962.9	mg/L	-4	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	75069	50.00	52.72	mg/L	5	15	

JDG 11/04/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/04/15 Reviewer: TKM Date: 11/04/15

Logbooks & Sequences

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.

Standards used: 1=S27409 2=S27410 3=S27411 4=S27412 5=S27413 6=S27414

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175442494

Instrument : GC17A
Method : EPA 8015B

Begun : 11/03/15 06:54
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	307a001	X	IB				11/03/15 06:54	1.0		
002	307a002	X	CMARKER				11/03/15 07:22	1.0	1	
003	307a003	CCV	MO_500				11/03/15 08:02	1.0	2	
004	307a004	CCV	DSL_250				11/03/15 08:30	1.0	3	
005	307a005	BLANK	QC810830	S	Soil	228956	11/03/15 08:58	1.0		
006	307a006	BLANK	QC810830		Soil	228956	11/03/15 09:27	1.0		
007	307a007	LCS	QC810831	S	Soil	228956	11/03/15 09:55	1.0		
008	307a008	LCS	QC810831		Soil	228956	11/03/15 10:28	1.0		
009	307a009	SAMPLE	271137-001		Soil	228956	11/03/15 10:57	1.0		
010	307a010	MSS	271126-001		Soil	228956	11/03/15 11:36	5.0		
011	307a011	MS	QC810832		Soil	228956	11/03/15 12:04	5.0		
012	307a012	MSD	QC810833		Soil	228956	11/03/15 12:33	5.0		
013	307a013	CCV	MO_500				11/03/15 13:01	1.0	2	
014	307a014	CCV	DSL_500				11/03/15 13:29	1.0	4	
015	307a015	BLANK	QC810641		Water	228909	11/03/15 15:30	1.0		
016	307a016	LCS	QC810642		Water	228909	11/03/15 15:58	1.0		
017	307a017	SAMPLE	270975-001		Water	228807	11/03/15 16:26	1.0		
018	307a018	SAMPLE	270975-002		Water	228807	11/03/15 16:55	1.0		
019	307a019	SAMPLE	271045-018	S	Soil	228890	11/03/15 17:23	5.0		2:BUNKC:12-40=5600
020	307a020	X	IB				11/03/15 17:51	1.0		
021	307a021	SAMPLE	271087-001		Water	228909	11/03/15 18:19	1.0		11:BUNKC:12-40=570000
022	307a022	SAMPLE	271087-002		Water	228909	11/03/15 18:47	1.0		6:BUNKC:12-40=17000
023	307a023	SAMPLE	271087-003		Water	228909	11/03/15 19:16	1.0		
024	307a024	SAMPLE	271087-004		Water	228909	11/03/15 19:44	1.0		
025	307a025	SAMPLE	271087-005		Water	228909	11/03/15 20:12	1.0		
026	307a026	MSS	271127-006		Water	228909	11/03/15 20:40	1.0		
027	307a027	CCV	MO_500				11/03/15 21:09	1.0	2	
028	307a028	CCV	DSL_1000				11/03/15 21:37	1.0	5	
029	307a029	X	CCV				11/03/15 22:05	1.0	2	
030	307a030	X	CCV				11/03/15 22:33	1.0	5	
031	307a031	SAMPLE	271148-001	S	Soil	228956	11/03/15 23:01	100.0		1:BUNKC:10-40=5200
032	307a032	SAMPLE	271148-002	S	Soil	228956	11/03/15 23:29	100.0		
033	307a033	X	IB				11/03/15 23:57	1.0		
034	307a034	SAMPLE	271148-003	S	Soil	228956	11/04/15 00:25	100.0		
035	307a035	SAMPLE	271148-004	S	Soil	228956	11/04/15 00:53	100.0		
036	307a036	X	IB				11/04/15 01:20	1.0		
037	307a037	SAMPLE	271148-005	S	Soil	228956	11/04/15 01:48	100.0		
038	307a038	SAMPLE	271148-001		Soil	228956	11/04/15 02:16	200.0		
039	307a039	X	IB				11/04/15 02:44	1.0		
040	307a040	SAMPLE	271148-002		Soil	228956	11/04/15 03:12	200.0		
041	307a041	SAMPLE	271148-003		Soil	228956	11/04/15 03:40	200.0		
042	307a042	SAMPLE	271148-004		Soil	228956	11/04/15 04:08	200.0		
043	307a043	X	IB				11/04/15 04:36	1.0		
044	307a044	SAMPLE	271148-005		Soil	228956	11/04/15 05:04	200.0		
045	307a045	X	CMARKER				11/04/15 05:32	1.0	1	
046	307a046	CCV	MO_500				11/04/15 06:00	1.0	2	
047	307a047	CCV	DSL_500				11/04/15 06:28	1.0	4	
048	307a048	X	CCV				11/04/15 06:56	1.0	2	
049	307a049	X	CCV				11/04/15 07:25	1.0	4	
050	307a050	MSS	271116-014	S	Soil	228951	11/04/15 09:11	1.0		
051	307a051	SAMPLE	271116-012	S	Soil	228951	11/04/15 09:39	1.0		
052	307a052	SAMPLE	271116-013	S	Soil	228951	11/04/15 10:07	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175442494

Instrument : GC17A
Method : EPA 8015B

Begun : 11/03/15 06:54
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	307a053	SAMPLE	271116-011	S	Soil	228951	11/04/15 10:35	1.0		
054	307a054	SAMPLE	271116-010	S	Soil	228951	11/04/15 11:03	1.0		
055	307a055	SAMPLE	271116-009	S	Soil	228951	11/04/15 11:31	1.0		
056	307a056	SAMPLE	271116-007	S	Soil	228951	11/04/15 11:59	1.0		
057	307a057	SAMPLE	271060-005	S	Soil	228956	11/04/15 12:28	1.0		
058	307a058	SAMPLE	271092-001	S	Soil	228956	11/04/15 12:56	1.0		sh
059	307a059	SAMPLE	271116-008	S	Soil	228951	11/04/15 13:24	1.0		
060	307a060	CCV	MO_500				11/05/15 07:02	1.0	2	
061	307a061	CCV	DSL_1000				11/05/15 07:30	1.0	5	
062	307a062	X	CMARKER				11/05/15 07:59	1.0	1	
063	307a063	SAMPLE	270998-001		Water	228972	11/05/15 08:29	1.0		
064	307a064	SAMPLE	271089-001		Soil	228956	11/05/15 08:58	1.0		
065	307a065	SAMPLE	271282-001		Water	229054	11/05/15 09:26	1.0		
066	307a066	SAMPLE	271282-003		Water	229054	11/05/15 09:55	1.0		
067	307a067	SAMPLE	271087-001		Water	228909	11/05/15 10:23	100.0		
068	307a068	CCV	MO_500				11/05/15 11:02	1.0	2	
069	307a069	CCV	DSL_500				11/05/15 11:30	1.0	4	
070	307a070	CHECK	TEHSURR				11/05/15 12:00	1.0	6	
071	307a071	MSS	271283-001		Soil	229097	11/05/15 12:28	1.0		
072	307a072	MS	QC811382		Soil	229097	11/05/15 12:57	1.0		
073	307a073	MSD	QC811383		Soil	229097	11/05/15 13:25	1.0		
074	307a074	X	TEST#5: GLASS WOOL				11/05/15 13:54	1.0		
075	307a075	X	MO_500				11/05/15 14:55	1.0	2	
076	307a076	CCV	DSL_1000				11/05/15 15:23	1.0	5	
077	307a077	CCV	MO_500				11/05/15 16:36	1.0	2	
078	307a078	X	CMARKER				11/05/15 17:04	1.0	1	

JDG 11/03/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

JDG 11/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 15 through 54.

JDG 11/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 55 through 69.

Standards used: 1=S27935 2=S28150 3=S28301 4=S28302 5=S28303 6=S28140

Flags used: sh=out of sample hold

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 224523202

Instrument : GC14B
Method : EPA 8015B

Begun : 12/29/14 08:02
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	364_001	X	IB			12/29/14 08:02	1.0		
002	364_002	X	CMARKER			12/29/14 08:30	1.0	1	
003	364_003	X	MO_500			12/29/14 08:58	1.0	2	
004	364_004	X	DSL_1000			12/29/14 09:26	1.0	3	
005	364_005	X	DSL_1000			12/29/14 10:12	1.0	3	
006	364_006	X	DSL_500			12/29/14 11:56	1.0	4	
007	364_007	X	IB			12/29/14 14:39	1.0		
008	364_008	IB	CALIB			12/29/14 15:07	1.0		
009	364_009	ICAL	DSL_10			12/29/14 15:35	1.0	5	
010	364_010	ICAL	DSL_100			12/29/14 16:04	1.0	6	
011	364_011	ICAL	DSL_500			12/29/14 16:32	1.0	7	
012	364_012	ICAL	DSL_1000			12/29/14 17:00	1.0	8	
013	364_013	ICAL	DSL_5000			12/29/14 17:28	1.0	9	
014	364_014	IB	CALIB			12/29/14 17:56	1.0		
015	364_015	X	DSL_500			12/29/14 18:24	1.0	4	
016	364_016	ICV	DSL_500			12/29/14 18:52	1.0	4	
017	364_017	IB	CALIB			12/29/14 19:20	1.0		
018	364_018	CMARKER	C8-C50			12/29/14 19:49	1.0	1	
019	364_019	IB	CALIB			12/29/14 20:17	1.0		

SFL 12/30/14 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26087 2=S26284 3=S25997 4=S25996 5=S26213 6=S25844 7=S25845 8=S25846 9=S25842

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225426669

Instrument : GC14B
Method : EPA 8015B
Begun : 10/23/15 07:09
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	296_001	X	IB			10/23/15 07:09	1.0		
002	296_002	X	CMARKER			10/23/15 07:39	1.0	1	
003	296_003	CCV	MO_500			10/23/15 08:09	1.0	2	
004	296_004	CCV	DSL_500			10/23/15 08:39	1.0	3	
005	296_005	IB	CALIB			10/23/15 13:41	1.0		
006	296_006	ICAL	HEX OTP_5			10/23/15 14:10	1.0	4	
007	296_007	ICAL	HEX OTP_10			10/23/15 14:40	1.0	5	
008	296_008	ICAL	HEX OTP_25			10/23/15 15:09	1.0	6	
009	296_009	ICAL	HEX OTP_50			10/23/15 15:39	1.0	7	
010	296_010	ICAL	HEX OTP_100			10/23/15 16:09	1.0	8	
011	296_011	ICAL	HEX OTP_200			10/23/15 16:38	1.0	9	
012	296_012	IB	CALIB			10/23/15 17:08	1.0		

SFL 10/24/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

Standards used: 1=S27935 2=S28150 3=S28302 4=S27409 5=S27410 6=S27411 7=S27412 8=S27413 9=S27414

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225442498

Instrument : GC14B
Method : EPA 8015B

Begun : 11/03/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	307_001	X	IB				11/03/15 06:58	1.0		
002	307_002	X	CMARKER				11/03/15 07:29	1.0	1	
003	307_003	X	MO_500				11/03/15 07:59	1.0	2	
004	307_004	X	DSL_250				11/03/15 08:30	1.0	3	
005	307_005	X	MO_500				11/03/15 09:06	1.0	2	
006	307_006	X	IB				11/03/15 12:24	1.0		
007	307_007	CMARKER	C8-C50				11/03/15 12:54	1.0	1	
008	307_008	X	IB				11/03/15 13:31	1.0		
009	307_009	X	MO_500				11/03/15 14:01	1.0	2	
010	307_010	CCV	DSL_250				11/03/15 14:31	1.0	3	
011	307_011	CCV	MO_500				11/03/15 16:08	1.0	2	
012	307_012	MS	QC810643		Water	228909	11/03/15 16:48	1.0		
013	307_013	MSD	QC810644		Water	228909	11/03/15 17:18	1.0		
014	307_014	SAMPLE	271127-001		Water	228909	11/03/15 17:48	1.0		
015	307_015	SAMPLE	271127-002		Water	228909	11/03/15 18:19	1.0		
016	307_016	SAMPLE	271127-003		Water	228909	11/03/15 18:49	1.0		
017	307_017	SAMPLE	271127-004		Water	228909	11/03/15 19:20	1.0		
018	307_018	SAMPLE	271127-005		Water	228909	11/03/15 19:50	1.0		
019	307_019	SAMPLE	271127-007		Water	228909	11/03/15 20:21	1.0		
020	307_020	SAMPLE	271127-008		Water	228909	11/03/15 20:51	1.0		
021	307_021	SAMPLE	271127-009		Water	228909	11/03/15 21:21	1.0		
022	307_022	CCV	DSL_500				11/03/15 21:51	1.0	4	
023	307_023	CCV	MO_500				11/03/15 22:21	1.0	2	
024	307_024	X	CCV				11/03/15 22:50	1.0	4	
025	307_025	X	CCV				11/03/15 23:20	1.0	2	
026	307_026	SAMPLE	271127-010		Water	228909	11/03/15 23:49	1.0		
027	307_027	SAMPLE	271127-011		Water	228909	11/04/15 00:19	1.0		
028	307_028	SAMPLE	271127-012		Water	228909	11/04/15 00:48	1.0		
029	307_029	SAMPLE	271127-013		Water	228909	11/04/15 01:17	1.0		
030	307_030	SAMPLE	270980-001		Water	228972	11/04/15 01:47	1.0		
031	307_031	SAMPLE	270998-001		Water	228972	11/04/15 02:16	1.0		
032	307_032	SAMPLE	271050-002		Soil	228956	11/04/15 02:45	1.0		
033	307_033	SAMPLE	271050-003		Soil	228956	11/04/15 03:15	1.0		
034	307_034	SAMPLE	271050-004		Soil	228956	11/04/15 03:44	1.0		
035	307_035	SAMPLE	271050-005		Soil	228956	11/04/15 04:14	1.0		
036	307_036	X	CMARKER		Soil		11/04/15 04:44	1.0	1	
037	307_037	CCV	DSL_1000				11/04/15 05:15	1.0	5	
038	307_038	CCV	MO_500				11/04/15 05:45	1.0	2	
039	307_039	X	CCV				11/04/15 06:15	1.0	5	
040	307_040	X	CCV				11/04/15 06:45	1.0	2	
041	307_041	X	POWDER TEST: TRAY 2				11/04/15 07:28	1.0		
042	307_042	X	TANK CHECK: EM51175				11/04/15 07:58	1.0		
043	307_043	CCV	MINOIL_500				11/04/15 09:08	1.0	6	
044	307_044	SAMPLE	270941-004		Soil	228763	11/04/15 09:43	20.0		
045	307_045	SAMPLE	270941-005		Soil	228763	11/04/15 10:13	20.0		
046	307_046	X	IB				11/04/15 10:43	1.0		
047	307_047	SAMPLE	271050-002	S	Soil	228956	11/04/15 11:14	1.0		
048	307_048	SAMPLE	271050-003	S	Soil	228956	11/04/15 11:44	1.0		
049	307_049	SAMPLE	271050-004	S	Soil	228956	11/04/15 12:14	1.0		
050	307_050	SAMPLE	271050-005	S	Soil	228956	11/04/15 12:44	1.0		
051	307_051	SAMPLE	271050-006	S	Soil	228956	11/04/15 13:14	1.0		
052	307_052	CCV	MO_500				11/04/15 13:44	1.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225442498

Instrument : GC14B
Method : EPA 8015B

Begun : 11/03/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	307_053	CCV	DSL_250				11/04/15 14:14	1.0	3	
054	307_054	CCV	MINOIL_500				11/04/15 14:43	1.0	6	
055	307_055	BLANK	QC811110		Soil	229025	11/04/15 15:37	1.0		
056	307_056	BLANK	QC811110	S	Soil	229025	11/04/15 16:06	1.0		
057	307_057	LCS	QC811111	S	Soil	229025	11/04/15 16:36	1.0		
058	307_058	MSS	271034-003		Soil	229025	11/04/15 17:06	2.0		
059	307_059	MS	QC811112		Soil	229025	11/04/15 17:36	2.0		
060	307_060	MSD	QC811113		Soil	229025	11/04/15 18:06	2.0		
061	307_061	SAMPLE	271034-004		Soil	229025	11/04/15 18:37	1.0		
062	307_062	SAMPLE	271034-005		Soil	229025	11/04/15 19:07	1.0		
063	307_063	SAMPLE	271150-001		Soil	229025	11/04/15 19:37	100.0		
064	307_064	SAMPLE	271156-002		Soil	229025	11/04/15 20:07	1.0		
065	307_065	X	IB				11/04/15 20:37	1.0		
066	307_066	SAMPLE	271243-001		Soil	229025	11/04/15 21:08	1.0		
067	307_067	X	IB				11/04/15 21:39	1.0		
068	307_068	SAMPLE	270974-003	S	Soil	229025	11/04/15 22:10	1.0		
069	307_069	SAMPLE	271213-001	S	Soil	229025	11/04/15 22:40	1.0		
070	307_070	CCV	MO_500				11/04/15 23:10	1.0	2	
071	307_071	CCV	DSL_500				11/04/15 23:40	1.0	4	
072	307_072	X	CCV				11/05/15 00:11	1.0	2	
073	307_073	X	CCV				11/05/15 00:40	1.0	4	
074	307_074	SAMPLE	271213-002	S	Soil	229025	11/05/15 01:11	1.0		
075	307_075	SAMPLE	271217-001	S	Soil	229025	11/05/15 01:40	1.0		
076	307_076	SAMPLE	271217-002	S	Soil	229025	11/05/15 02:10	1.0		
077	307_077	SAMPLE	271217-003	S	Soil	229025	11/05/15 02:40	1.0		
078	307_078	SAMPLE	271217-004	S	Soil	229025	11/05/15 03:11	1.0		
079	307_079	SAMPLE	271217-005	S	Soil	229025	11/05/15 03:40	1.0		
080	307_080	SAMPLE	271217-006	S	Soil	229025	11/05/15 04:11	1.0		
081	307_081	SAMPLE	271217-007	S	Soil	229025	11/05/15 04:43	1.0		
082	307_082	SAMPLE	271108-001		Soil	228956	11/05/15 05:14	1.0		
083	307_083	SAMPLE	271125-001		Soil	228956	11/05/15 05:45	1.0		
084	307_084	X	CMARKER				11/05/15 06:16	1.0	1	
085	307_085	X	MO_500				11/05/15 06:47	1.0	2	
086	307_086	CCV	DSL_1000				11/05/15 07:18	1.0	5	
087	307_087	CCV	MO_500				11/05/15 08:25	1.0	2	
088	307_088	BLANK	QC811158	S	Soil	229040	11/05/15 08:56	1.0		
089	307_089	LCS	QC811159	S	Soil	229040	11/05/15 09:26	1.0		
090	307_090	BLANK	QC811214		Water	229054	11/05/15 09:57	1.0		
091	307_091	LCS	QC811215		Water	229054	11/05/15 10:27	1.0		
092	307_092	BLANK	QC811158		Soil	229040	11/05/15 11:08	1.0		
093	307_093	BLANK	QC811380		Soil	229097	11/05/15 11:39	1.0		
094	307_094	LCS	QC811381		Soil	229097	11/05/15 12:10	1.0		
095	307_095	BLANK	QC811018		Water	229008	11/05/15 12:40	1.0		
097	307_097	CCV	MO_500				11/05/15 13:47	1.0	2	
098	307_098	CCV	DSL_500				11/05/15 14:16	1.0	4	
099	307_099	CHECK	MO_500				11/05/15 14:57	1.0	7	
100	307_100	X	1.NOTSONICATED-GRANU				11/05/15 15:26	1.0		
101	307_101	X	2.NOTSONICATED-POWDE				11/05/15 15:55	1.0		
102	307_102	X	3.SONICATED-POWDER				11/05/15 16:24	1.0		
103	307_103	X	4.SONICATED-GRANULAR				11/05/15 16:54	1.0		
104	307_104	X	6.NOSONICATION				11/05/15 17:25	1.0		
105	307_105	X	7.SAND NOT SONICATED				11/05/15 17:55	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225442498

Instrument : GC14B　　Begun : 11/03/15 06:58
Method : EPA 8015B　　SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
106	307_106	X	8.SAND SONICATED				11/05/15 18:25	1.0		
107	307_107	SAMPLE	271013-002		Soil	228998	11/05/15 18:56	2.0		
108	307_108	SAMPLE	271013-006		Soil	228998	11/05/15 19:26	1.0		
109	307_109	SAMPLE	271013-007		Soil	228998	11/05/15 19:56	2.0		
110	307_110	SAMPLE	271013-008		Soil	228998	11/05/15 20:26	1.0		
111	307_111	SAMPLE	271013-016		Soil	228998	11/05/15 20:56	1.0		
112	307_112	SAMPLE	271013-018		Soil	228998	11/05/15 21:26	1.0		
113	307_113	SAMPLE	271045-006		Soil	228998	11/05/15 21:57	1.0		
114	307_114	SAMPLE	271045-008		Soil	228998	11/05/15 22:26	1.0		
115	307_115	SAMPLE	271045-009		Soil	228998	11/05/15 22:56	1.0		
116	307_116	SAMPLE	271045-010		Soil	228998	11/05/15 23:25	1.0		
117	307_117	CCV	MO_500				11/05/15 23:54	1.0	2	
118	307_118	CCV	DSL_1000				11/06/15 00:24	1.0	5	
119	307_119	X	CCV				11/06/15 00:53	1.0	2	
120	307_120	X	CCV				11/06/15 01:22	1.0	5	
121	307_121	SAMPLE	271045-016		Soil	228998	11/06/15 01:51	1.0		
122	307_122	SAMPLE	271045-010	S	Soil	228998	11/06/15 02:20	1.0		
123	307_123	SAMPLE	271045-016	S	Soil	228998	11/06/15 02:50	1.0		
124	307_124	SAMPLE	271144-005	S	Soil	228998	11/06/15 03:19	1.0		
125	307_125	X	IB				11/06/15 03:49	1.0		
126	307_126	MSS	271144-006	S	Soil	228998	11/06/15 04:20	20.0		
127	307_127	SAMPLE	271144-007	S	Soil	228998	11/06/15 04:49	1.0		2:BUNKC:12-40=6500
128	307_128	X	IB				11/06/15 05:19	1.0		
129	307_129	SAMPLE	271144-008	S	Soil	228998	11/06/15 05:50	1.0		
130	307_130	SAMPLE	271144-009	S	Soil	228998	11/06/15 06:21	20.0		
131	307_131	SAMPLE	271144-010	S	Soil	228998	11/06/15 06:51	1.0		2:BUNKC:12-40=5400
132	307_132	X	IB				11/06/15 07:21	1.0		
133	307_133	SAMPLE	271144-011	S	Soil	228998	11/06/15 07:51	1.0		
134	307_134	X	CMARKER				11/06/15 08:22	1.0	1	
135	307_135	X	MO_500				11/06/15 08:52	1.0	2	
136	307_136	CCV	DSL_500				11/06/15 09:22	1.0	4	
137	307_137	X	TEST 1: SAND EM48118				11/06/15 09:52	1.0		
138	307_138	X	TEST2: POWDER (BAKED				11/06/15 10:22	1.0		
139	307_139	CCV	MO_500				11/06/15 10:52	1.0	7	
140	307_140	MSS	271034-006		Soil	229040	11/06/15 14:08	1.0		
141	307_141	SAMPLE	271034-010		Soil	229040	11/06/15 14:37	1.0		
142	307_142	SAMPLE	271320-001		Soil	229157	11/06/15 15:45	1.0		
143	307_143	SAMPLE	271321-002		Soil	229157	11/06/15 16:14	1.0		
144	307_144	CCV	MO_500				11/06/15 18:17	1.0	2	
145	307_145	CCV	DSL_1000				11/06/15 18:47	1.0	5	
146	307_146	X	CMARKER				11/06/15 20:58	1.0	1	
147	307_147	CCV	JET_250				11/06/15 21:28	1.0	8	
148	307_148	SAMPLE	271144-005		Soil	228998	11/06/15 21:58	2.0		
149	307_149	MSS	271144-006		Soil	228998	11/06/15 22:27	2.0		
150	307_150	SAMPLE	271144-007		Soil	228998	11/06/15 22:57	2.0		
151	307_151	SAMPLE	271144-008		Soil	228998	11/06/15 23:26	2.0		
152	307_152	SAMPLE	271144-009		Soil	228998	11/06/15 23:56	2.0		
153	307_153	SAMPLE	271144-010		Soil	228998	11/07/15 00:25	2.0		
154	307_154	SAMPLE	271144-011		Soil	228998	11/07/15 00:54	1.0		
155	307_155	SAMPLE	271144-012		Soil	228998	11/07/15 01:23	2.0		
156	307_156	MS	QC810984		Soil	228998	11/07/15 01:52	2.0		
157	307_157	MSD	QC810985		Soil	228998	11/07/15 02:22	2.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225442498

Instrument : GC14B
Method : EPA 8015B

Begun : 11/03/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
158	307_158	CCV	DSL_1000				11/07/15 02:51	1.0	5	
159	307_159	CCV	MO_500				11/07/15 03:20	1.0	2	
160	307_160	X	CCV				11/07/15 03:51	1.0	5	
161	307_161	X	CCV				11/07/15 04:22	1.0	2	
162	307_162	CCV	JET_250				11/07/15 04:53	1.0	8	
163	307_163	SAMPLE	271144-005	S	Soil	228998	11/07/15 05:23	1.0		
164	307_164	MSS	271144-006	S	Soil	228998	11/07/15 05:54	1.0		3:BUNKC:12-40=7500
165	307_165	SAMPLE	271144-008	S	Soil	228998	11/07/15 06:25	1.0		

JDG 11/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 54.

JDG 11/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 55 through 98.

JDG 11/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 99 through 141.

BJP 11/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 142 through 145.

SFL 11/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 146 through 165.

Standards used: 1=S27935 2=S28150 3=S28301 4=S28302 5=S28303 6=S27638 7=S28475 8=S28111

SAMPLE PREPARATION SUMMARY

Batch # : 228909
Analysis : TEH
Started By : ARW
Prep Date : 30-OCT-2015 16:25
Finished By : JCD
Method : 3520C
SOP Version : TEH_3520_rv15
Units : mL
Spike #1 ID : S28305
Spike #2 ID : S28139

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
271087-001		Water	500	2.5	1	0.005	7	.5				TEHM	
271087-002		Water	500	2.5	1	0.005	7	.5				TEHM	
271087-003		Water	500	2.5	1	0.005	7	.5				TEHM	
271087-004		Water	500	2.5	1	0.005	7	.5				TEHM	
271087-005		Water	500	2.5	1	0.005	7	.5				TEHM	
271127-001		Water	480	2.5	1	0.005208	7	.5				TEH	
271127-002		Water	480	2.5	1	0.005208	7	.5				TEH	
271127-003		Water	500	2.5	1	0.005	7	.5				TEH	
271127-004		Water	500	2.5	1	0.005	7	.5				TEH	
271127-005		Water	500	2.5	1	0.005	7	.5				TEH	
271127-006		Water	500	2.5	1	0.005	7	.5				TEH	
271127-007		Water	500	2.5	1	0.005	7	.5				TEH	
271127-008		Water	500	2.5	1	0.005	7	.5				TEH	
271127-009		Water	500	2.5	1	0.005	7	.5				TEH	
271127-010		Water	500	2.5	1	0.005	7	.5				TEH	
271127-011		Water	500	2.5	1	0.005	7	.5				TEH	
271127-012		Water	500	2.5	1	0.005	7	.5				TEH	
271127-013		Water	500	2.5	1	0.005	7	.5				TEH	
QC810641	BLANK	Water	500	2.5	1	0.005		.5					
QC810642	LCS	Water	500	2.5	1	0.005		.5	.5				
QC810643	MS	Water	500	2.5	1	0.005	7	.5	.5				
QC810644	MSD	Water	500	2.5	1	0.005	7	.5	.5				

Analyst: JDG Date: 11/06/15 Reviewer: EAH Date: 11/06/15

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

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LIMS Batch No: 228909
LIMS Analysis: TEH lvm
Date Extracted: 10/30/2015

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
271177-001	G	☐ 500 ☑ 480	☑7 ☐	☑2.5 ☐		☑ ≤2pH	½" sediment on bottom
2	F	☐ 500 ☑ 480	☑7 ☐	☑2.5 ☐		☑ ≤2pH	2"
3	G	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1"
4	G	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1"
5	G	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	¼"
6	G	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	½" MSS not homogenous
7	G	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	½"
8	G	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1"
9	H	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1/4"
10	H	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1/8"
11	I	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	½"
12	I	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1"
13	H	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1"
271087-001	A	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	very oily layer on top
2	A	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	
3	A	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	
4	A	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	
5	A	☑ 500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	
MB QC810641	NA	☑ 500 ☐	☐7 ☑ NA	☑2.5 ☐		☑ ≤2pH	
BS 2	NA	☑ 500 ☐	☐7 ☑ NA	☑2.5 ☐		☑ ≤2pH	
MS 3	I	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	about 1" sediment on top & bottom
MSD 4	H	☑500 ☐	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1" Sediment
		☐ 500 ☐	☐7 ☐	☐ 2.5 ☐		☐ ≤2pH	
		☐ 500 ☐	☐7 ☐	☐ 2.5 ☐		☐ ≤2pH	

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

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S28305B	RPW 10/30/2015
0.5 mL of TEH_SP was added to all spikes	S28317F	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS152524	
☑ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	FMS5175	
Extraction Start Time:	1625	
Extraction End Time:	1112	VQ 10/31/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	NA	JCD 11/2/15
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	FS153213	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	

10/30/2015
Extraction Chemist **Date**

Contined from Page ______
Continued on Page ______

11/3/15
Reviewed by **Date**

Laboratory Job Number 271127

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-13-16-NS	Batch#:	228947
Lab ID:	271127-001	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-13-16-NS	Batch#:	228947
Lab ID:	271127-001	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	106	80-128
1,2-Dichloroethane-d4	126	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-13-26-NS	Batch#:	228947
Lab ID:	271127-002	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-13-26-NS	Batch#:	228947
Lab ID:	271127-002	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	0.6	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	108	80-128
1,2-Dichloroethane-d4	125	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-14-20-FD	Batch#:	228947
Lab ID:	271127-003	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	1.1	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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-14-20-FD	Batch#:	228947
Lab ID:	271127-003	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	108	80-128
1,2-Dichloroethane-d4	128	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-14-20-NS	Batch#:	228947
Lab ID:	271127-004	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	1.2	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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-14-20-NS	Batch#:	228947
Lab ID:	271127-004	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	107	80-128
1,2-Dichloroethane-d4	126	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-14-30-NS	Batch#:	228947
Lab ID:	271127-005	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-14-30-NS	Batch#:	228947
Lab ID:	271127-005	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	107	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-15-20-NS	Batch#:	228947
Lab ID:	271127-006	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	2.8	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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-15-20-NS	Batch#:	228947
Lab ID:	271127-006	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	107	80-128
1,2-Dichloroethane-d4	128	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-15-30-NS	Batch#:	228947
Lab ID:	271127-007	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	11	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	0.9	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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-15-30-NS	Batch#:	228947
Lab ID:	271127-007	Sampled:	10/27/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	106	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-16-20-NS	Batch#:	228947
Lab ID:	271127-008	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-16-20-NS	Batch#:	228947
Lab ID:	271127-008	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	106	80-128
1,2-Dichloroethane-d4	129	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-16-30-NS	Batch#:	228947
Lab ID:	271127-009	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-16-30-NS	Batch#:	228947
Lab ID:	271127-009	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	106	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-17-20-NS	Batch#:	228947
Lab ID:	271127-010	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-17-20-NS	Batch#:	228947
Lab ID:	271127-010	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	107	80-128
1,2-Dichloroethane-d4	129	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-17-30-NS	Batch#:	228947
Lab ID:	271127-011	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-17-30-NS	Batch#:	228947
Lab ID:	271127-011	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	105	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-19-26-NS	Batch#:	228947
Lab ID:	271127-012	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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 #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-19-26-NS	Batch#:	228947
Lab ID:	271127-012	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	105	80-128
1,2-Dichloroethane-d4	128	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-19-36-NS	Batch#:	228947
Lab ID:	271127-013	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	0.6	0.5

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-19-36-NS	Batch#:	228947
Lab ID:	271127-013	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
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	107	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	228947
Units:	ug/L	Analyzed:	11/02/15
Diln Fac:	1.000		

Type: BS

Lab ID: QC810786

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	10.87	87	66-135
Benzene	12.50	12.10	97	80-123
Trichloroethene	12.50	12.83	103	80-123
Toluene	12.50	12.09	97	80-121
Chlorobenzene	12.50	12.65	101	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	91	80-120

Type: BSD

Lab ID: QC810787

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.07	89	66-135	2	24
Benzene	12.50	11.78	94	80-123	3	20
Trichloroethene	12.50	12.59	101	80-123	2	20
Toluene	12.50	11.71	94	80-121	3	20
Chlorobenzene	12.50	12.60	101	80-123	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	126	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271127	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:	QC810788	Batch#:	228947
Matrix:	Water	Analyzed:	11/02/15
Units:	ug/L		

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

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271127	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:	QC810788	Batch#:	228947
Matrix:	Water	Analyzed:	11/02/15
Units:	ug/L		

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	107	80-128
1,2-Dichloroethane-d4	126	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271127	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-19-26-NS	Batch#:	228947
MSS Lab ID:	271127-012	Sampled:	10/26/15
Matrix:	Water	Received:	10/29/15
Units:	ug/L	Analyzed:	11/02/15
Diln Fac:	1.000		

Type: MS Lab ID: QC810859

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1117	12.50	11.53	92	73-129
Benzene	0.1027	12.50	12.91	102	80-120
Trichloroethene	<0.1000	12.50	13.33	107	73-123
Toluene	0.1925	12.50	12.79	101	80-120
Chlorobenzene	<0.1000	12.50	13.43	107	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	129	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	91	80-120

Type: MSD Lab ID: QC810860

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.44	91	73-129	1	25
Benzene	12.50	12.46	99	80-120	4	20
Trichloroethene	12.50	13.01	104	73-123	2	20
Toluene	12.50	12.55	99	80-120	2	21
Chlorobenzene	12.50	13.46	108	80-120	0	24

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-128
1,2-Dichloroethane-d4	131	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS BFB TUNE FOR 271127 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 271127 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 271127 MSVOA Water
EPA 8260B

Inst : MSVOA14   Run Name : BFB   IDF : 1.0
Seqnum : 955441010010   File : nk210   Time : 02-NOV-2015 11:31

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7543	34.11	
75	30% - 60% of mass 95	11881	53.73	
95		22112	100.00	
96	5% - 9% of mass 95	1532	6.93	
173	< 2% of mass 174	188	1.06	
174	> 50% and < 100% of mass 95	17707	80.08	
175	5% - 9% of mass 174	1231	6.95	
176	> 95% and < 101% of mass 174	17168	96.96	
177	5% - 9% of mass 176	1251	7.29	

Analyst: MCT   Date: 11/02/15   Reviewer: LW   Date: 11/03/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271127 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	**22**	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	**22**	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	**27**	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 (njk25).

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

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271127 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 271127 MSVOA Water
EPA 8260B

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Inst   : MSVOA14          Run Name : QC810786       IDF  : 1.0
Seqnum : 955441010011.1   File     : nk211          Time : 02-NOV-2015 11:58
Cal    : 955422499001     Caldate  : 20-OCT-2015
Standards: S28219 (20000X), S28220 (20000X), S28167 (20000X), S27267 (20000X),
S28449 (2500X)
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Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.6415	0.7995	10.00	12.46	ug/L	25	30	0.0500	u
Chloromethane	0.9510	1.1599	10.00	12.20	ug/L	22	30	0.1000	u
Vinyl Chloride	0.9707	1.0503	10.00	10.82	ug/L	8	20	0.0500	u
Bromomethane	0.2242	0.2275	10.00	10.15	ug/L	1	30	0.0500	u
Chloroethane	0.5345	0.5466	10.00	10.23	ug/L	2	30	0.0500	u
Trichlorofluoromethane	0.8274	0.9775	10.00	11.81	ug/L	18	30	0.0500	u
Acetone	0.4156	0.4665	12.50	14.03	ug/L	12	40	0.0500	m u
Freon 113	0.4347	0.3847	12.50	11.06	ug/L	-12	30	0.0500	u
1,1-Dichloroethene	0.4198	0.3652	12.50	10.87	ug/L	-13	20	0.0500	u
Methylene Chloride	0.4994	0.4682	12.50	11.72	ug/L	-6	30	0.0500	u
Carbon Disulfide	1.4737	1.3155	12.50	11.16	ug/L	-11	30	0.0500	u
MTBE	1.6773	1.4986	12.50	11.17	ug/L	-11	30	0.0500	u
trans-1,2-Dichloroethene	0.4787	0.4163	12.50	10.87	ug/L	-13	30	0.0500	u
Vinyl Acetate	1.7132	2.4243	12.50	17.69	ug/L	**42**	40	0.0500	c+ u ***
1,1-Dichloroethane	1.3336	1.4065	12.50	13.18	ug/L	5	30	0.1000	u
2-Butanone	0.4886	0.5546	12.50	14.19	ug/L	13	40	0.0500	u
cis-1,2-Dichloroethene	0.5624	0.5277	12.50	11.73	ug/L	-6	30	0.0500	u
2,2-Dichloropropane	0.6571	0.8276	12.50	15.74	ug/L	26	30	0.0500	u
Chloroform	0.8921	0.9607	12.50	13.46	ug/L	8	20	0.0500	u
Bromochloromethane	0.2490	0.2387	12.50	11.99	ug/L	-4	30	0.0500	u
1,1,1-Trichloroethane	0.7861	0.8823	12.50	14.03	ug/L	12	30	0.0500	u
1,1-Dichloropropene	0.4813	0.4408	12.50	11.45	ug/L	-8	30	0.0500	u
Carbon Tetrachloride	0.4089	0.5186	12.50	15.85	ug/L	27	30	0.0500	u
1,2-Dichloroethane	0.6367	0.8171	12.50	16.04	ug/L	28	30	0.0500	u
Benzene	1.4017	1.3563	12.50	12.10	ug/L	-3	30	0.0500	u
Trichloroethene	0.3628	0.3723	12.50	12.83	ug/L	3	30	0.0500	u
1,2-Dichloropropane	0.5064	0.5588	12.50	13.79	ug/L	10	20	0.0500	u
Bromodichloromethane	0.4448	0.5011	12.50	14.08	ug/L	13	30	0.0500	u
Dibromomethane	0.2211	0.2332	12.50	13.18	ug/L	5	30	0.0500	u
4-Methyl-2-Pentanone	0.6446	0.7647	12.50	14.83	ug/L	19	40	0.0500	u
cis-1,3-Dichloropropene	0.5532	0.6116	12.50	13.82	ug/L	11	30	0.0500	u
Toluene	1.6718	1.6175	12.50	12.09	ug/L	-3	20	0.0500	u
trans-1,3-Dichloropropene	0.5523	0.5746	12.50	13.00	ug/L	4	30	0.0500	u
1,1,2-Trichloroethane	0.1862	0.1799	12.50	12.07	ug/L	-3	30	0.0500	u
2-Hexanone	0.4951	0.5707	12.50	14.41	ug/L	15	40	0.0500	u
1,3-Dichloropropane	0.6320	0.6110	12.50	12.08	ug/L	-3	30	0.0500	u
Tetrachloroethene	0.3610	0.4006	12.50	13.87	ug/L	11	30	0.0500	u
Dibromochloromethane	0.3820	0.4141	12.50	13.55	ug/L	8	30	0.0500	u
1,2-Dibromoethane	0.3672	0.3510	12.50	11.95	ug/L	-4	30	0.0500	u
Chlorobenzene	1.0480	1.0605	12.50	12.65	ug/L	1	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.3617	0.3784	12.50	13.07	ug/L	5	30	0.0500	u
Ethylbenzene	1.9396	1.9300	12.50	12.44	ug/L	0	20	0.0500	u
m,p-Xylenes	0.7353	0.7273	25.00	24.73	ug/L	-1	30	0.0500	u
o-Xylene	0.7307	0.6941	12.50	11.87	ug/L	-5	30	0.0500	u
Styrene	1.2609	1.2335	12.50	12.23	ug/L	-2	30	0.0500	u
Bromoform	0.2701	0.3008	12.50	13.92	ug/L	11	30	0.1000	u
Isopropylbenzene	3.5784	3.1876	12.50	11.13	ug/L	-11	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	0.7343	12.50	10.80	ug/L	-14	30	0.3000	u
1,2,3-Trichloropropane	0.9817	0.8517	12.50	10.84	ug/L	-13	30	0.0500	u
Propylbenzene	4.3463	3.8871	12.50	11.18	ug/L	-11	30	0.0500	u
Bromobenzene	0.8426	0.8319	12.50	12.34	ug/L	-1	30	0.0500	u
1,3,5-Trimethylbenzene	3.0929	2.9104	12.50	11.76	ug/L	-6	30	0.0500	u
2-Chlorotoluene	2.9127	2.7290	12.50	11.71	ug/L	-6	30	0.0500	u
4-Chlorotoluene	2.7062	2.4590	12.50	11.36	ug/L	-9	30	0.0500	u
tert-Butylbenzene	2.6588	2.3913	12.50	11.24	ug/L	-10	30	0.0500	u
1,2,4-Trimethylbenzene	3.1235	2.9351	12.50	11.75	ug/L	-6	30	0.0500	u
sec-Butylbenzene	4.0353	3.6598	12.50	11.34	ug/L	-9	30	0.0500	u
para-Isopropyl Toluene	3.3656	3.1807	12.50	11.81	ug/L	-5	30	0.0500	u
1,3-Dichlorobenzene	1.5874	1.6113	12.50	12.69	ug/L	2	30	0.0500	u
1,4-Dichlorobenzene	1.6381	1.6420	12.50	12.53	ug/L	0	30	0.0500	u
n-Butylbenzene	3.2103	3.0496	12.50	11.87	ug/L	-5	30	0.0500	u
1,2-Dichlorobenzene	1.5518	1.5752	12.50	12.69	ug/L	2	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.2296	0.1840	12.50	10.02	ug/L	-20	30	0.0500	u
1,2,4-Trichlorobenzene	1.1989	1.1962	12.50	12.47	ug/L	0	30	0.0500	u
Hexachlorobutadiene	0.5656	0.6392	12.50	14.13	ug/L	13	30	0.0500	u
Naphthalene	3.4680	2.7401	12.50	9.877	ug/L	-21	30	0.0500	u
1,2,3-Trichlorobenzene	1.1848	1.1731	12.50	12.38	ug/L	-1	30	0.0500	u
Dibromofluoromethane	0.4527	0.4582	50.00	50.60	ug/L	1	30	0.0500	u
1,2-Dichloroethane-d4	0.4650	0.5901	50.00	63.45	ug/L	27	30	0.0500	u
Toluene-d8	1.3404	1.3147	50.00	49.04	ug/L	-2	30	0.0500	u
Bromofluorobenzene	1.0165	0.9233	50.00	45.42	ug/L	-9	30	0.0500	u

ISTD (ICAL njk23)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	742664	615841	-17.08	9.49	9.48	-0.01
1,4-Difluorobenzene	1178583	906686	-23.07	10.56	10.55	-0.01
Chlorobenzene-d5	1092554	878245	-19.62	14.13	14.13	0.00
1,4-Dichlorobenzene-d4	591395	529145	-10.53	16.56	16.55	-0.01

MCT 11/02/15 [Acetone]: Separated from coeluting peak. [general version]

Analyst: MCT Date: 11/03/15 Reviewer: LW Date: 11/04/15

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

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 955441010

Date : 11/02/15
Sequence : MSVOA14 nk2

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
011	CCV/BS	QC810786	615841	9.48	906686	10.55	878245	14.13	529145	16.55
012	BSD	QC810787	624338	9.48	920351	10.55	888015	14.13	537204	16.56
014	BLANK	QC810788	569116	9.48	868613	10.56	824110	14.13	470960	16.56
015	SAMPLE	271114-001	498578	9.48	748822	10.55	712797	14.13	406320	16.56
016	SAMPLE	271114-002	554020	9.48	844794	10.56	802183	14.13	462138	16.56
017	SAMPLE	271114-004	557357	9.48	853378	10.56	810596	14.13	464785	16.56
018	SAMPLE	271114-005	560954	9.48	852496	10.56	800010	14.13	461879	16.56
019	SAMPLE	271114-006	563527	9.48	846783	10.56	807780	14.13	458306	16.56
020	SAMPLE	271127-001	546243	9.49	828794	10.56	790149	14.13	443122	16.56
021	SAMPLE	271127-002	560149	9.48	849925	10.56	807113	14.13	463478	16.56
022	SAMPLE	271127-004	559607	9.48	854257	10.56	808524	14.13	460138	16.56
023	SAMPLE	271127-005	544736	9.48	832280	10.56	802795	14.13	455801	16.56
024	SAMPLE	271127-007	570323	9.48	858903	10.56	809677	14.13	464223	16.56
025	SAMPLE	271127-006	558755	9.48	847006	10.56	807932	14.13	458456	16.56
026	SAMPLE	271127-008	556297	9.48	843787	10.56	807611	14.13	457698	16.56
027	SAMPLE	271127-009	553126	9.48	830900	10.56	786704	14.13	453616	16.56
028	SAMPLE	271127-010	539895	9.48	821258	10.56	781132	14.13	443865	16.56
029	SAMPLE	271127-011	554701	9.48	833506	10.56	794733	14.13	455933	16.56
030	SAMPLE	271114-003	544902	9.48	812323	10.56	770612	14.13	445362	16.56
031	SAMPLE	271127-013	537686	9.49	818933	10.56	781220	14.13	449941	16.56
032	SAMPLE	271127-003	539267	9.48	827416	10.56	784970	14.13	449699	16.56
033	MSS	271127-012	550002	9.48	827672	10.56	783784	14.13	448305	16.56
034	MS	QC810859	561721	9.48	831299	10.56	801245	14.13	482887	16.56
035	MSD	QC810860	565742	9.48	835944	10.56	804974	14.13	492432	16.56

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 955422499

Instrument : MSVOA14
Method : EPA 8260B

Begun : 10/20/15 09:39
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

Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 955423728

Instrument : MSVOA14
Method : EPA 8260B

Begun : 10/21/15 06:08
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 955441010

Instrument : MSVOA14
Method : EPA 8260B
Begun : 11/02/15 06:10
SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	nk201	X	IB			11/02/15 06:10	1.0	1	
002	nk202	X	IB			11/02/15 06:36	1.0	1	
003	nk203	TUN	BFB			11/02/15 07:41	1.0	2	t
004	nk204	TUN	BFB			11/02/15 07:51	1.0	2	t
005	nk205	TUN	BFB			11/02/15 08:26	1.0	2	t
006	nk206	TUN	BFB			11/02/15 08:45	1.0	2	t
007	nk207	TUN	BFB			11/02/15 08:53	1.0	2	t
008	nk208	TUN	BFB			11/02/15 11:05	1.0	2	t
009	nk209	TUN	BFB			11/02/15 11:22	1.0	2	t
010	nk210	TUN	BFB			11/02/15 11:31	1.0	2	
011	nk211	CCV/BS	QC810786	Water	228947	11/02/15 11:58	1.0	3 4 5 6 7	
012	nk212	BSD	QC810787	Water	228947	11/02/15 12:45	1.0	3 4 5 6 7	
013	nk213	X	A/A			11/02/15 13:12	1.0	7	
014	nk214	BLANK	QC810788	Water	228947	11/02/15 13:38	1.0	7	
015	nk215	SAMPLE	271114-001	Water	228947	11/02/15 14:15	1.0	7	
016	nk216	SAMPLE	271114-002	Water	228947	11/02/15 14:41	1.0	7	
017	nk217	SAMPLE	271114-004	Water	228947	11/02/15 15:07	1.0	7	
018	nk218	SAMPLE	271114-005	Water	228947	11/02/15 15:33	1.0	7	
019	nk219	SAMPLE	271114-006	Water	228947	11/02/15 16:00	1.0	7	
020	nk220	SAMPLE	271127-001	Water	228947	11/02/15 16:26	1.0	7	
021	nk221	SAMPLE	271127-002	Water	228947	11/02/15 16:52	1.0	7	
022	nk222	SAMPLE	271127-004	Water	228947	11/02/15 17:18	1.0	7	
023	nk223	SAMPLE	271127-005	Water	228947	11/02/15 17:44	1.0	7	
024	nk224	SAMPLE	271127-007	Water	228947	11/02/15 18:10	1.0	7	combined (sediment), headspace > 1 mL, pH > 2
025	nk225	SAMPLE	271127-006	Water	228947	11/02/15 18:37	1.0	7	
026	nk226	SAMPLE	271127-008	Water	228947	11/02/15 19:03	1.0	7	
027	nk227	SAMPLE	271127-009	Water	228947	11/02/15 19:30	1.0	7	
028	nk228	SAMPLE	271127-010	Water	228947	11/02/15 19:56	1.0	7	
029	nk229	SAMPLE	271127-011	Water	228947	11/02/15 20:22	1.0	7	headspace <= 1 mL
030	nk230	SAMPLE	271114-003	Water	228947	11/02/15 20:48	2.0	7	
031	nk231	SAMPLE	271127-013	Water	228947	11/02/15 21:15	1.0	7	
032	nk232	SAMPLE	271127-003	Water	228947	11/02/15 21:41	1.0	7	
033	nk233	MSS	271127-012	Water	228947	11/02/15 22:07	1.0	7	headspace <= 1 mL
034	nk234	MS	QC810859	Water	228947	11/02/15 22:34	1.0	3 4 5 6 7	
035	nk235	MSD	QC810860	Water	228947	11/02/15 23:00	1.0	3 4 5 6 7	headspace <= 1 mL
036	nk236	X	IB			11/02/15 23:27	1.0	7	
037	nk237	X	IB			11/02/15 23:53	1.0	7	
038	nk238	X	IB			11/03/15 00:20	1.0	7	
039	nk239	X	IB			11/03/15 00:46	1.0	7	

MCT 11/02/15 : Adjusted tune before file : nk203,nk205,nk206,nk208,nk209,nk210.

MCT 11/03/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

Analyst: MCT Date: 11/03/15 Reviewer: LW Date: 11/03/15

Standards used: 1=S28246 2=S27825 3=S28219 4=S28220 5=S28167 6=S27267 7=S28449

Flags used: t=tune failure

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): ws 11/2/15
For Undiluted samples, pH checked (initials/date): zz 11/3/15

Batch #: 228947
Prep Date: 11/2/15
Instrument: ms14

	Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
1	271127-1	C	✓					1x					
2	-2	↓	✓					↓					
3	-3	B	✓										
4	-4	B	✓										
5	-5	B	✓										
6	-6	C	✓										
7	-7	C+D		4	yes bubble				VERY HIGH SEDIMENT - 2ml each / headspace				
8	-8	B	✓										
4 9	-9	B	✓										
10	-10	C	✓										
11	-11	C	✓		bubble								
12	-12wes	C	✓		bubble								
13	-12rey	D,E	✓		bubble	A1							
14	-12med	F	✓		bubble								
15	-13	C	✓					↓					
16	271114-1	B	✓					1x					
17	-2	↓	✓					↓					
4 18	-3		✓			8		2x					
19	-4		✓					1x					
20	-5		✓					↓					
21	-6	↓	✓					↓					
22													

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Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 271203
ANALYTICAL REPORT

URS Corporation
2870 Gateway Oaks Drive
Sacramento, CA 95833

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

Sample ID	Lab ID
PATLNSS-S	271203-001
SB-01-16-NS	271203-002
SB-01-26-NS	271203-003
TB-1	271203-004
SB-03-24-FD	271203-005
SB-03-24-NS	271203-006
SB-03-32-NS	271203-007
SB-05-16-NS	271203-008
SB-05-24-NS	271203-009
SB-06-14-NS	271203-010
SB-06-24-NS	271203-011
TB-3	271203-012
SB-07-16-NS	271203-013
SB-07-26-NS	271203-014
SB-09-16-FD	271203-015
SB-09-16-NS	271203-016
SB-09-24-NS	271203-017
SB-10-16-NS	271203-018
TB-2	271203-019
SB-10-26-NS	271203-020
SB-11-12-NS	271203-021
SB-11-22-NS	271203-022
SB-12-12-NS	271203-023
SB-12-22-NS	271203-024
SB-18-12-NS	271203-025

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.

Signature: ______________________

Date: 11/17/2015

Mike Dahlquist
Project Manager
mike.dahlquist@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: **271203**
Client: **URS Corporation**
Project: **RWQCB PCE LUKIN**
Location: **RWQCB PCE LUKIN**
Request Date: **11/02/15**
Samples Received: **10/31/15**

This data package contains sample and QC results for twenty five water samples, requested for the above referenced project on 11/02/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

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

A number of samples were analyzed with more than 1 mL of headspace in the VOA vial.

No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

Diesel C10-C24 was detected above the RL in the method blank for batch 229054; this analyte was not detected in samples at or above the RL.

No other analytical problems were encountered.

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

High response was observed for Freon 12 in the ICV analyzed 08/11/15 20:35; this analyte was not detected at or above the RL in the associated samples.

High responses were observed for a number of analytes in the CCV analyzed 11/09/15 15:26; 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 11/06/15 14:20.

Low response was observed for acetone in the CCV/LCS analyzed 11/05/15 19:49; affected data was qualified with "b".

Low recovery was observed for trichloroethene in the MSD for batch 229102; the parent sample was not a project sample, and the LCS was within limits. High recovery was observed for benzene in the MS for batch 229102; the LCS was within limits, and this analyte was not detected at or above the RL in the associated samples. High RPD was observed for benzene and 1,1-dichloroethene in the MS/MSD for batch 229102; these analytes were not detected at or above the RL in the associated samples.

Low recovery was observed for trichloroethene in the MSD for batch 229193; the parent sample was not a project sample, the LCS was within limits, and the associated RPD was within limits.

CASE NARRATIVE

Laboratory number:	**271203**
Client:	**URS Corporation**
Project:	**RWQCB PCE LUKIN**
Location:	**RWQCB PCE LUKIN**
Request Date:	**11/02/15**
Samples Received:	**10/31/15**

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

High RPD was observed for trichloroethene in the BS/BSD for batch 229155; the high RPD was not associated with any reported results.

High surrogate recoveries were observed for bromofluorobenzene in TB-2 (lab # 271203-019) and the method blank for batch 229193; no target analytes were detected in these samples.

SB-18-12-NS (lab # 271203-025) had multiple vials combined due to sediment.

No other analytical problems were encountered.

Chain of Custody

271203

CHAIN OF CUSTODY RECORD

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

15958

TASK OR SUB TASK (one per form): RWQCB PCE Lukin

CONTRACT NAME:

CHARGE NUMBER: 60443271.2

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

SAMPLE NUMBER	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
PatLn55-S	10/28/15	1020	VMB	3	40ml VOA	GW	HCl	SW8260B	
↓	↓	↓	↓	3	↓	↓	↓	SW8015G	
↓	↓	↓	↓	2	1L Amber	↓	None	SW8015D	

PMB 10/28/15

RELEASED BY	DATE	TIME
	10/29/15	19:30

COOLER ID:

COMMENTS:

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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409768

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-01-16-NS	10/29/15	1700	BR	3.00	1 L Amber Glass	WG	NONE	SW8015D	M
2 SB-01-16-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-01-16-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	10:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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409769

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-01-26-NS	10/28/15	1745	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
3	SB-01-26-NS	|	|	|	3.00	40 ml VOA	WG	HCL	SW8015G	
	SB-01-26-NS	|	|	|	3.00	40 ml VOA	WG	HCL	SW8260B	
4	TD-1	10/29/15	1600	BR	3	40 ml VOA		HCL	SW8260B, 8015G	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	19:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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409772

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-03-24-FD	10/30/15	1115	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
5 SB-03-24-FD				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-03-24-FD				3.00	40 ml VOA	WG	HCL	SW8260B	
SB-03-24-NS				2.00	1 L Amber Glass	WG	NONE	SW8015D	
6 SB-03-24-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-03-24-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/30/15	8:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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409773

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-03-32-NS	10/30/15	12:15	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
7 SB-03-32-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-03-32-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME
	10/30/15	13 30

COOLER ID:

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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409776

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-05-16-NS	10/28/15	1100	BL	2.00	1 L Amber Glass	WG	NONE	SW8015D	
8 SB-05-16-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-05-16-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	1530	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12.00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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409777

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-05-24-NS	10/26/15	1130	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
9 SB-05-24-NS	|	|	|	3.00	40 ml VOA	WG	HCL	SW8015G	
SB-05-24-NS	⊥	⊥	⊥	3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	1930	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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FAX (916) 679-2900

409778

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 DATE	COLLECTION TIME	SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-06-14-NS	10/30/15	0840	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
10 SB-06-14-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8015G	
SB-06-14-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
B.	10/30/15	13:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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CHAIN OF CUSTODY RECORD

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409779

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	QC
	DATE	TIME							
SB-06-24-NS	10/30/15	0910	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
11 SB-06-24-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8015G	
SB-06-24-NS				3.00	40 ml VOA	WG	HCL	SW8260B	
12 TB-3	10/30/15	0930	BR	3	40 ml VOA		HCL	8260B, 8015G	

RELEASED BY	DATE	TIME	COOLER ID:
	10/30/15	13:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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FAX (916) 679-2900

40978

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-07-16-NS	10/28/15	0900	RR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
13 SB-07-16-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-07-16-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	17:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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FAX (916) 679-2900

40978:

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-07-26-NS	10/28/15	~~45:~~ 0940	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
14 SB-07-26-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-07-26-NS				~~3.00~~	~~40 ml VOA~~	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME
	10/29/15	19:30

COOLER ID:

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

URS

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

409784

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-09-16-FD	10/28/15	1500	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
15 SB-09-16-FD				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-09-16-FD				3.00	40 ml VOA	WG	HCL	SW8260B	
SB-09-16-NS				2.00	1 L Amber Glass	WG	NONE	SW8015D	
16 SB-09-16-NS				5.00	40 ml VOA	WG	HCL	SW8015G	M
SB-09-16-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	19:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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409785

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 DATE	COLLECTION TIME	SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-09-24-NS	10/28/15	1540	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-09-24-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8015G	
SB-09-24-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	1930	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:10		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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FAX (916) 679-2900

409786

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-10-16-NS	10/28/15	1250	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
18 SB-10-16-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-10-16-NS				3.00	40 ml VOA	WG	HCL	SW8260B	
19 TB-2	10/29/15	1600	BR	3	40 ml VOA		HCl	8260B, 8015G	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	19:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

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FAX (916) 679-2900

409787

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-10-26-NS	10/28/15	1325	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
20 SB-10-26-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-10-26-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	19:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

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FAX (916) 679-2900

409788

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 DATE	COLLECTION TIME	SAMPLERS INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-11-12-NS	10/28/15	1630	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
SB-11-12-NS	〃	〃	〃	3.00	40 ml VOA	WG	HCL	SW8015G	
SB-11-12-NS	〃	〃	〃	3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	19:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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SACRAMENTO, CA 95833
PH. (916) 679-2000
FAX (916) 679-2900

409789

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

CONTRACT NAME:

CHARGE NUMBER: 60443271.2

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

SAMPLE NUMBER	COLLECTION		SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
	DATE	TIME							
SB-11-22-NS	10/28/15	1650	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
22 SB-11-22-NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-11-22-NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	19:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

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

40979

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-12-12-NS	10/29/15	1315	BA	2.00	1 L Amber Glass	WG	NONE	SW8015D	
23 SB-12-12-NS	|	|	|	3.00	40 ml VOA	WG	HCL	SW8015G	
SB-12-12-NS	|	|	|	3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
T. [illegible]	10/29/15	19:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

CHAIN OF CUSTODY RECORD

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SACRAMENTO, CA 95833
PH. (916) 679-2000
FAX (916) 679-2900

409791

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-12-22-NS	10/29/15	1340	BR	2.00	1 L Amber Glass	WG	NONE	SW8015D	
24 SB-12-22-NS	↓	↓	↓	3.00	40 ml VOA	WG	HCL	SW8015G	
SB-12-22-NS	↓	↓	↓	5.00	40 ml VOA	WG	HCL	SW8260B	M

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	19:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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**

URS

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

409802

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 DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF UNITS	CONTAINER TYPE	MATRIX CODE	PRESERVATIVE	TYPE OF ANALYSIS	QC
SB-18- 12 -NS	10/29/15	1530	BL	2.00	1 L Amber Glass	WG	NONE	SW8015D	
25 SB-18- 12 -NS				3.00	40 ml VOA	WG	HCL	SW8015G	
SB-18- 12 -NS				3.00	40 ml VOA	WG	HCL	SW8260B	

RELEASED BY	DATE	TIME	COOLER ID:
	10/29/15	12:30	

RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE	TIME
	10/31/15	12:00		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:
	/ /	:		/ /	:

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

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

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 271203 Date Received 10/31/15 Number of coolers 3
Client URS Suc Project CoKIN

Date Opened 10-31-15 By (print) J-Goyette (sign)
Date Logged in 11/2 By (print) BL (sign)

1. Did cooler come with a shipping slip (airbill, etc) [✓ YES] NO
   Shipping info FedEx 781622082997/094902/104026
2A. Were custody seals present? .... ☒ YES (circle) [✓ on cooler] on samples ☐ NO
   How many 2 each Name Date 10/30/15
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 ☐ Cloth material ☒ Foam blocks ☐ Cardboard ☐ Bags ☐ Styrofoam ☐ None ☐ Paper towels

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

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 3.8 | 2.9 | 3.5

☒ 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? C N ~~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

9. 2 VOA containers were broken on arrival from sample 23
13. Sample 20 reads as "SB-10-26-NS" on COC but "SB-10-24-NS" on sample containers → matched by sampling time.
20. 2 of 6 VOAs have bubbles >6mm for sample 5, 3 of 6 VOAs have bubbles >6mm for sample 6, 1 of 6 VOAs have bubbles >6mm for sample 7, 4 of 6 VOAs have bubbles >6mm for sample 9, 5 of 6 VOAs have bubbles >6mm for sample 10, 4 of 6 VOAs have bubbles >6mm for sample 11, 6 of 6 VOAs have bubbles >6mm for sample 13, 14, 20, and 25, 4 of 6 VOAs have bubbles >6mm for sample 22, 4 of 8 VOAs have bubbles >6mm for sample 24

Rev 11, 10/15

Detections Summary for 271203

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 : PATLNSS-S Laboratory Sample ID : 271203-001

No Detections

Client Sample ID : SB-01-16-NS Laboratory Sample ID : 271203-002

No Detections

Client Sample ID : SB-01-26-NS Laboratory Sample ID : 271203-003

No Detections

Client Sample ID : TB-1 Laboratory Sample ID : 271203-004

No Detections

Client Sample ID : SB-03-24-FD Laboratory Sample ID : 271203-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	140	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-03-24-NS Laboratory Sample ID : 271203-006

No Detections

Client Sample ID : SB-03-32-NS Laboratory Sample ID : 271203-007

No Detections

Client Sample ID : SB-05-16-NS Laboratory Sample ID : 271203-008

No Detections

Client Sample ID : SB-05-24-NS Laboratory Sample ID : 271203-009

No Detections

Client Sample ID : SB-06-14-NS Laboratory Sample ID : 271203-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chloroform	1.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-06-24-NS Laboratory Sample ID : 271203-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	260	Y	63	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Acetone	13		10	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Carbon Disulfide	0.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
MTBE	1.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : TB-3 Laboratory Sample ID : 271203-012

No Detections

Client Sample ID : SB-07-16-NS Laboratory Sample ID : 271203-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	78	Y	59	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-07-26-NS Laboratory Sample ID : 271203-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	66	Y	63	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Carbon Disulfide	0.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-09-16-FD Laboratory Sample ID : 271203-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Tetrachloroethene	1.4		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-09-16-NS Laboratory Sample ID : 271203-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Tetrachloroethene	1.2		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-09-24-NS Laboratory Sample ID : 271203-017

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

Client Sample ID : SB-10-16-NS Laboratory Sample ID : 271203-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	170	Y,Z	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	190	Y	69	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Tetrachloroethene	1.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : TB-2 Laboratory Sample ID : 271203-019

No Detections

Client Sample ID : SB-10-26-NS Laboratory Sample ID : 271203-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	97	Y	64	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Carbon Disulfide	0.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : SB-11-12-NS Laboratory Sample ID : 271203-021

No Detections

Client Sample ID : SB-11-22-NS Laboratory Sample ID : 271203-022

No Detections

Client Sample ID : SB-12-12-NS Laboratory Sample ID : 271203-023

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	51	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	140	Y	63	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : SB-12-22-NS Laboratory Sample ID : 271203-024

No Detections

Client Sample ID : SB-18-12-NS Laboratory Sample ID : 271203-025

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

Y = Sample exhibits chromatographic pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks

Laboratory Job Number 271203

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Water

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	PATLNSS-S	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-001	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	80-132

Field ID:	SB-01-16-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/29/15
Lab ID:	271203-002	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-01-26-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-003	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	TB-1	Batch#:	228992
Type:	SAMPLE	Sampled:	10/29/15
Lab ID:	271203-004	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-03-24-FD	Batch#:	228992
Type:	SAMPLE	Sampled:	10/30/15
Lab ID:	271203-005	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	80-132

Field ID:	SB-03-24-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/30/15
Lab ID:	271203-006	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-03-32-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/30/15
Lab ID:	271203-007	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-05-16-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-008	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-05-24-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-009	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-06-14-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/30/15
Lab ID:	271203-010	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID:	SB-06-24-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/30/15
Lab ID:	271203-011	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	80-132

Field ID:	TB-3	Batch#:	228992
Type:	SAMPLE	Sampled:	10/30/15
Lab ID:	271203-012	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-07-16-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-013	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	80-132

Field ID:	SB-07-26-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-014	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	80-132

Field ID:	SB-09-16-FD	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-015	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	80-132

Field ID:	SB-09-16-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-016	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-09-24-NS	Batch#:	228992
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-017	Analyzed:	11/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	80-132

Field ID:	SB-10-16-NS	Batch#:	229015
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-018	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	170 Y Z	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	80-132

Field ID:	TB-2	Batch#:	229015
Type:	SAMPLE	Sampled:	10/29/15
Lab ID:	271203-019	Analyzed:	11/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	80-132

Field ID:	SB-10-26-NS	Batch#:	229015
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-020	Analyzed:	11/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-11-12-NS	Batch#:	229015
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-021	Analyzed:	11/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	80-132

Field ID:	SB-11-22-NS	Batch#:	229015
Type:	SAMPLE	Sampled:	10/28/15
Lab ID:	271203-022	Analyzed:	11/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	80-132

Field ID:	SB-12-12-NS	Batch#:	229015
Type:	SAMPLE	Sampled:	10/29/15
Lab ID:	271203-023	Analyzed:	11/04/15

Analyte	Result	RL
Gasoline C7-C12	51 Y	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	80-132

Field ID:	SB-12-22-NS	Batch#:	229015
Type:	SAMPLE	Sampled:	10/29/15
Lab ID:	271203-024	Analyzed:	11/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-18-12-NS	Batch#:	229015
Type:	SAMPLE	Sampled:	10/29/15
Lab ID:	271203-025	Analyzed:	11/04/15

Analyte	Result	RL
Gasoline C7-C12	56 Y	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	80-132

Type:	BLANK	Batch#:	228992
Lab ID:	QC810958	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	80-132

Type:	BLANK	Batch#:	229015
Lab ID:	QC811053	Analyzed:	11/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	271203	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:	QC810957	Batch#:	228992
Matrix:	Water	Analyzed:	11/03/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,074	107	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	80-132

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Field ID:	SB-09-16-NS	Batch#:	228992
MSS Lab ID:	271203-016	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/03/15
Diln Fac:	1.000		

Type: MS Lab ID: QC810959

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	32.66	2,000	2,039	100	76-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	80-132

Type: MSD Lab ID: QC810960

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,979	97	76-120	3	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	80-132

RPD= Relative Percent Difference

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	271203	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:	QC811052	Batch#:	229015
Matrix:	Water	Analyzed:	11/03/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,064	106	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	117	80-132

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	229015
MSS Lab ID:	271228-002	Sampled:	11/02/15
Matrix:	Water	Received:	11/02/15
Units:	ug/L	Analyzed:	11/03/15
Diln Fac:	1.000		

Type: MS Lab ID: QC811054

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	42.85	2,000	1,999	98	76-120

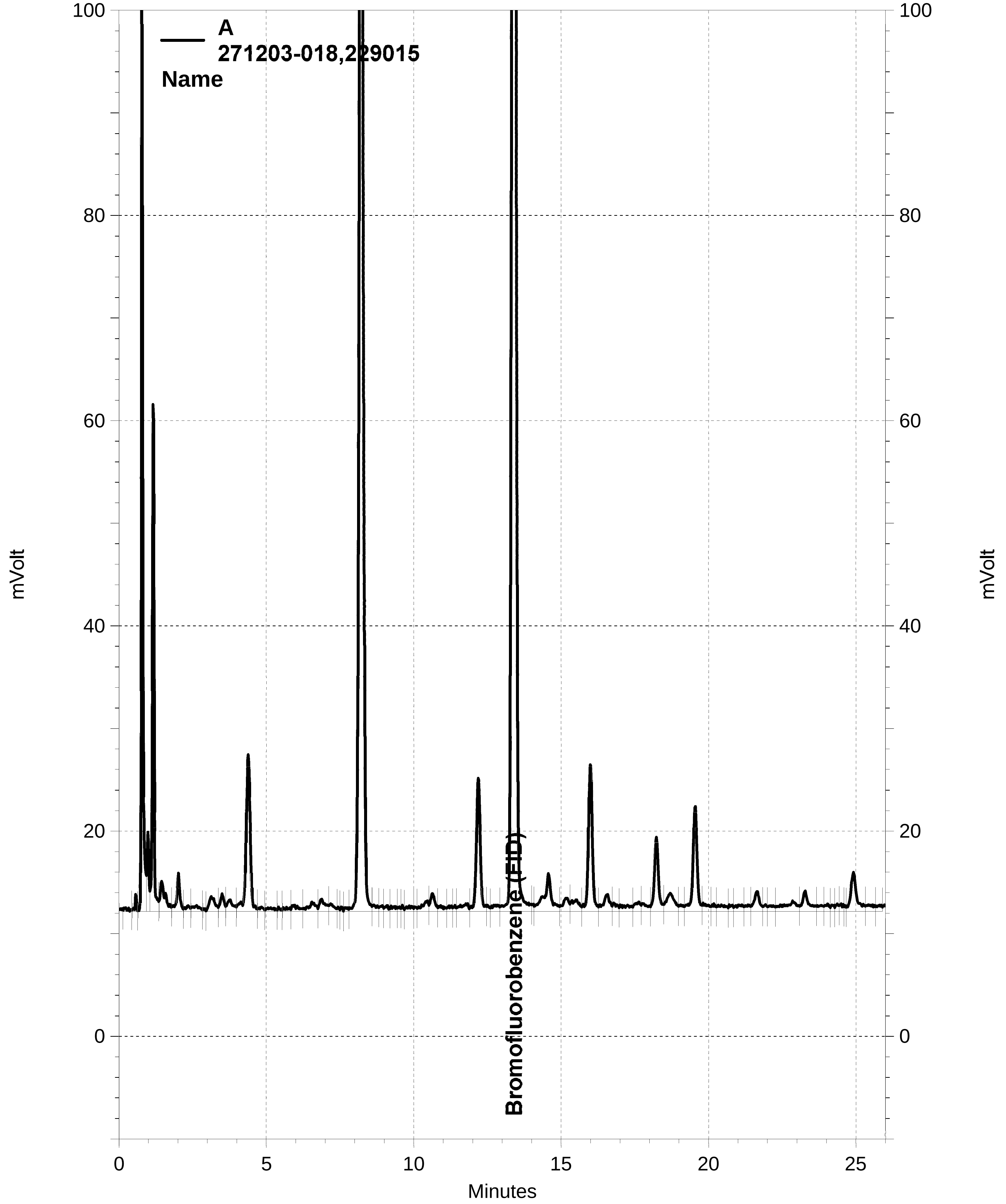
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	120	80-132

Type: MSD Lab ID: QC811055

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,917	94	76-120	4	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	118	80-132

RPD= Relative Percent Difference



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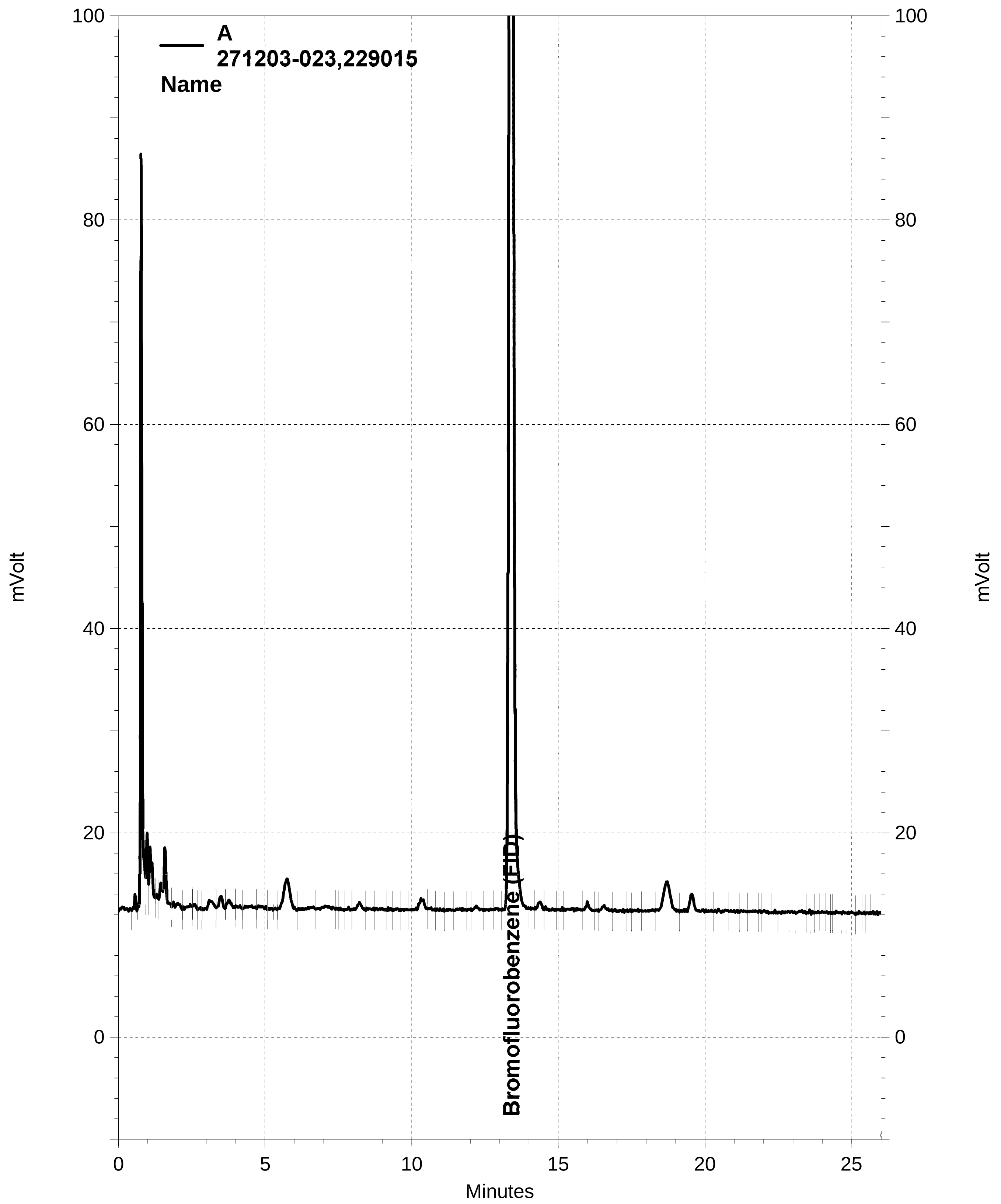

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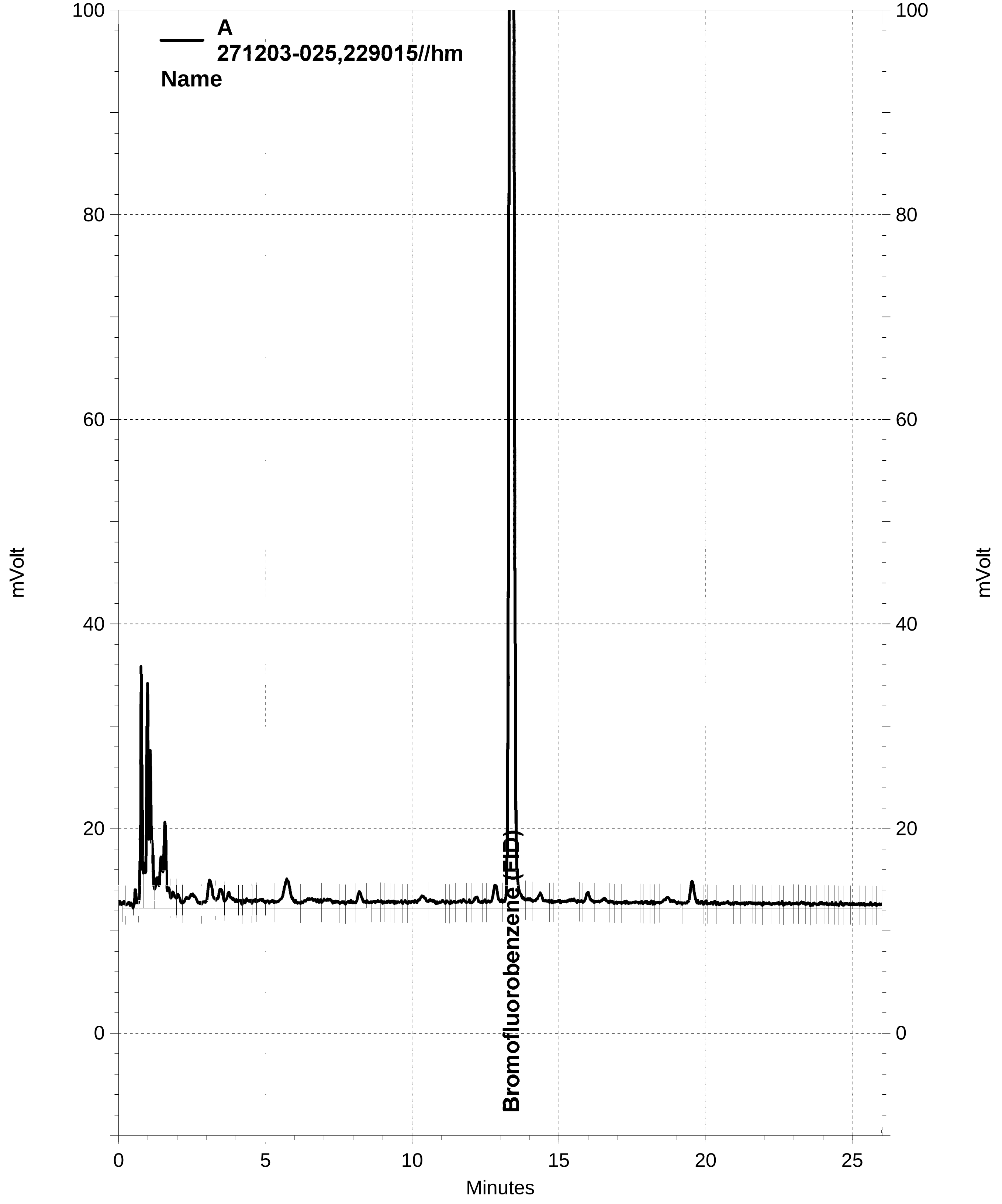

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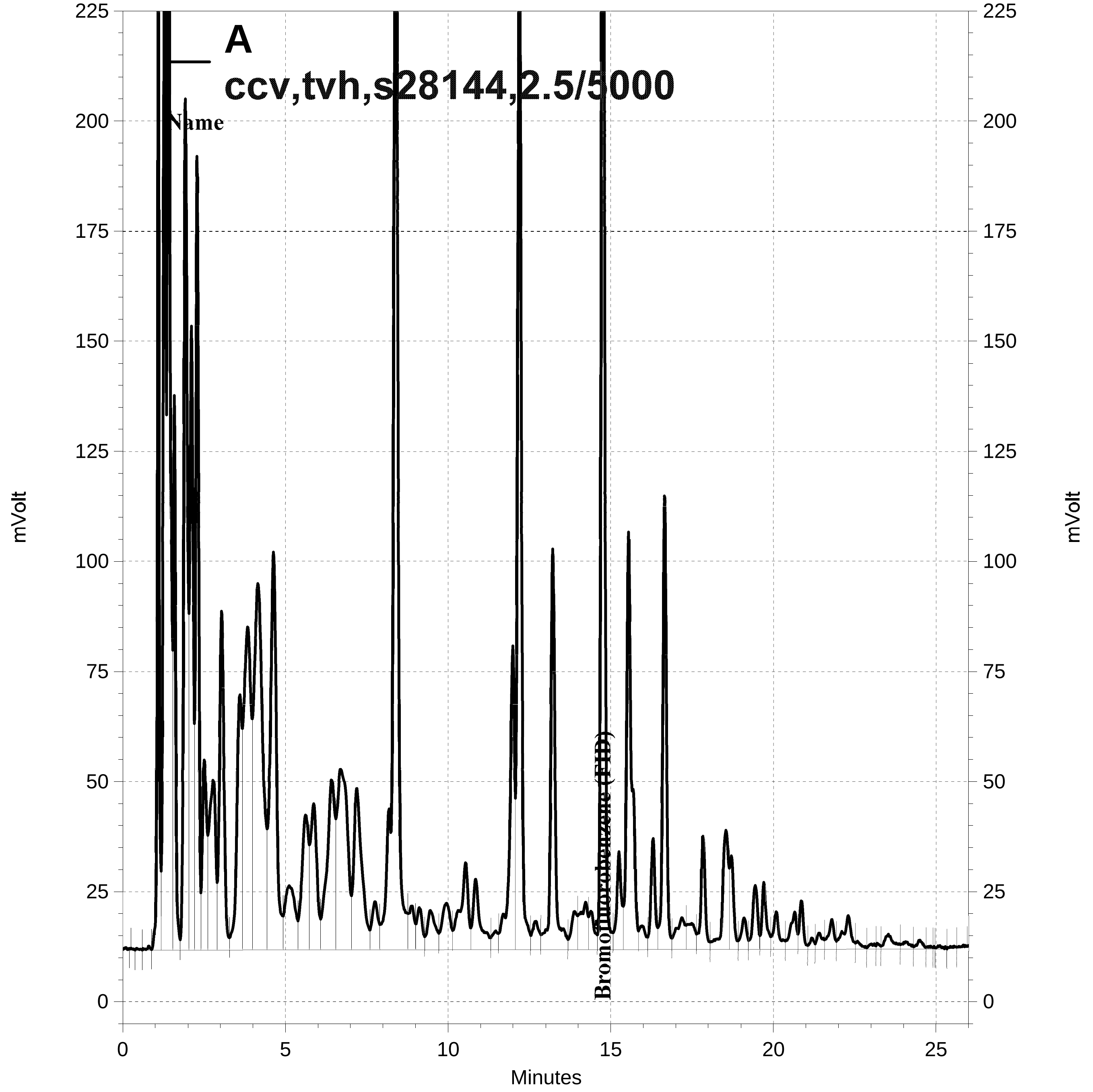

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Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271203 GCVOA Water: 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 271203 GCVOA Water
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 INITIAL CALIBRATION FOR 271203 GCVOA Water: EPA 8015B

Inst : GC05
Calnum : 315090403001
Units : ng

Name : tvh/BFB_062
Date : 04-MAR-2015 06:00
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	062_019	315090403019	TVH_15	04-MAR-2015 06:00	S26764 (1000X), S26658 (5000X)
L2	062_020	315090403020	TVH_16	04-MAR-2015 06:38	S26763 (1000X), S26658 (5000X)
L3	062_021	315090403021	TVH_17	04-MAR-2015 07:16	S26761 (2000X), S26658 (5000X)
L4	062_022	315090403022	TVH_18	04-MAR-2015 07:53	S26761 (1000X), S26658 (5000X)
L5	062_028	315090403028	TVH_14	04-MAR-2015 12:44	S26765 (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	3071.8	2632.6	2316.7	2473.8	3553.9	AVRG		3.56E-4		2809.8	18	0.995	20	
Bromofluorobenzene (FID)	A	2056.4	1960.4	1953.0	2504.9	2301.1	AVRG		4.64E-4		2155.2	11	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	2500.0	9	10000	-6	25000	-18	50000	-12	250.00	**26**
Bromofluorobenzene (FID)	A	900.00	-5	900.00	-9	900.00	-9	900.00	16	900.00	7

ERR 03/05/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak in multiple levels.

ERR 03/05/15 : Corrected baseline noise or negative peak in multiple levels.

ERR 03/05/15 : TVH14_L4 low point out high, reran for better fit.

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

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

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271203 GCVOA Water
EPA 8015B

Inst : GC05
Calnum : 315090403001

Name : tvh/BFB_062
Cal Date : 04-MAR-2015

ICV 315090403030 (062_030 04-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9289	ng	-7	15	

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 GCVOA Water
EPA 8015B

Inst : GC04
Run Name : QC810957
IDF : 1.0
Seqnum : 305442526003.1
File : 307_003
Time : 03-NOV-2015 09:17
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	3436.9	5000	5371	ng	7	15	u
Bromofluorobenzene (FID)	A	2454.0	2632.9	900.0	965.6	ng	7	15	u

FBJ 11/04/15 : ccv/lcs,qc810957,228992 [general version]

Analyst: CAR Date: 11/04/15 Reviewer: EAH Date: 11/06/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCVOA Water
EPA 8015B

Inst : GC04
Run Name : TVH
IDF : 1.0
Seqnum : 305442526015
File : 307_015
Time : 03-NOV-2015 17:12
Cal : 305422905001
Caldate : 20-OCT-2015
Standards: S28144 (1000X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	3199.3	3223.4	10000	10080	ng	1	15	
Bromofluorobenzene (FID)	A	2454.0	2819.6	900.0	1034	ng	15	15	

Analyst: FBJ Date: 11/04/15 Reviewer: TKM Date: 11/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCVOA Water
EPA 8015B

Inst : GC04
Seqnum : 305442526017
Cal : 305422905001
Standards: S28144 (1000X), S28390 (5000X)

Run Name : TVH
File : 307_017
Caldate : 20-OCT-2015

IDF : 1.0
Time : 03-NOV-2015 18:27

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	3199.3	3120.3	10000	9753	ng	-2	15	
Bromofluorobenzene (FID)	A	2454.0	2551.9	900.0	935.9	ng	4	15	

Analyst: FBJ Date: 11/04/15 Reviewer: TKM Date: 11/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCVOA Water
EPA 8015B

Inst : GC04
Seqnum : 305442526027
Cal : 305422905001
Run Name : TVH
File : 307_027
Caldate : 20-OCT-2015
IDF : 1.0
Time : 04-NOV-2015 00:43
Standards: S28144 (666.7X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	3199.3	2960.8	15000	13880	ng	-7	15	
Bromofluorobenzene (FID)	A	2454.0	2429.0	900.0	890.8	ng	-1	15	

Analyst: FBJ Date: 11/04/15 Reviewer: TKM Date: 11/04/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 271203 GCVOA Water
EPA 8015B

Inst   : GC05
Seqnum : 315442775003.1
Cal   : 315090403001
Run Name : QC811052
File   : 307_003
Caldate : 04-MAR-2015
IDF : 1.0
Time : 03-NOV-2015 12:50
Standards: S28144 (2000X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2989.0	5000	5319	ng	6	15	u
Bromofluorobenzene (FID)	A	2155.2	2515.2	900.0	1050	ng	**17**	15	c+ u

CAR 11/03/15 [Bromofluorobenzene (FID) A]: Passes control limits. [general version]

CAR 11/04/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A. [general version]

CAR 11/04/15 : ccv/lcs, qc811052, 229015 [general version]

Analyst: CAR   Date: 11/04/15   Reviewer: EAH   Date: 11/06/15

+=high bias c=CCV u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCVOA Water
EPA 8015B

Inst : GC05
Seqnum : 315442775014
Cal : 315090403001
Standards: S28144 (1000X), S28390 (5000X)

Run Name : TVH
File : 307_014
Caldate : 04-MAR-2015

IDF : 1.0
Time : 03-NOV-2015 21:04

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2537.5	10000	9031	ng	-10	15	
Bromofluorobenzene (FID)	A	2155.2	2393.1	900.0	999.3	ng	11	15	

CAR 11/04/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

Analyst: CAR Date: 11/04/15 Reviewer: TKM Date: 11/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCVOA Water
EPA 8015B

Inst : GC05
Seqnum : 315442775015
Cal : 315090403001
Run Name : TVH
File : 307_015
Caldate : 04-MAR-2015
IDF : 1.0
Time : 03-NOV-2015 21:41
Standards: S28144 (1000X), S28390 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2510.2	10000	8934	ng	-11	15	
Bromofluorobenzene (FID)	A	2155.2	2220.6	900.0	927.3	ng	3	15	

Analyst: CAR Date: 11/04/15 Reviewer: TKM Date: 11/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCVOA Water
EPA 8015B

Inst : GC05
Seqnum : 315442775026
Cal : 315090403001
Standards: S28144 (666.7X), S28390 (5000X)

Run Name : TVH
File : 307_026
Caldate : 04-MAR-2015

IDF : 1.0
Time : 04-NOV-2015 04:35

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2560.6	15000	13670	ng	-9	15	
Bromofluorobenzene (FID)	A	2155.2	2646.6	900.0	1105	ng	**23**	15	c+

CAR 11/04/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: CAR Date: 11/04/15 Reviewer: TKM Date: 11/04/15

+=high bias c=CCV

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 305422905

Instrument : GC04 Begun : 10/20/15 16:25
Method : EPA 8015B, EPA 8021B 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 305442526

Instrument : GC04
Method : EPA 8015B, EPA 8021B
Begun : 11/03/15 07:26
SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	307_001	X	CMARKER			11/03/15 07:26	1.0	1 2	
002	307_002	X	TVH			11/03/15 08:25	1.0	3 2	
003	307_003	CCV/LCS	QC810957	Water	228992	11/03/15 09:17	1.0	3 2	
004	307_004	BLANK	QC810958	Water	228992	11/03/15 10:04	1.0	2	
005	307_005	MSS	271203-016	Water	228992	11/03/15 10:56	1.0	2	
006	307_006	MS	QC810959	Water	228992	11/03/15 11:34	1.0	3 2	
007	307_007	MSD	QC810960	Water	228992	11/03/15 12:11	1.0	3 2	
008	307_008	SAMPLE	271203-001	Water	228992	11/03/15 12:49	1.0	2	
009	307_009	SAMPLE	271203-002	Water	228992	11/03/15 13:26	1.0	2	
010	307_010	SAMPLE	271203-003	Water	228992	11/03/15 14:04	1.0	2	
011	307_011	SAMPLE	271203-004	Water	228992	11/03/15 14:42	1.0	2	
012	307_012	SAMPLE	271203-005	Water	228992	11/03/15 15:19	1.0	2	
013	307_013	SAMPLE	271203-006	Water	228992	11/03/15 15:57	1.0	2	
014	307_014	SAMPLE	271203-007	Water	228992	11/03/15 16:35	1.0	2	
015	307_015	CCV	TVH			11/03/15 17:12	1.0	3 2	
016	307_016	X	CMARKER			11/03/15 17:50	1.0	1 2	
017	307_017	CCV	TVH			11/03/15 18:27	1.0	3 2	
018	307_018	SAMPLE	271203-008	Water	228992	11/03/15 19:05	1.0	2	
019	307_019	SAMPLE	271203-009	Water	228992	11/03/15 19:43	1.0	2	
020	307_020	SAMPLE	271203-010	Water	228992	11/03/15 20:20	1.0	2	
021	307_021	SAMPLE	271203-011	Water	228992	11/03/15 20:58	1.0	2	
022	307_022	SAMPLE	271203-012	Water	228992	11/03/15 21:36	1.0	2	
023	307_023	SAMPLE	271203-013	Water	228992	11/03/15 22:13	1.0	2	headspace > 1 mL
024	307_024	SAMPLE	271203-014	Water	228992	11/03/15 22:51	1.0	2	headspace > 1 mL
025	307_025	SAMPLE	271203-015	Water	228992	11/03/15 23:28	1.0	2	
026	307_026	SAMPLE	271203-017	Water	228992	11/04/15 00:06	1.0	2	
027	307_027	CCV	TVH			11/04/15 00:43	1.0	3 2	
028	307_028	CCV	TVH			11/04/15 01:21	1.0	3 2	
029	307_029	X	CMARKER			11/04/15 01:59	1.0	1 2	

FBJ 11/03/15 : X'd otu run 2, BFB failed low

FBJ 11/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 29.

Reviewed by: FBJ Date: 11/04/15

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

Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315090403

Instrument : GC05
Method : EPA 8015B, EPA 8021B
Begun : 03/03/15 18:43
SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	062_001	X	IB			03/03/15 18:43	1.0	1	
002	062_002	X	IB			03/03/15 19:21	1.0	1	
003	062_003	IB	CALIB			03/03/15 19:58	1.0	1	
004	062_004	ICAL	BTXE_1			03/03/15 20:36	1.0	2 1	
005	062_005	ICAL	MBTXE_2			03/03/15 21:14	1.0	3 1	
006	062_006	ICAL	MBTXE_3			03/03/15 21:51	1.0	3 1	
007	062_007	ICAL	MBTXE_4			03/03/15 22:29	1.0	3 1	
008	062_008	ICAL	MBTXE_5			03/03/15 23:06	1.0	4 1	
009	062_009	ICAL	MBTXE_6			03/03/15 23:44	1.0	4 1	
010	062_010	ICAL	MBTXE_7			03/04/15 00:22	1.0	4 1	
011	062_011	ICAL	MBTBE_7			03/04/15 00:59	1.0	5 1	
012	062_012	X	IB			03/04/15 01:37	1.0	1	
013	062_013	ICV	MBTXE			03/04/15 02:15	1.0	6 1	
014	062_014	ICV	MBTXE			03/04/15 02:52	1.0	6 1	
015	062_015	X	IB			03/04/15 03:30	1.0	1	
016	062_016	X	IB			03/04/15 04:07	1.0	1	
017	062_017	IB	CALIB			03/04/15 04:45	1.0	1	
018	062_018	X	X			03/04/15 05:23	1.0	7 1	
019	062_019	ICAL	TVH_15			03/04/15 06:00	1.0	8 1	
020	062_020	ICAL	TVH_16			03/04/15 06:38	1.0	9 1	
021	062_021	ICAL	TVH_17			03/04/15 07:16	1.0	10 1	
022	062_022	ICAL	TVH_18			03/04/15 07:53	1.0	10 1	
023	062_023	X	IB			03/04/15 08:31	1.0	1	
024	062_024	ICV	TVH			03/04/15 09:08	1.0	11 1	
025	062_025	X	ICV			03/04/15 09:46	1.0	11 1	
026	062_026	CMARKER	CMARK			03/04/15 10:23	1.0	12 1	
027	062_027	X	CMARKER			03/04/15 11:01	1.0	12 1	
028	062_028	ICAL	TVH_14			03/04/15 12:44	1.0	7 1	
029	062_029	X	IB			03/04/15 13:21	1.0	1	
030	062_030	ICV	TVH			03/04/15 13:59	1.0	11 1	
031	062_031	X	ICV			03/04/15 14:37	1.0	11 1	
032	062_032	X	CMARKER			03/04/15 15:14	1.0	12 1	

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Reviewed by: ERR Date: 03/04/15

Standards used: 1=S26658 2=S26340 3=S26339 4=S26338 5=S26368 6=S26659 7=S26765 8=S26764 9=S26763 10=S26761 11=S26760 12=S26730

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315442775

Instrument : GC05
Method : EPA 8015B, EPA 8021B

Begun : 11/03/15 11:35
SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	307_001	X	CMARKER			11/03/15 11:35	1.0	1 2	
002	307_002	CCV/BS	QC811056	Water	229015	11/03/15 12:13	1.0	3 2	
003	307_003	CCV/LCS	QC811052	Water	229015	11/03/15 12:50	1.0	4 2	
004	307_004	BSD	QC811057	Water	229015	11/03/15 13:28	1.0	3 2	
005	307_005	BLANK	QC811053	Water	229015	11/03/15 14:30	1.0	2	
006	307_006	MSS	271228-002	Water	229015	11/03/15 16:03	1.0	2	
007	307_007	MS	QC811054	Water	229015	11/03/15 16:40	1.0	4 2	
008	307_008	MSD	QC811055	Water	229015	11/03/15 17:18	1.0	4 2	
009	307_009	SAMPLE	271228-001	Water	229015	11/03/15 17:55	1.0	2	
010	307_010	SAMPLE	271228-003	Water	229015	11/03/15 18:33	1.0	2	
011	307_011	SAMPLE	271228-004	Water	229015	11/03/15 19:11	1.0	2	
012	307_012	SAMPLE	271238-006	Water	229015	11/03/15 19:48	1.0	2	
013	307_013	SAMPLE	271203-018	Water	229015	11/03/15 20:26	1.0	2	
014	307_014	CCV	TVH			11/03/15 21:04	1.0	4 2	
015	307_015	CCV	TVH			11/03/15 21:41	1.0	4 2	
016	307_016	X	CMARKER			11/03/15 22:19	1.0	1 2	
017	307_017	CCV	BTXE			11/03/15 22:56	1.0	3 2	
018	307_018	CCV	BTXE			11/03/15 23:34	1.0	3 2	
019	307_019	SAMPLE	271203-019	Water	229015	11/04/15 00:12	1.0	2	
020	307_020	SAMPLE	271203-020	Water	229015	11/04/15 00:49	1.0	2	headspace > 1 mL
021	307_021	SAMPLE	271203-021	Water	229015	11/04/15 01:27	1.0	2	headspace <= 1 mL
022	307_022	SAMPLE	271203-022	Water	229015	11/04/15 02:05	1.0	2	headspace > 1 mL
023	307_023	SAMPLE	271203-023	Water	229015	11/04/15 02:42	1.0	2	
024	307_024	SAMPLE	271203-024	Water	229015	11/04/15 03:20	1.0	2	headspace <= 1 mL
025	307_025	SAMPLE	271203-025	Water	229015	11/04/15 03:57	1.0	2	headspace > 1 mL
026	307_026	CCV	TVH			11/04/15 04:35	1.0	4 2	
027	307_027	CCV	TVH			11/04/15 05:13	1.0	4 2	
028	307_028	X	CMARKER			11/04/15 05:50	1.0	1 2	
029	307_029	CCV	BTXE			11/04/15 06:28	1.0	3 2	
030	307_030	CCV	BTXE			11/04/15 07:05	1.0	3 2	

CAR 11/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Reviewed by: CAR Date: 11/04/15

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

Laboratory Job Number 271203

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	PATLNSS-S	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-001	Analyzed:	11/07/15
Batch#:	229054		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	97	67-136

Field ID:	SB-01-16-NS	Sampled:	10/29/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-002	Analyzed:	11/07/15
Batch#:	229054		

Analyte	Result	RL
Diesel C10-C24	ND	63

Surrogate	%REC	Limits
o-Terphenyl	112	67-136

Field ID:	SB-01-26-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-003	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	59

Surrogate	%REC	Limits
o-Terphenyl	103	67-136

Field ID:	SB-03-24-FD	Sampled:	10/30/15
Type:	SAMPLE	Prepared:	11/05/15
Lab ID:	271203-005	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	140 Y	50

Surrogate	%REC	Limits
o-Terphenyl	110	67-136

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

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-03-24-NS	Sampled:	10/30/15
Type:	SAMPLE	Prepared:	11/05/15
Lab ID:	271203-006	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	108	67-136

Field ID:	SB-03-32-NS	Sampled:	10/30/15
Type:	SAMPLE	Prepared:	11/05/15
Lab ID:	271203-007	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	56

Surrogate	%REC	Limits
o-Terphenyl	111	67-136

Field ID:	SB-05-16-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-008	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	63

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

Field ID:	SB-05-24-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-009	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	63

Surrogate	%REC	Limits
o-Terphenyl	109	67-136

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

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-06-14-NS	Sampled:	10/30/15
Type:	SAMPLE	Prepared:	11/05/15
Lab ID:	271203-010	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	56

Surrogate	%REC	Limits
o-Terphenyl	98	67-136

Field ID:	SB-06-24-NS	Sampled:	10/30/15
Type:	SAMPLE	Prepared:	11/05/15
Lab ID:	271203-011	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	260 Y	63

Surrogate	%REC	Limits
o-Terphenyl	93	67-136

Field ID:	SB-07-16-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-013	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	78 Y	59

Surrogate	%REC	Limits
o-Terphenyl	107	67-136

Field ID:	SB-07-26-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-014	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	66 Y	63

Surrogate	%REC	Limits
o-Terphenyl	124	67-136

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

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-09-16-FD	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-015	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	56

Surrogate	%REC	Limits
o-Terphenyl	97	67-136

Field ID:	SB-09-16-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-016	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	56

Surrogate	%REC	Limits
o-Terphenyl	105	67-136

Field ID:	SB-09-24-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-017	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	63

Surrogate	%REC	Limits
o-Terphenyl	97	67-136

Field ID:	SB-10-16-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-018	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	190 Y	69

Surrogate	%REC	Limits
o-Terphenyl	114	67-136

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

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-10-26-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-020	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	97 Y	64

Surrogate	%REC	Limits
o-Terphenyl	114	67-136

Field ID:	SB-11-12-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-021	Analyzed:	11/14/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	59

Surrogate	%REC	Limits
o-Terphenyl	98	67-136

Field ID:	SB-11-22-NS	Sampled:	10/28/15
Type:	SAMPLE	Prepared:	11/04/15
Lab ID:	271203-022	Analyzed:	11/13/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	67

Surrogate	%REC	Limits
o-Terphenyl	111	67-136

Field ID:	SB-12-12-NS	Sampled:	10/29/15
Type:	SAMPLE	Prepared:	11/05/15
Lab ID:	271203-023	Analyzed:	11/13/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	140 Y	63

Surrogate	%REC	Limits
o-Terphenyl	92	67-136

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

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Field ID:	SB-12-22-NS	Sampled:	10/29/15
Type:	SAMPLE	Prepared:	11/03/15
Lab ID:	271203-024	Analyzed:	11/08/15
Batch#:	229010		

Analyte	Result	RL
Diesel C10-C24	ND	56

Surrogate	%REC	Limits
o-Terphenyl	106	67-136

Field ID:	SB-18-12-NS	Sampled:	10/29/15
Type:	SAMPLE	Prepared:	11/03/15
Lab ID:	271203-025	Analyzed:	11/08/15
Batch#:	229010		

Analyte	Result	RL
Diesel C10-C24	ND	83

Surrogate	%REC	Limits
o-Terphenyl	84	67-136

Type:	BLANK	Prepared:	11/03/15
Lab ID:	QC811026	Analyzed:	11/07/15
Batch#:	229010		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	102	67-136

Type:	BLANK	Prepared:	11/04/15
Lab ID:	QC811214	Analyzed:	11/05/15
Batch#:	229054		

Analyte	Result	RL
Diesel C10-C24	62 b	50

Surrogate	%REC	Limits
o-Terphenyl	95	67-136

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

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	10/31/15

Type:	BLANK	Prepared:	11/04/15
Lab ID:	QC811242	Analyzed:	11/13/15
Batch#:	229062		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	101	67-136

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

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229010
Units:	ug/L	Prepared:	11/03/15
Diln Fac:	1.000	Analyzed:	11/07/15

Type: BS

Lab ID: QC811027

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,413	97	60-121

Surrogate	%REC	Limits
o-Terphenyl	111	67-136

Type: BSD

Lab ID: QC811028

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,966	79	60-121	20	32

Surrogate	%REC	Limits
o-Terphenyl	94	67-136

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC811215	Batch#:	229054
Matrix:	Water	Prepared:	11/04/15
Units:	ug/L	Analyzed:	11/05/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,080	83	60-121

Surrogate	%REC	Limits
o-Terphenyl	101	67-136

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Field ID:	SB-01-16-NS	Batch#:	229054
MSS Lab ID:	271203-002	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Prepared:	11/04/15
Diln Fac:	1.000	Analyzed:	11/07/15

Type: MS

Lab ID: QC811216

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	23.14	3,125	2,518	80	55-122

Surrogate	%REC	Limits
o-Terphenyl	106	67-136

Type: MSD

Lab ID: QC811217

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	3,125	2,431	77	55-122	3	53

Surrogate	%REC	Limits
o-Terphenyl	102	67-136

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 3520C
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	229062
Units:	ug/L	Prepared:	11/04/15
Diln Fac:	1.000	Analyzed:	11/13/15

Type:	BS	Lab ID:	QC811243

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,271	91	60-121

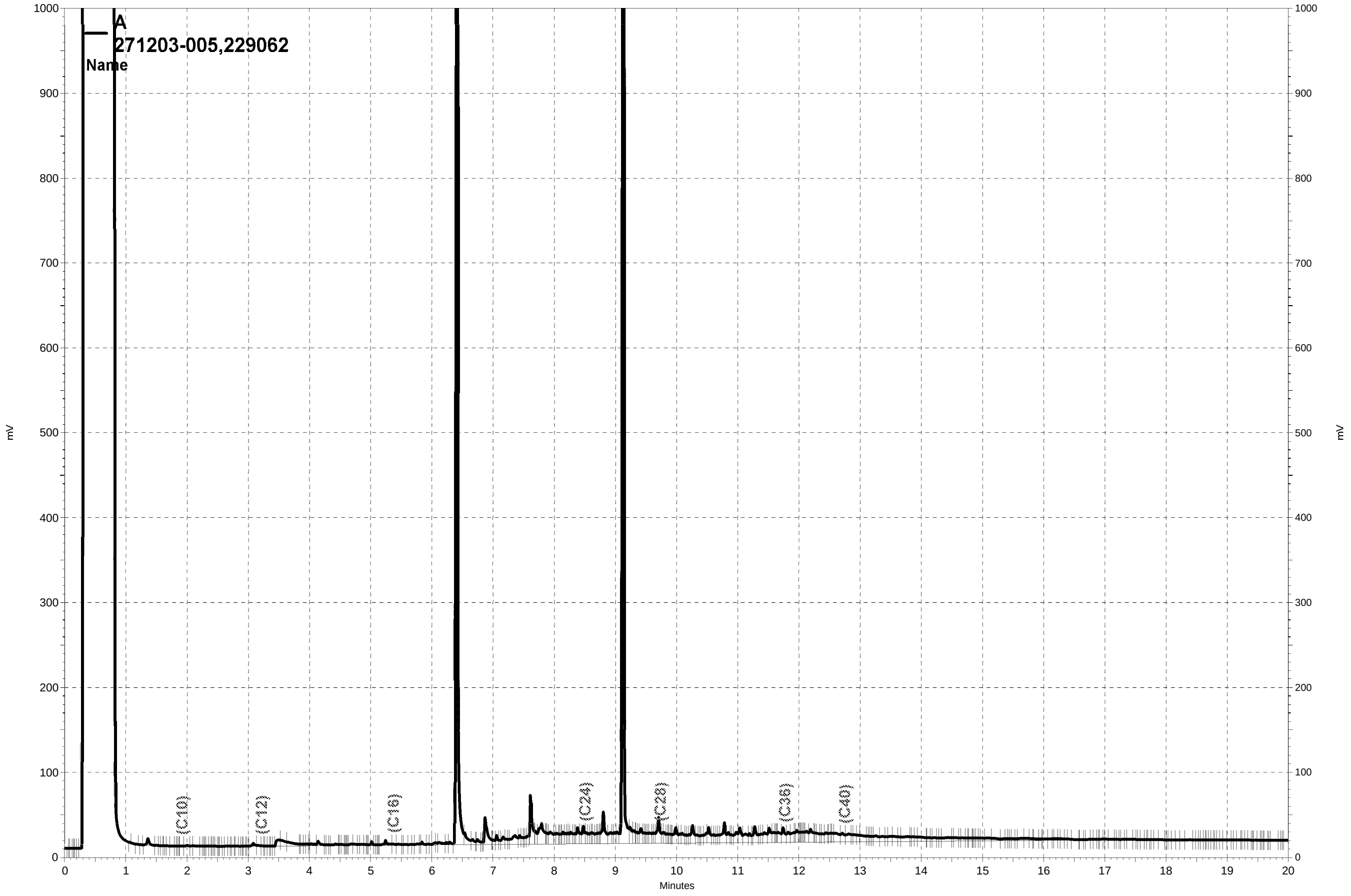
Surrogate	%REC	Limits
o-Terphenyl	108	67-136

Type:	BSD	Lab ID:	QC811244

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,205	88	60-121	3	32

Surrogate	%REC	Limits
o-Terphenyl	98	67-136

RPD= Relative Percent Difference



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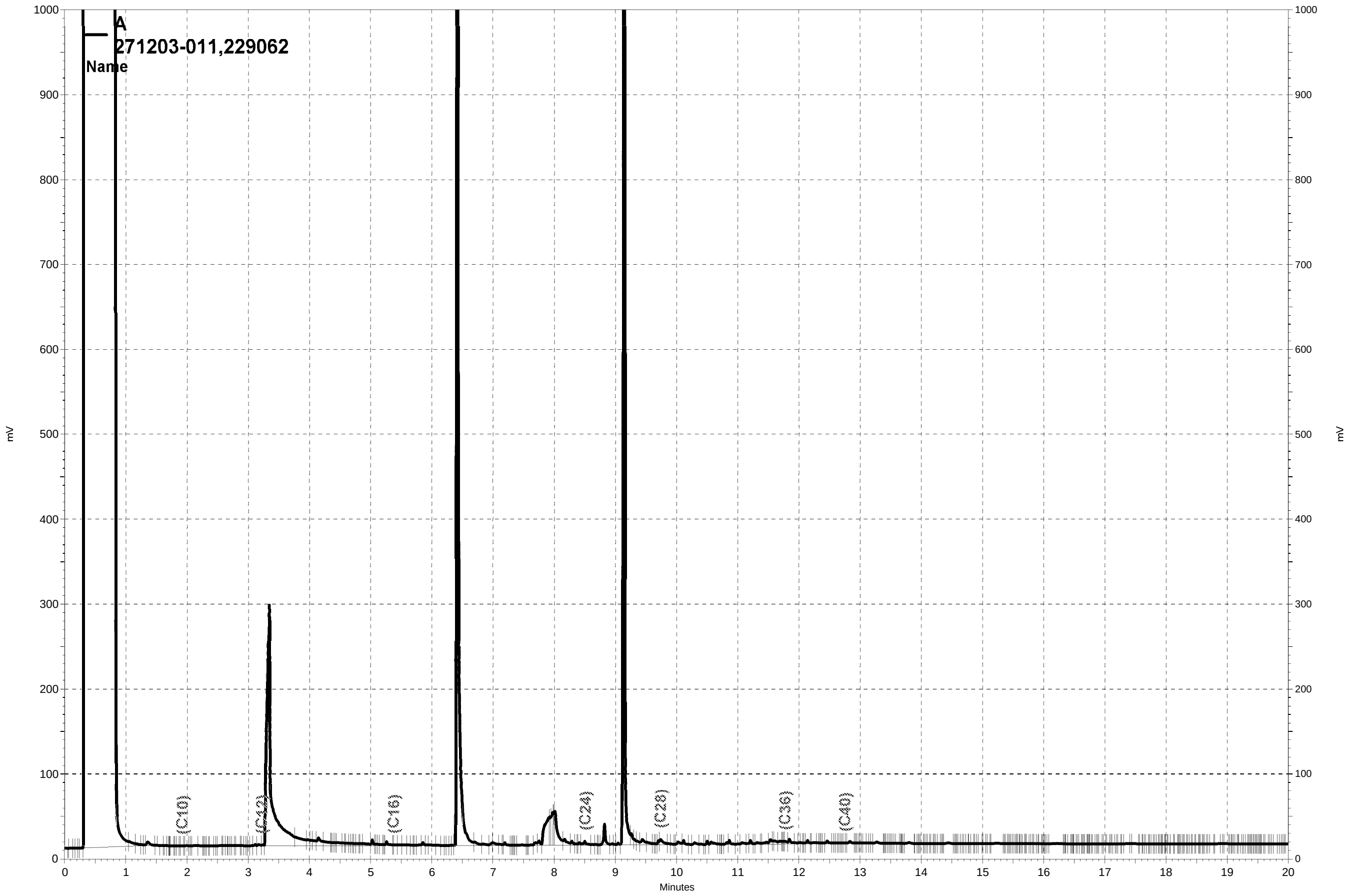

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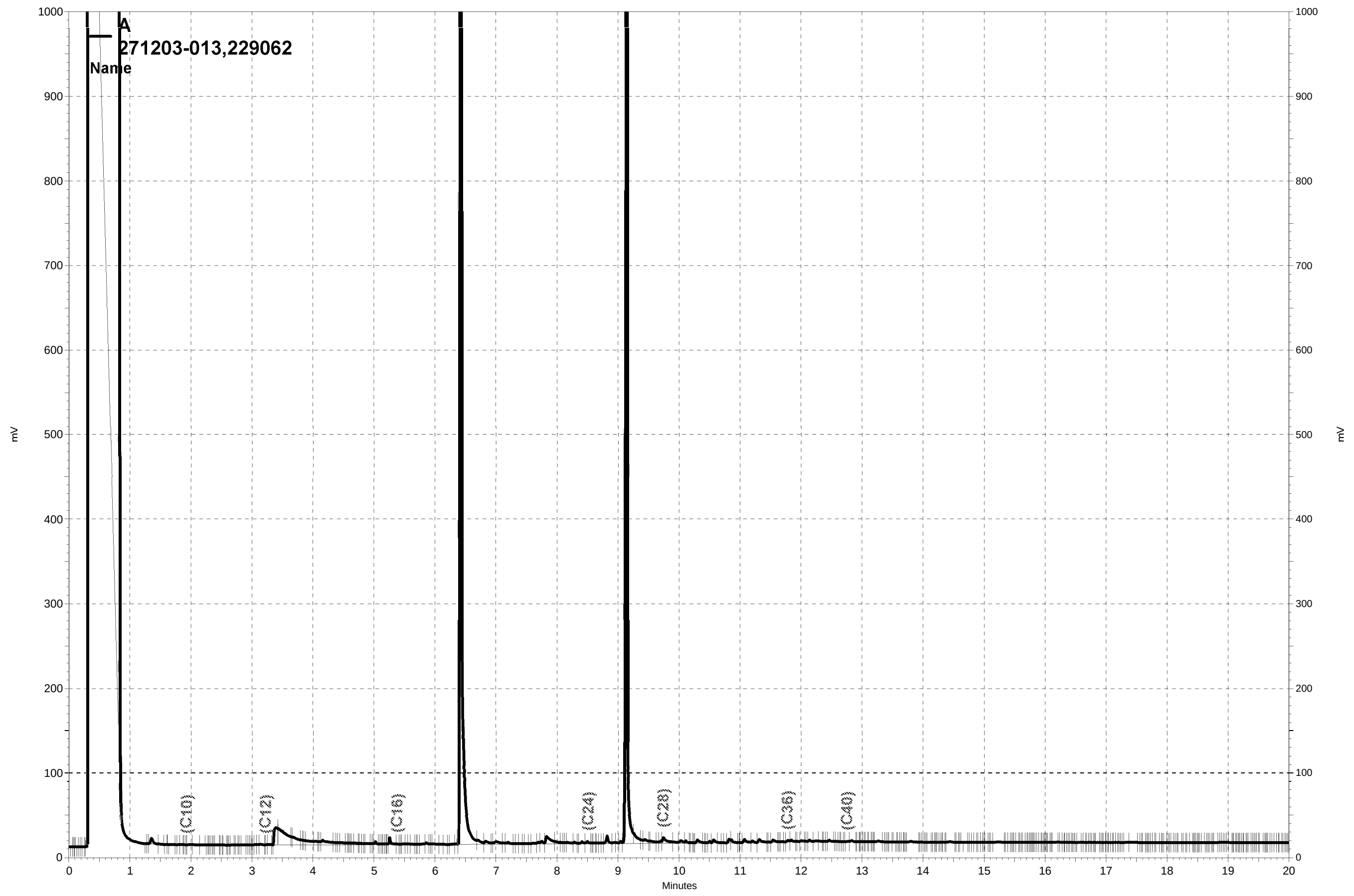

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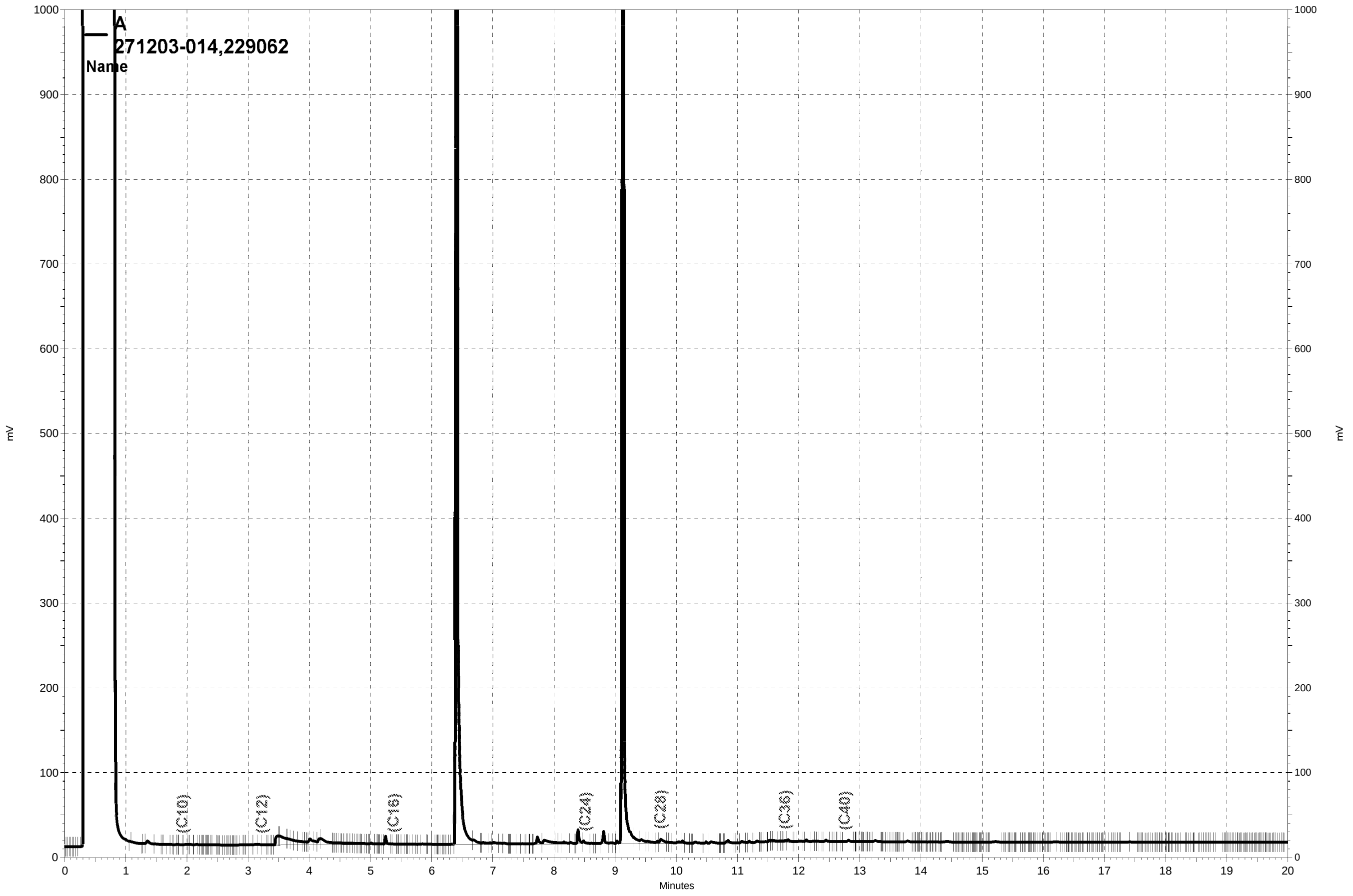

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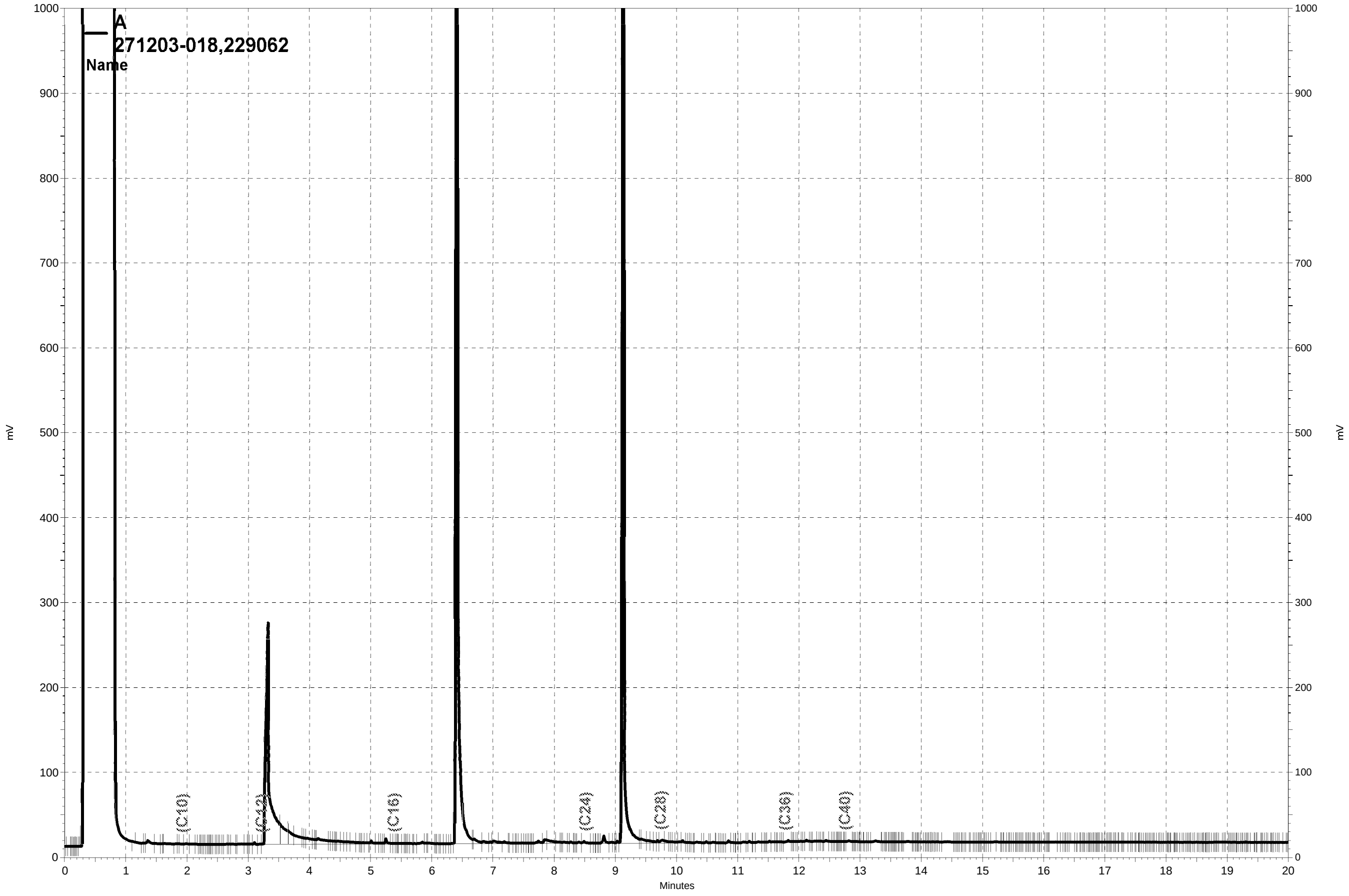

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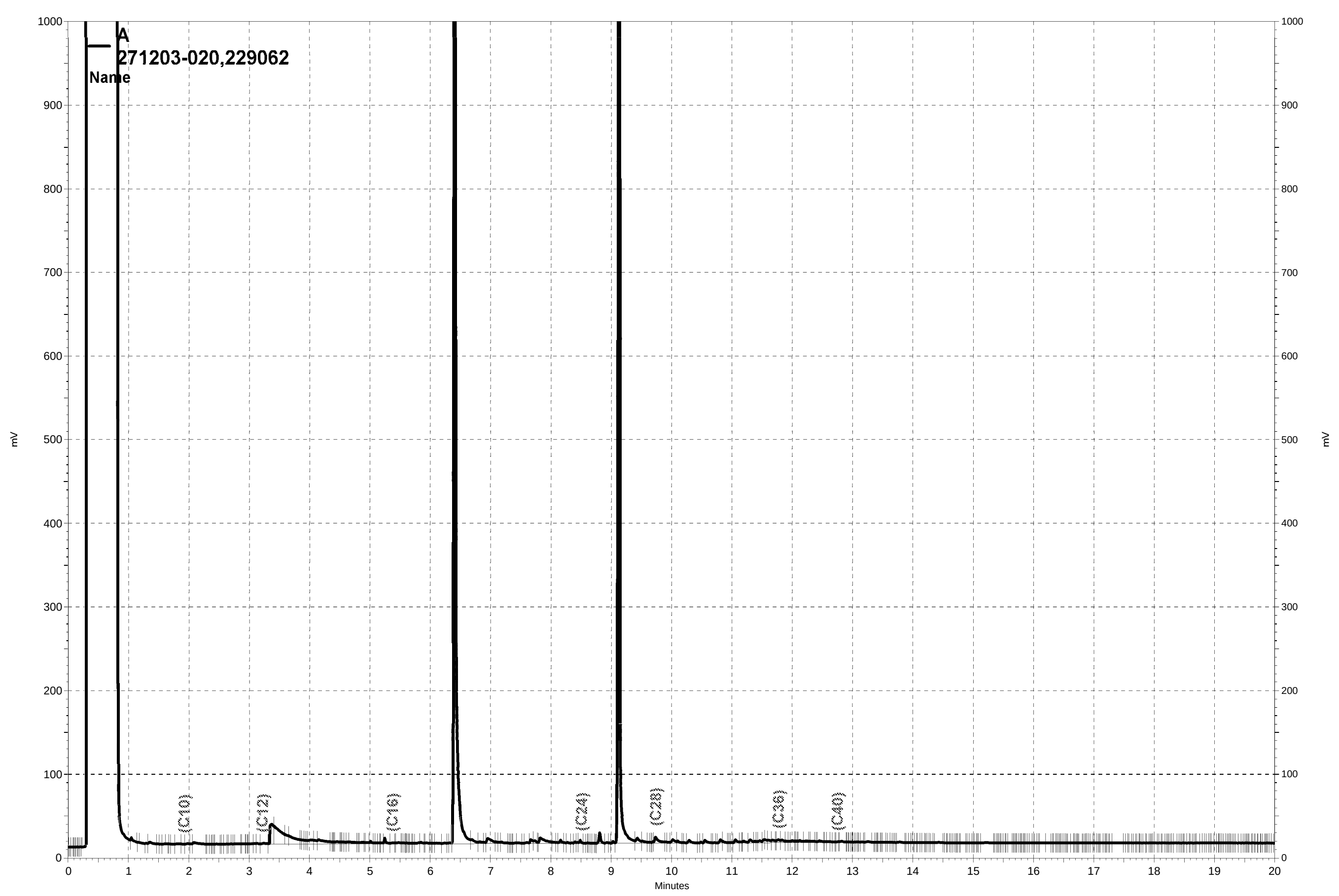

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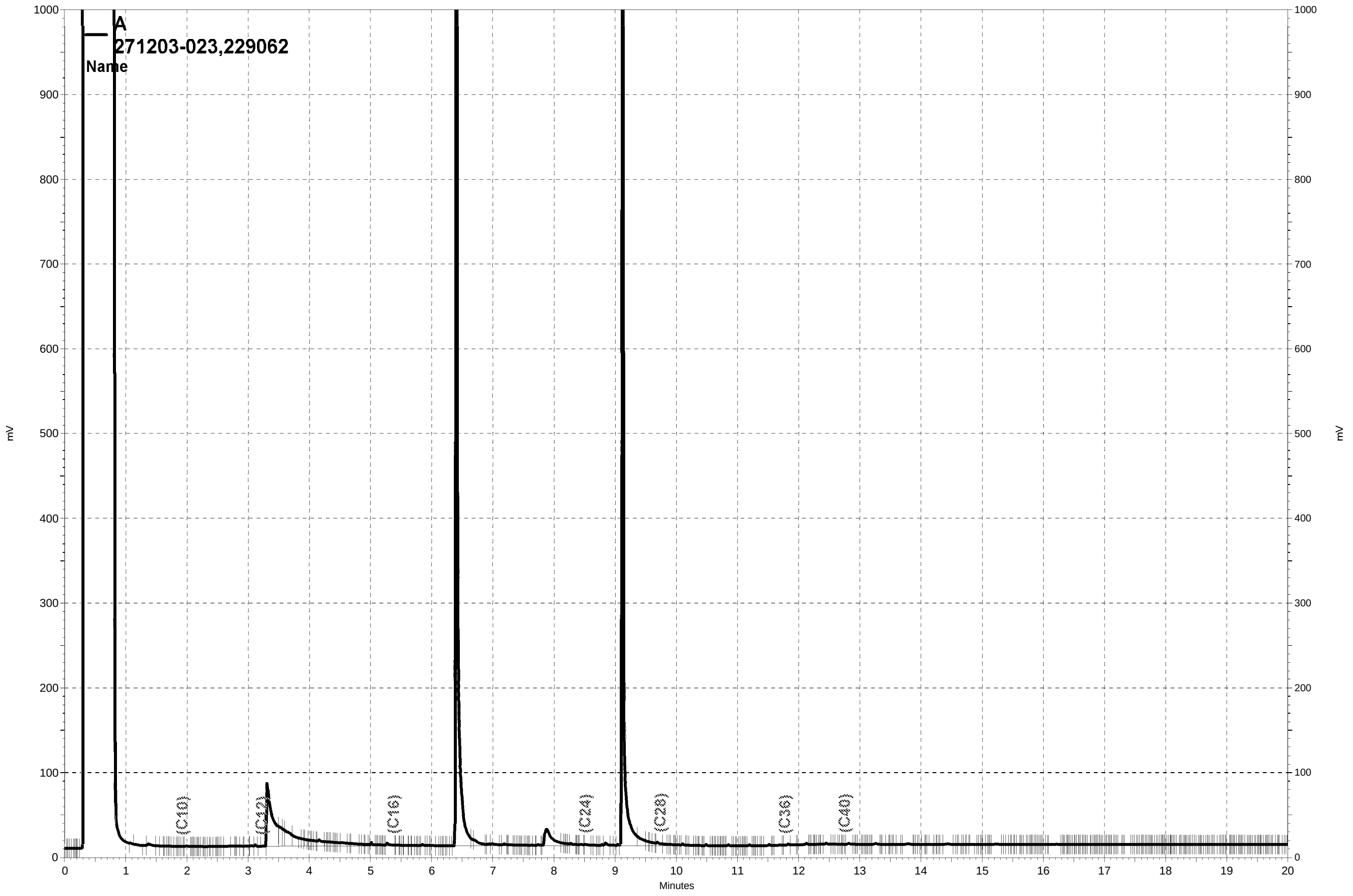

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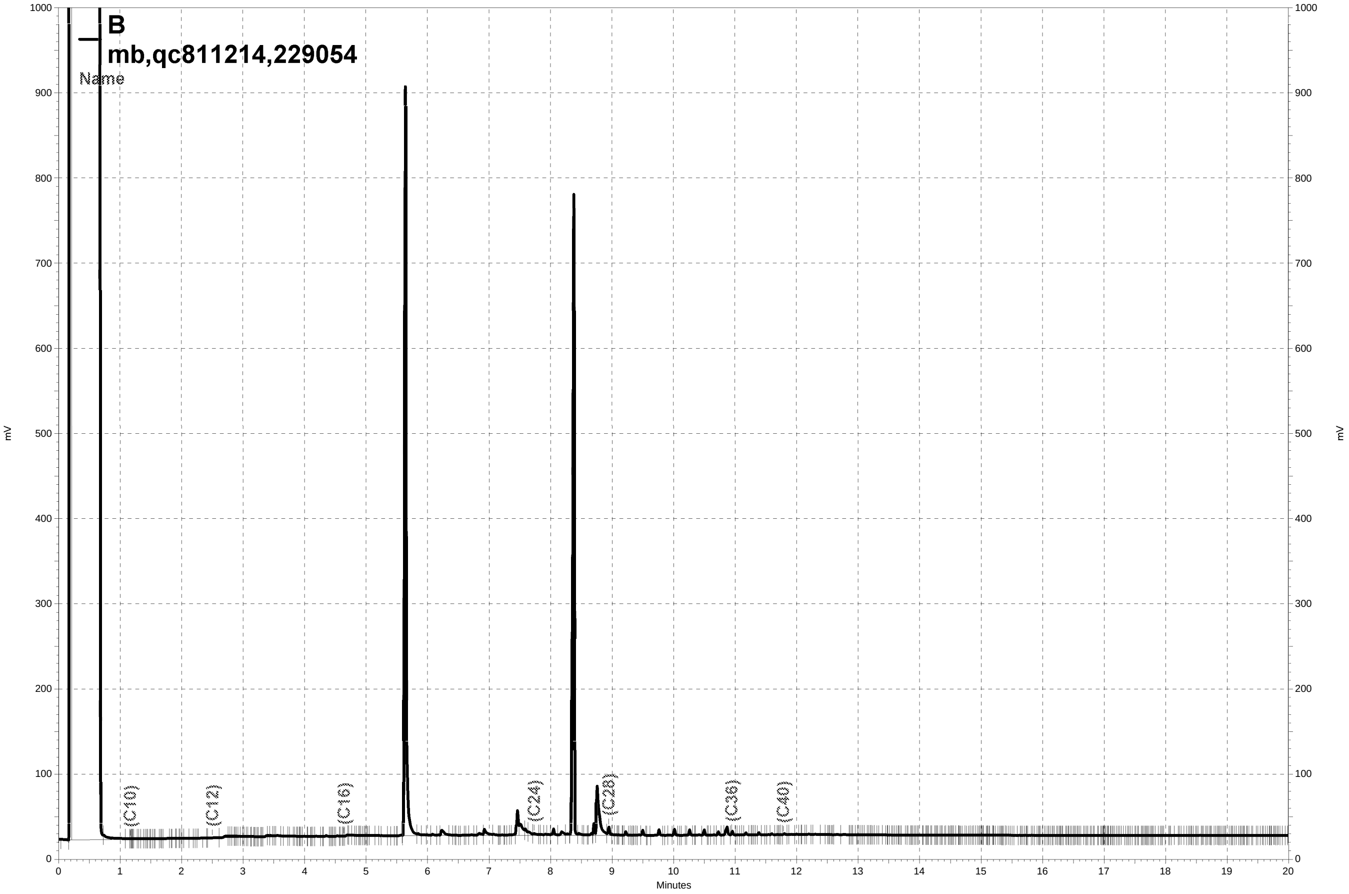

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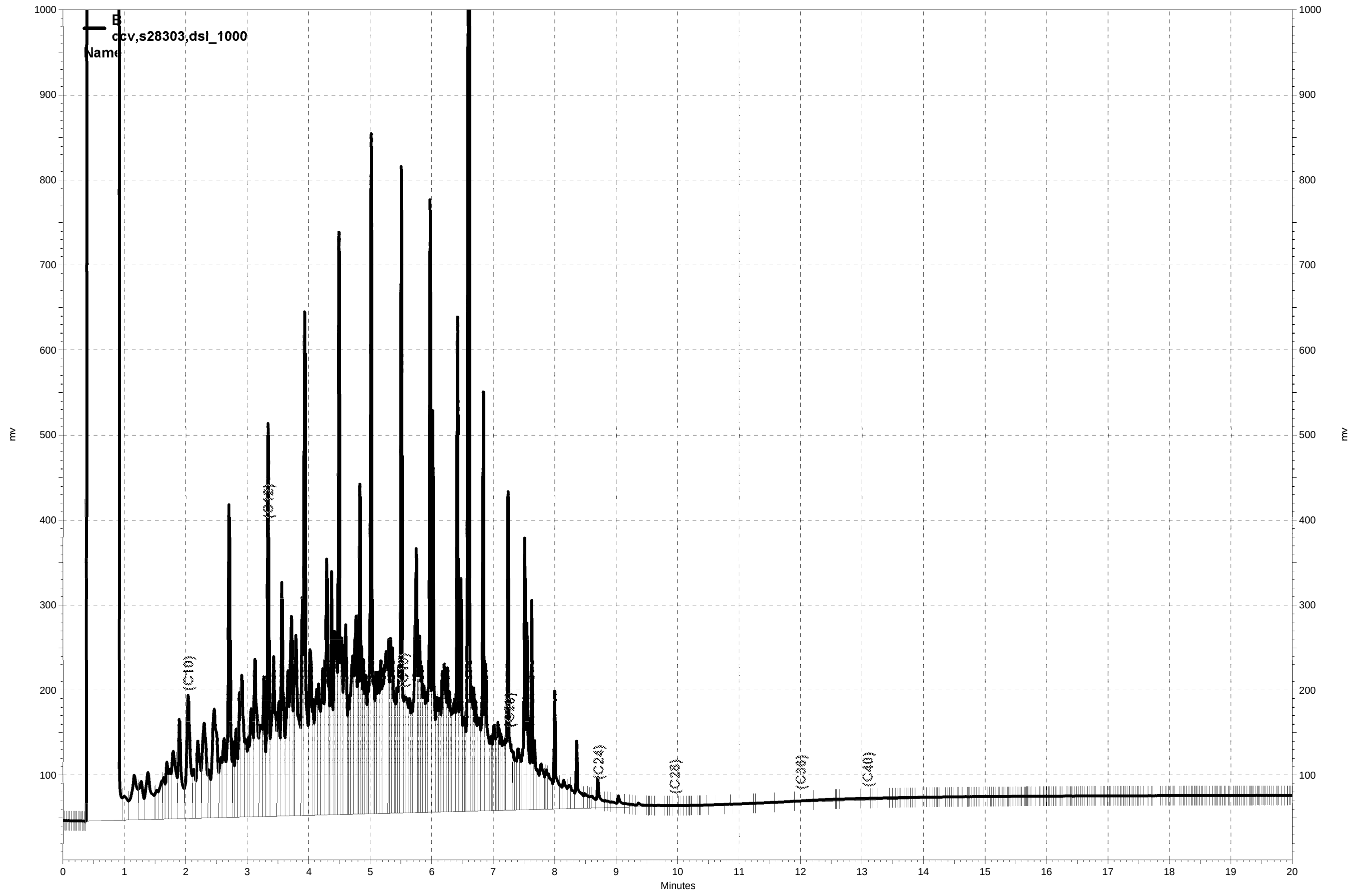

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Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271203 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 224523202001
Units : mg/L

Name : DSL_364
Date : 29-DEC-2014 15:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	364_009	224523202009	DSL_10	29-DEC-2014 15:35	S26213
L2	364_010	224523202010	DSL_100	29-DEC-2014 16:04	S25844
L3	364_011	224523202011	DSL_500	29-DEC-2014 16:32	S25845
L4	364_012	224523202012	DSL_1000	29-DEC-2014 17:00	S25846
L5	364_013	224523202013	DSL_5000	29-DEC-2014 17:28	S25842

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	B	22270	35068	37375	37151	34353	AVRG		3.01E-5		33243	19	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	B	10.000	**-33**	100.00	5	500.00	12	1000.0	12	5000.0	3

SFL 12/30/14 : Samples that require carbon ranges Diesel C16-C24 will not be loaded on this instrument.

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

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

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271203 GCSV Water
EPA 8015B

Inst : GC14B
Calnum : 224523202001

Name : DSL_364
Cal Date : 29-DEC-2014

ICV 224523202016 (364_016 29-DEC-2014) stds: S25996

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	B	500.0	543.3	mg/L	9	15	

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271203 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 225426669001
Units : mg/L

Name : OTPHEX_296
Date : 23-OCT-2015 14:10
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	296_006	225426669006	HEX OTP_5	23-OCT-2015 14:10	S27409
L2	296_007	225426669007	HEX OTP_10	23-OCT-2015 14:40	S27410
L3	296_008	225426669008	HEX OTP_25	23-OCT-2015 15:09	S27411
L4	296_009	225426669009	HEX OTP_50	23-OCT-2015 15:39	S27412
L5	296_010	225426669010	HEX OTP_100	23-OCT-2015 16:09	S27413
L6	296_011	225426669011	HEX OTP_200	23-OCT-2015 16:38	S27414

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	30954	31774	31981	35007	33195	32269	AVRG		3.07E-5		32530	4	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.0000	-5	10.000	-2	25.000	-2	50.000	8	100.00	2	200.00	-1

SFL 10/24/15 : Corrected automatically drawn baseline in HEX OTP_200 (296_011).

SFL 10/24/15 : Any samples that require HEXACOSANE will not be loaded on this instrument.

Analyst: SFL Date: 10/24/15 Reviewer: EAH Date: 10/26/15

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

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271203 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 271203 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 271203 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 INITIAL CALIBRATION FOR 271203 GCSV Water: 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 271203 GCSV Water
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 271203 GCSV Water: 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 INITIAL CALIBRATION FOR 271203 GCSV Water: EPA 8015B

Inst : GC26A
Calnum : 865421170001
Units : mg/L

Name : OTPHEX_292
Date : 19-OCT-2015 15:42
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	292a009	865421170009	HEXOTP_5	19-OCT-2015 15:42	S27409
L2	292a010	865421170010	HEXOTP_10	19-OCT-2015 16:10	S27410
L3	292a011	865421170011	HEXOTP_25	19-OCT-2015 16:38	S27411
L4	292a012	865421170012	HEXOTP_50	19-OCT-2015 17:06	S27412
L5	292a013	865421170013	HEXOTP_100	19-OCT-2015 17:34	S27413
L6	292a014	865421170014	HEXOTP_200	19-OCT-2015 18:02	S27414

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	65123	60926	62790	63513	65439	66107	AVRG		1.56E-5		63983	3	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	2	10.000	-5	25.000	-2	50.000	-1	100.00	2	200.00	3

JDG 10/22/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 10/22/15 Reviewer: EAH Date: 10/22/15

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

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271203 GCSV Water: EPA 8015B

Inst : GC26A	Name : DSL_292
Calnum : 865421170002	Date : 19-OCT-2015 18:57
Units : mg/L	X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	292a016	865421170016	DSL_10	19-OCT-2015 18:57	S27111
L2	292a017	865421170017	DSL_100	19-OCT-2015 19:25	S27112
L3	292a018	865421170018	DSL_500	19-OCT-2015 19:53	S27113
L4	292a019	865421170019	DSL_1000	19-OCT-2015 20:21	S27114
L5	292a020	865421170020	DSL_5000	19-OCT-2015 20:48	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	57839	56786	60020	57935	58521	AVRG		1.72E-5		58220	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-1	100.00	-2	500.00	3	1000.0	0	5000.0	1

JDG 10/22/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 10/22/15 Reviewer: EAH Date: 10/22/15

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

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 271203 GCSV Water
EPA 8015B

Inst : GC26A
Calnum : 865421170002
Name : DSL_292
Cal Date : 19-OCT-2015

ICV 865421170022 (292a022 19-OCT-2015) stds: S27804

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	502.9	mg/L	1	15	

Analyst: JDG Date: 10/22/15 Reviewer: EAH Date: 10/22/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC14B
Run Name : DSL_1000
IDF : 1.0
Seqnum : 225442498086
File : 307_086
Time : 05-NOV-2015 07:18
Standards: S28303

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	28704	1000	863.4	mg/L	-14	15	
o-Terphenyl	B	225426669001	23-OCT-2015	32530	32064	50.00	49.28	mg/L	-1	15	

JDG 11/05/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/05/15 Reviewer: EAH Date: 11/05/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC14B
Seqnum : 225442498097
Cal : 225426669001
Standards: S28150

Run Name : MO_500
File : 307_097
Caldate : 23-OCT-2015

IDF : 1.0
Time : 05-NOV-2015 13:47

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	B	32530	36076	50.00	55.45	mg/L	11	15	

Analyst: JDG   Date: 11/05/15   Reviewer: EAH   Date: 11/05/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC14B
Run Name : DSL_500
IDF : 1.0
Seqnum : 225442498098
File : 307_098
Time : 05-NOV-2015 14:16
Standards: S28302

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	32626	500.0	490.7	mg/L	-2	15	
o-Terphenyl	B	225426669001	23-OCT-2015	32530	34530	50.00	53.07	mg/L	6	15	

JDG 11/05/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/05/15 Reviewer: EAH Date: 11/05/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC14B
Seqnum : 225448419003
Cal : 225426669001
Standards: S28150

Run Name : MO_500
File : 311_003
Caldate : 23-OCT-2015

IDF : 1.0
Time : 07-NOV-2015 10:39

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	B	32530	34841	50.00	53.55	mg/L	7	15	

Analyst: SFL Date: 11/07/15 Reviewer: EAH Date: 11/09/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC14B
Run Name : DSL_500
IDF : 1.0
Seqnum : 225448419004
File : 311_004
Time : 07-NOV-2015 11:09
Standards: S28302

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	31348	500.0	471.5	mg/L	-6	15	
o-Terphenyl	B	225426669001	23-OCT-2015	32530	33851	50.00	52.03	mg/L	4	15	

SFL 11/07/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 11/07/15 Reviewer: EAH Date: 11/09/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC14B
Seqnum : 225448419018
Cal : 225426669001
Standards: S28150

Run Name : MO_500
File : 311_018
Caldate : 23-OCT-2015

IDF : 1.0
Time : 07-NOV-2015 18:32

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	B	32530	35173	50.00	54.06	mg/L	8	15	

BJP 11/09/15 : Corrected automatically drawn baseline.

Analyst: BJP Date: 11/09/15 Reviewer: EAH Date: 11/09/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC14B
Run Name : DSL_250
IDF : 1.0
Seqnum : 225448419019
File : 311_019
Time : 07-NOV-2015 19:02
Standards: S28301

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	32280	250.0	242.8	mg/L	-3	15	
o-Terphenyl	B	225426669001	23-OCT-2015	32530	33183	50.00	51.00	mg/L	2	15	

BJP 11/09/15 : Corrected automatically drawn baseline.

Analyst: BJP Date: 11/09/15 Reviewer: EAH Date: 11/09/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC15B
Seqnum : 165456901003
Cal : 165383482001
Standards: S28475

Run Name : MO_500
File : 317b003
Caldate : 23-SEP-2015

IDF : 1.0
Time : 13-NOV-2015 07:57

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	58262	60576	50.00	51.99	mg/L	4	15	

JDG 11/13/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/13/15 Reviewer: EAH Date: 11/13/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC15B   Run Name : DSL_1000   IDF : 1.0
Seqnum : 165456901004   File : 317b004   Time : 13-NOV-2015 08:25
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	50842	1000	1048	mg/L	5	15	
o-Terphenyl	165383482001	23-SEP-2015	58262	63247	50.00	54.28	mg/L	9	15	

JDG 11/13/15 : Corrected automatically drawn baseline.

Analyst: JDG   Date: 11/13/15   Reviewer: EAH   Date: 11/13/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC15B
Seqnum : 165456901012
Cal : 165383482001
Standards: S28475

Run Name : MO_500
File : 317b012
Caldate : 23-SEP-2015

IDF : 1.0
Time : 13-NOV-2015 14:58

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	58262	61766	50.00	53.01	mg/L	6	15	

Analyst: JDG Date: 11/13/15 Reviewer: EAH Date: 11/13/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC15B
Seqnum : 165456901013
Standards: S28302

Run Name : DSL_500
File : 317b013

IDF : 1.0
Time : 13-NOV-2015 15:25

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165229449002	08-JUN-2015	48499	49947	500.0	514.9	mg/L	3	15	
o-Terphenyl	165383482001	23-SEP-2015	58262	61484	50.00	52.76	mg/L	6	15	

JDG 11/13/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/13/15 Reviewer: EAH Date: 11/13/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Seqnum : 175446857078
Standards: S28301

Run Name : DSL_250
File : 310a078

IDF : 1.0
Time : 08-NOV-2015 01:56

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	68185	250.0	267.8	mg/L	7	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	78280	50.00	54.98	mg/L	10	15	

JDG 11/10/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/10/15 Reviewer: EAH Date: 11/10/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Seqnum : 175446857093
Cal : 175394216001
Standards: S28150

Run Name : MO_500
File : 310a093
Caldate : 30-SEP-2015

IDF : 1.0
Time : 08-NOV-2015 08:58

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	71191	77750	50.00	54.61	mg/L	9	15	

JDG 11/10/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/10/15 Reviewer: EAH Date: 11/10/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Run Name : DSL_1000
IDF : 1.0
Seqnum : 175446857094
File : 310a094
Time : 08-NOV-2015 09:27
Standards: S28303

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	64724	1000	1017	mg/L	2	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	77972	50.00	54.76	mg/L	10	15	

JDG 11/10/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/10/15 Reviewer: EAH Date: 11/10/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Seqnum : 175456904003
Cal : 175394216001
Standards: S28150

Run Name : MO_500
File : 317a003
Caldate : 30-SEP-2015

IDF : 1.0
Time : 13-NOV-2015 08:00

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	71191	73171	50.00	51.39	mg/L	3	15	

JDG 11/13/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/13/15 Reviewer: EAH Date: 11/13/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Run Name : DSL_1000
IDF : 1.0
Seqnum : 175456904004
File : 317a004
Time : 13-NOV-2015 08:28
Standards: S28303

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	61032	1000	958.8	mg/L	-4	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	72910	50.00	51.21	mg/L	2	15	

JDG 11/13/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/13/15 Reviewer: EAH Date: 11/13/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Seqnum : 175456904014
Cal : 175394216001
Standards: S28150

Run Name : MO_500
File : 317a014
Caldate : 30-SEP-2015

IDF : 1.0
Time : 13-NOV-2015 14:56

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	71191	72030	50.00	50.59	mg/L	1	15	

JDG 11/13/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/13/15 Reviewer: EAH Date: 11/13/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Run Name : DSL_500
IDF : 1.0
Seqnum : 175456904015
File : 317a015
Time : 13-NOV-2015 15:24
Standards: S28302

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	60198	500.0	472.8	mg/L	-5	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	68550	50.00	48.14	mg/L	-4	15	

JDG 11/13/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/13/15 Reviewer: EAH Date: 11/13/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Run Name : DSL_250
IDF : 1.0
Seqnum : 175456904032
File : 317a032
Time : 13-NOV-2015 23:45
Standards: S28301

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	63206	250.0	248.2	mg/L	-1	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	72282	50.00	50.77	mg/L	2	15	

JDG 11/16/15 : DSL_250: S28301

JDG 11/16/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/16/15 Reviewer: EAH Date: 11/16/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

```
Inst   : GC17A          Run Name : MO_500        IDF  : 1.0
Seqnum : 175456904052   File     : 317a052       Time : 14-NOV-2015 09:04
Cal    : 175394216001   Caldate  : 30-SEP-2015
Standards: S28150
```

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	71191	67151	50.00	47.16	mg/L	-6	15	

JDG 11/16/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/16/15 Reviewer: EAH Date: 11/16/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175456904053 File : 317a053 Time : 14-NOV-2015 09:32
Standards: S28303

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	60183	1000	945.4	mg/L	-5	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	72393	50.00	50.84	mg/L	2	15	

JDG 11/16/15 : DSL_1000: S28303

Analyst: JDG Date: 11/16/15 Reviewer: EAH Date: 11/16/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Seqnum : 175456904067
Cal : 175394216001
Standards: S28150

Run Name : MO_500
File : 317a067
Caldate : 30-SEP-2015

IDF : 1.0
Time : 14-NOV-2015 16:05

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	71191	74658	50.00	52.43	mg/L	5	15	

JDG 11/16/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/16/15 Reviewer: EAH Date: 11/16/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC17A
Seqnum : 175456904068
Standards: S28302

Run Name : DSL_500
File : 317a068

IDF : 1.0
Time : 14-NOV-2015 16:33

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175247623002	20-JUN-2015	63657	61326	500.0	481.7	mg/L	-4	15	
o-Terphenyl	175394216001	30-SEP-2015	71191	71426	50.00	50.16	mg/L	0	15	

JDG 11/16/15 : DSL_500: S28302

Analyst: JDG Date: 11/16/15 Reviewer: EAH Date: 11/16/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC26A
Seqnum : 865448413003
Cal : 865421170001
Standards: S28150

Run Name : MO_500
File : 311a003
Caldate : 19-OCT-2015

IDF : 1.0
Time : 07-NOV-2015 10:30

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	63983	66323	50.00	51.83	mg/L	4	15	

SFL 11/07/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 11/07/15 Reviewer: JDG Date: 11/10/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC26A
Run Name : DSL_250
IDF : 1.0
Seqnum : 865448413004
File : 311a004
Time : 07-NOV-2015 10:58
Standards: S28301

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	865421170002	19-OCT-2015	58220	55218	250.0	237.1	mg/L	-5	15	
o-Terphenyl	865421170001	19-OCT-2015	63983	67406	50.00	52.67	mg/L	5	15	

SFL 11/07/15 : Corrected automatically drawn baseline.

SFL 11/07/15 : s28301

Analyst: SFL Date: 11/07/15 Reviewer: JDG Date: 11/10/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC26A
Seqnum : 865448413023
Cal : 865421170001
Standards: S28150

Run Name : MO_500
File : 311a023
Caldate : 19-OCT-2015

IDF : 1.0
Time : 07-NOV-2015 21:15

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
o-Terphenyl	63983	63275	50.00	49.45	mg/L	-1	15	

JDG 11/10/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 11/10/15 Reviewer: EAH Date: 11/11/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 271203 GCSV Water
EPA 8015B

Inst : GC26A   Run Name : DSL_500   IDF : 1.0
Seqnum : 865448413024   File : 311a024   Time : 07-NOV-2015 21:44
Standards: S28302

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	865421170002	19-OCT-2015	58220	56071	500.0	481.5	mg/L	-4	15	
o-Terphenyl	865421170001	19-OCT-2015	63983	65692	50.00	51.34	mg/L	3	15	

JDG 11/10/15 : Corrected automatically drawn baseline.

Analyst: JDG   Date: 11/10/15   Reviewer: EAH   Date: 11/11/15

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

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Instrument : GC15B                     Begun       : 09/23/15 07:22
Method     : EPA 8015B                 SOP Version : TEH_rv18
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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 165456901

Instrument : GC15B
Method : EPA 8015B

Begun : 11/13/15 07:01
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	317b001	X	IB				11/13/15 07:01	1.0		
002	317b002	X	CMARKER				11/13/15 07:29	1.0	1	
003	317b003	CCV	MO_500				11/13/15 07:57	1.0	2	
004	317b004	CCV	DSL_1000				11/13/15 08:25	1.0	3	
005	317b005	BLANK	QC812501		Soil	229370	11/13/15 09:20	1.0		
006	317b006	MSS	271411-002		Soil	229370	11/13/15 09:48	5.0		
007	317b007	BLANK	QC811242		Water	229062	11/13/15 11:38	1.0		
008	317b008	BS	QC811243		Water	229062	11/13/15 12:05	1.0		
009	317b009	BSD	QC811244		Water	229062	11/13/15 12:33	1.0		
010	317b010	BLANK	QC812681		Soil	229398	11/13/15 13:59	1.0		
011	317b011	LCS	QC812682		Soil	229398	11/13/15 14:27	1.0		
012	317b012	CCV	MO_500				11/13/15 14:58	1.0	2	
013	317b013	CCV	DSL_500				11/13/15 15:25	1.0	4	
014	317b014	BLANK	QC812774		Soil	229436	11/13/15 17:31	1.0		
015	317b015	BLANK	QC812681	S	Soil	229398	11/13/15 17:59	1.0		
016	317b016	LCS	QC812682	S	Soil	229398	11/13/15 18:27	1.0		
017	317b017	SAMPLE	271582-005		Soil	229436	11/13/15 18:55	20.0		
018	317b018	SAMPLE	271582-010		Soil	229436	11/13/15 19:23	20.0		
019	317b019	SAMPLE	271582-015		Soil	229436	11/13/15 19:51	20.0		
020	317b020	SAMPLE	271507-001		Soil	229398	11/13/15 20:18	1.0		
021	317b021	SAMPLE	271553-001		Soil	229398	11/13/15 20:46	1.0		
022	317b022	SAMPLE	271516-001	S	Soil	229398	11/13/15 21:14	1.0		
023	317b023	MSS	271495-001		Soil	229398	11/13/15 21:42	1.0		
024	317b024	MS	QC812683		Soil	229398	11/13/15 22:10	1.0		
025	317b025	MSD	QC812684		Soil	229398	11/13/15 22:37	1.0		
026	317b026	SAMPLE	271497-001		Soil	229436	11/13/15 23:05	1.0		
027	317b027	CCV	MO_500				11/13/15 23:32	1.0	2	
028	317b028	CCV	DSL_1000				11/14/15 00:00	1.0	3	
029	317b029	X	CCV				11/14/15 00:27	1.0	2	
030	317b030	X	CCV				11/14/15 00:55	1.0	3	
031	317b031	SAMPLE	271493-001		Soil	229436	11/14/15 01:23	5.0		
032	317b032	SAMPLE	271256-021	S	Water	229054	11/14/15 01:51	1.0		
033	317b033	SAMPLE	271269-010	S	Soil	229157	11/14/15 02:18	1.0		
034	317b034	SAMPLE	271264-010		Soil	229398	11/14/15 02:45	1.0		
035	317b035	SAMPLE	271264-011		Soil	229398	11/14/15 03:13	1.0		
036	317b036	SAMPLE	271264-012		Soil	229398	11/14/15 03:40	1.0		
037	317b037	SAMPLE	271475-001		Soil	229398	11/14/15 04:08	1.0		3:BUNKC:12-40=10000
038	317b038	SAMPLE	271475-002		Soil	229398	11/14/15 04:36	1.0		5:BUNKC:12-40=16000
039	317b039	SAMPLE	271475-003		Soil	229398	11/14/15 05:04	1.0		
040	317b040	SAMPLE	271496-001		Soil	229436	11/14/15 05:32	1.0		
041	317b041	X	CMARKER				11/14/15 06:00	1.0	1	
042	317b042	CCV	MO_500				11/14/15 06:27	1.0	2	
043	317b043	CCV	DSL_500				11/14/15 06:55	1.0	4	
044	317b044	X	CCV				11/14/15 07:23	1.0	2	
045	317b045	X	CCV				11/14/15 07:51	1.0	4	
046	317b046	BLANK	QC812774	S	Soil	229436	11/14/15 08:19	1.0		
047	317b047	LCS	QC812775	S	Soil	229436	11/14/15 08:47	1.0		
048	317b048	SAMPLE	271478-006		Soil	229436	11/14/15 09:15	1.0		
049	317b049	SAMPLE	271478-007		Soil	229436	11/14/15 09:43	1.0		
050	317b050	SAMPLE	271478-008		Soil	229436	11/14/15 10:11	1.0		
051	317b051	SAMPLE	271478-009		Soil	229436	11/14/15 10:39	1.0		
052	317b052	SAMPLE	271412-001	S	Soil	229398	11/14/15 11:06	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165456901

Instrument : GC15B
Method : EPA 8015B
Begun : 11/13/15 07:01
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	317b053	SAMPLE	271412-002	S	Soil	229398	11/14/15 11:34	1.0		
054	317b054	SAMPLE	271412-003	S	Soil	229398	11/14/15 12:02	1.0		
055	317b055	SAMPLE	271412-004	S	Soil	229398	11/14/15 12:30	1.0		
056	317b056	SAMPLE	271412-005	S	Soil	229398	11/14/15 12:57	1.0		
057	317b057	SAMPLE	271412-006	S	Soil	229398	11/14/15 13:25	1.0		
058	317b058	CCV	MO_500				11/14/15 13:53	1.0	2	
059	317b059	CCV	DSL_1000				11/14/15 14:21	1.0	3	
060	317b060	X	CCV				11/14/15 14:48	1.0	2	
061	317b061	X	CCV				11/14/15 15:16	1.0	3	
062	317b062	SAMPLE	271412-007	S	Soil	229398	11/14/15 15:44	1.0		
063	317b063	SAMPLE	271412-008	S	Soil	229398	11/14/15 16:12	1.0		
064	317b064	SAMPLE	271412-009	S	Soil	229398	11/14/15 16:40	1.0		
065	317b065	SAMPLE	271412-010	S	Soil	229436	11/14/15 17:07	1.0		
066	317b066	SAMPLE	271412-011	S	Soil	229436	11/14/15 17:35	1.0		
067	317b067	SAMPLE	271412-012	S	Soil	229436	11/14/15 18:03	1.0		
068	317b068	SAMPLE	271412-013	S	Soil	229436	11/14/15 18:31	1.0		
069	317b069	SAMPLE	271412-014	S	Soil	229436	11/14/15 18:59	1.0		
070	317b070	X	CMARKER				11/14/15 19:26	1.0	1	
071	317b071	CCV	MO_500				11/14/15 19:54	1.0	2	
072	317b072	CCV	DSL_500				11/14/15 20:22	1.0	4	
073	317b073	X	CCV				11/14/15 20:50	1.0	2	
074	317b074	X	CCV				11/14/15 21:18	1.0	4	

JDG 11/13/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

JDG 11/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 14 through 74.

Standards used: 1=S27935 2=S28475 3=S28303 4=S28302

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.

Standards used: 1=S27409 2=S27410 3=S27411 4=S27412 5=S27413 6=S27414

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175446857

Instrument : GC17A
Method : EPA 8015B

Begun : 11/06/15 07:37
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	310a001	X	IB				11/06/15 07:37	1.0		
002	310a002	X	TEST: GLASS PIPETTE				11/06/15 08:06	1.0		
003	310a003	X	CMARKER				11/06/15 08:34	1.0	1	
004	310a004	X	MO_500				11/06/15 09:02	1.0	2	
005	310a005	CCV	DSL_1000				11/06/15 09:30	1.0	3	
006	310a006	X	TEST 3: POWDER (BAKE				11/06/15 09:58	1.0		
007	310a007	CCV	MO_500				11/06/15 10:26	1.0	4	
008	310a008	X	TEST 4: POWDER FS154				11/06/15 10:54	1.0		
009	310a009	SAMPLE	271013-007		Soil	228998	11/06/15 12:22	1.0		
010	310a010	CCV	MO_500				11/06/15 12:50	1.0	2	
011	310a011	CCV	DSL_500				11/06/15 13:18	1.0	5	
012	310a012	LCS	QC811159		Soil	229040	11/06/15 14:05	1.0		
013	310a013	SAMPLE	271254-005	S	Soil	229040	11/06/15 14:33	1.0		
014	310a014	LCS	QC811632		Soil	229157	11/06/15 15:44	1.0		
015	310a015	BLANK	QC811631		Soil	229157	11/06/15 16:12	1.0		
016	310a016	CCV	MO_500				11/06/15 18:16	1.0	2	
017	310a017	CCV	DSL_1000				11/06/15 18:45	1.0	3	
018	310a018	X	CMARKER				11/06/15 20:43	1.0	1	
019	310a019	SAMPLE	271240-001	S	Soil	229040	11/06/15 21:11	1.0		
020	310a020	SAMPLE	271240-002	S	Soil	229040	11/06/15 21:40	1.0		
021	310a021	SAMPLE	271240-003	S	Soil	229040	11/06/15 22:08	1.0		
022	310a022	SAMPLE	271240-004	S	Soil	229040	11/06/15 22:36	1.0		
023	310a023	SAMPLE	271240-005	S	Soil	229040	11/06/15 23:04	1.0		
024	310a024	SAMPLE	271240-006	S	Soil	229040	11/06/15 23:32	1.0		
025	310a025	SAMPLE	271240-007	S	Soil	229040	11/07/15 00:00	1.0		
026	310a026	SAMPLE	271240-008	S	Soil	229040	11/07/15 00:28	1.0		
027	310a027	SAMPLE	271240-009	S	Soil	229040	11/07/15 00:56	1.0		
028	310a028	SAMPLE	271240-010	S	Soil	229040	11/07/15 01:23	1.0		
029	310a029	CCV	DSL_500				11/07/15 01:51	1.0	5	
030	310a030	CCV	MO_500				11/07/15 02:19	1.0	2	
031	310a031	X	CCV				11/07/15 02:47	1.0	5	
032	310a032	X	CCV				11/07/15 03:14	1.0	2	
033	310a033	X	CMARKER				11/07/15 03:43	1.0	1	
034	310a034	SAMPLE	271229-001		Soil	229040	11/07/15 04:10	1.0		
035	310a035	SAMPLE	271229-002		Soil	229040	11/07/15 04:39	1.0		6:BUNKC:10-40=22000
036	310a036	SAMPLE	271229-003		Soil	229040	11/07/15 05:07	1.0		4:BUNKC:10-40=15000
037	310a037	SAMPLE	271229-004		Soil	229040	11/07/15 05:36	1.0		
038	310a038	SAMPLE	271229-005		Soil	229040	11/07/15 06:04	1.0		1:BUNKC:10-40=8600
039	310a039	SAMPLE	271117-001		Soil	229040	11/07/15 06:32	2.0		
040	310a040	SAMPLE	271117-002		Soil	229040	11/07/15 07:00	50.0		
041	310a041	MS	QC811160		Soil	229040	11/07/15 07:28	1.0		
042	310a042	MSD	QC811161		Soil	229040	11/07/15 07:56	1.0		
043	310a043	LCS	QC811159		Soil	229040	11/07/15 08:25	1.0		
044	310a044	BLANK	QC811158		Soil	229040	11/07/15 08:53	1.0		
045	310a045	CCV	DSL_250				11/07/15 09:21	1.0	6	
046	310a046	CCV	MO_500				11/07/15 09:50	1.0	2	
047	310a047	BLANK	QC811158	S	Soil	229040	11/07/15 11:26	1.0		
048	310a048	LCS	QC811159	S	Soil	229040	11/07/15 11:54	1.0		
049	310a049	BLANK	QC811631		Soil	229157	11/07/15 12:23	1.0		
050	310a050	BLANK	QC811631	S	Soil	229157	11/07/15 12:51	1.0		
051	310a051	LCS	QC811632	S	Soil	229157	11/07/15 13:19	1.0		
052	310a052	MSS	271034-003		Soil	229157	11/07/15 13:47	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175446857

Instrument : GC17A
Method : EPA 8015B

Begun : 11/06/15 07:37
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	310a053	MS	QC811633		Soil	229157	11/07/15 14:15	1.0		
054	310a054	MSD	QC811634		Soil	229157	11/07/15 14:43	1.0		
055	310a055	SAMPLE	271156-002		Soil	229157	11/07/15 15:11	5.0		
056	310a056	SAMPLE	271358-001		Soil	229157	11/07/15 15:39	5.0		
057	310a057	X	IB				11/07/15 16:07	1.0		
058	310a058	SAMPLE	271034-004		Soil	229157	11/07/15 16:35	1.0		
059	310a059	SAMPLE	271034-005		Soil	229157	11/07/15 17:03	1.0		
060	310a060	SAMPLE	271318-001		Soil	229157	11/07/15 17:31	1.0		
061	310a061	SAMPLE	271269-004	S	Soil	229157	11/07/15 17:59	1.0		
062	310a062	SAMPLE	271269-005	S	Soil	229157	11/07/15 18:27	1.0		
063	310a063	X	CMARKER				11/07/15 18:56	1.0	1	
064	310a064	CCV	MO_500				11/07/15 19:24	1.0	2	
065	310a065	CCV	DSL_500				11/07/15 19:52	1.0	5	
066	310a066	CCV	MO_500				11/07/15 20:20	1.0	2	
067	310a067	CCV	DSL_1000				11/07/15 20:48	1.0	3	
068	310a068	SAMPLE	271269-006	S	Soil	229157	11/07/15 21:17	1.0		
069	310a069	SAMPLE	271269-007	S	Soil	229157	11/07/15 21:45	1.0		
070	310a070	SAMPLE	271269-008	S	Soil	229157	11/07/15 22:13	1.0		
071	310a071	SAMPLE	271269-009	S	Soil	229157	11/07/15 22:41	1.0		
072	310a072	SAMPLE	271269-010	S	Soil	229157	11/07/15 23:09	1.0		
073	310a073	SAMPLE	271269-011	S	Soil	229157	11/07/15 23:37	1.0		
074	310a074	SAMPLE	271269-012	S	Soil	229157	11/08/15 00:05	1.0		
075	310a075	SAMPLE	271256-001	S	Water	229054	11/08/15 00:33	1.0		
076	310a076	SAMPLE	271256-002	S	Water	229054	11/08/15 01:01	1.0		
077	310a077	SAMPLE	271256-009	S	Water	229054	11/08/15 01:29	1.0		
078	310a078	CCV	DSL_250				11/08/15 01:56	1.0	6	
079	310a079	CCV	MO_500				11/08/15 02:24	1.0	2	
080	310a080	X	CCV				11/08/15 02:52	1.0	6	
081	310a081	X	CCV				11/08/15 03:20	1.0	2	
082	310a082	SAMPLE	271256-021	S	Water	229054	11/08/15 03:48	1.0		
083	310a083	SAMPLE	271256-022	S	Water	229054	11/08/15 04:16	1.0		
084	310a084	SAMPLE	271076-001		Water	229010	11/08/15 04:44	1.0		
085	310a085	SAMPLE	271076-002		Water	229010	11/08/15 05:12	1.0		
086	310a086	SAMPLE	271076-003		Water	229010	11/08/15 05:41	1.0		
087	310a087	SAMPLE	271149-001	S	Water	229010	11/08/15 06:09	1.0		
088	310a088	SAMPLE	271149-002	S	Water	229010	11/08/15 06:37	1.0		
089	310a089	SAMPLE	271203-024		Water	229010	11/08/15 07:05	1.0		
090	310a090	SAMPLE	271203-025		Water	229010	11/08/15 07:34	1.0		
091	310a091	SAMPLE	271229-002		Soil	229040	11/08/15 08:02	5.0		
092	310a092	X	CMARKER				11/08/15 08:30	1.0	1	
093	310a093	CCV	MO_500				11/08/15 08:58	1.0	2	
094	310a094	CCV	DSL_1000				11/08/15 09:27	1.0	3	
095	310a095	X	CCV				11/08/15 09:55	1.0	2	
096	310a096	X	CCV				11/08/15 10:23	1.0	3	

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

BJP 11/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 12 through 17.

SFL 11/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 18 through 46.

JDG 11/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 47 through 96.

Standards used: 1=S27935 2=S28150 3=S28303 4=S28475 5=S28302 6=S28301

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175456904

Instrument : GC17A
Method : EPA 8015B

Begun : 11/13/15 07:04
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	317a001	X	IB				11/13/15 07:04	1.0		
002	317a002	X	CMARKER				11/13/15 07:32	1.0	1	
003	317a003	CCV	MO_500				11/13/15 08:00	1.0	2	
004	317a004	CCV	DSL_1000				11/13/15 08:28	1.0	3	
005	317a005	X	TANKCHECK: EM55175				11/13/15 08:57	1.0		
006	317a006	SAMPLE	271203-022		Water	229062	11/13/15 09:36	1.0		
007	317a007	SAMPLE	271203-023		Water	229062	11/13/15 10:04	1.0		
008	317a008	SAMPLE	271302-004	S	Water	229254	11/13/15 11:09	300.0		2:BUNKC:10-40=6900
009	317a009	SAMPLE	271302-019	S	Water	229254	11/13/15 11:37	300.0		2:BUNKC:10-40=7000
010	317a010	X	IB				11/13/15 12:05	1.0		
011	317a011	SAMPLE	271594-001		Soil	229398	11/13/15 12:35	5.0		
012	317a012	SAMPLE	271302-004		Water	229254	11/13/15 14:00	500.0		
013	317a013	SAMPLE	271302-019		Water	229254	11/13/15 14:28	500.0		
014	317a014	CCV	MO_500				11/13/15 14:56	1.0	2	
015	317a015	CCV	DSL_500				11/13/15 15:24	1.0	4	
016	317a016	CCV	JET_250				11/13/15 16:15	1.0	5	
017	317a017	CCV	JP5_250				11/13/15 16:43	1.0	6	
018	317a018	CCV	BUNK_500				11/13/15 17:11	1.0	7	
019	317a019	BLANK	QC812183		Water	229296	11/13/15 17:39	1.0		
020	317a020	SAMPLE	271144-007	S	Soil	228998	11/13/15 18:08	1.0		2:BUNKC:12-40=5500
021	317a021	SAMPLE	271144-009	S	Soil	228998	11/13/15 18:36	1.0		2:BUNKC:12-40=5900
022	317a022	X	IB				11/13/15 19:04	1.0		
023	317a023	SAMPLE	271087-003		Water	228909	11/13/15 19:32	1.0		
024	317a024	MS	QC812503		Soil	229370	11/13/15 20:01	5.0		
025	317a025	MSD	QC812504		Soil	229370	11/13/15 20:29	5.0		
026	317a026	SAMPLE	271411-001		Soil	229370	11/13/15 20:57	5.0		
027	317a027	X	IB				11/13/15 21:25	1.0		
028	317a028	SAMPLE	271118-006		Water	229010	11/13/15 21:53	1.0		
029	317a029	SAMPLE	271348-011	S	Soil	229370	11/13/15 22:21	1.0		
030	317a030	SAMPLE	271348-013	S	Soil	229370	11/13/15 22:49	1.0		
031	317a031	SAMPLE	271348-014	S	Soil	229370	11/13/15 23:17	1.0		
032	317a032	CCV	DSL_250				11/13/15 23:45	1.0	8	
033	317a033	CCV	MO_500				11/14/15 00:13	1.0	9	
034	317a034	X	JET_250				11/14/15 00:41	1.0	5	
035	317a035	CCV	JP5_250				11/14/15 01:08	1.0	6	
036	317a036	CCV	BUNK_500				11/14/15 01:36	1.0	7	
037	317a037	X	CCV				11/14/15 02:04	1.0	2	
038	317a038	X	CCV				11/14/15 02:32	1.0	8	
039	317a039	CCV	JET_250				11/14/15 02:59	1.0	5	
040	317a040	X	CCV				11/14/15 03:27	1.0	6	
041	317a041	X	CCV				11/14/15 03:55	1.0	7	
042	317a042	SAMPLE	271203-010		Water	229062	11/14/15 04:23	1.0		
043	317a043	SAMPLE	271203-011		Water	229062	11/14/15 04:52	1.0		
044	317a044	SAMPLE	271203-013		Water	229062	11/14/15 05:20	1.0		
045	317a045	SAMPLE	271203-014		Water	229062	11/14/15 05:48	1.0		
046	317a046	SAMPLE	271203-015		Water	229062	11/14/15 06:16	1.0		
047	317a047	SAMPLE	271203-016		Water	229062	11/14/15 06:44	1.0		
048	317a048	SAMPLE	271203-017		Water	229062	11/14/15 07:12	1.0		
049	317a049	SAMPLE	271203-018		Water	229062	11/14/15 07:40	1.0		
050	317a050	SAMPLE	271203-020		Water	229062	11/14/15 08:08	1.0		
051	317a051	SAMPLE	271203-021		Water	229062	11/14/15 08:36	1.0		
052	317a052	CCV	MO_500				11/14/15 09:04	1.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175456904

Instrument : GC17A
Method : EPA 8015B

Begun : 11/13/15 07:04
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	317a053	CCV	DSL_1000				11/14/15 09:32	1.0	3	
054	317a054	X	CCV				11/14/15 10:00	1.0	2	
055	317a055	X	CCV				11/14/15 10:28	1.0	4	
056	317a056	SAMPLE	271269-001	S	Soil	229244	11/14/15 10:56	1.0		
057	317a057	SAMPLE	271269-002	S	Soil	229244	11/14/15 11:24	1.0		
058	317a058	SAMPLE	271269-003	S	Soil	229244	11/14/15 11:52	1.0		
059	317a059	SAMPLE	271312-001	S	Soil	229252	11/14/15 12:20	1.0		11:BUNKC:10-40=39000
060	317a060	SAMPLE	271203-003		Water	229062	11/14/15 12:48	1.0		
061	317a061	SAMPLE	271203-005		Water	229062	11/14/15 13:16	1.0		
062	317a062	SAMPLE	271203-006		Water	229062	11/14/15 13:44	1.0		
063	317a063	SAMPLE	271203-007		Water	229062	11/14/15 14:12	1.0		
064	317a064	SAMPLE	271203-008		Water	229062	11/14/15 14:40	1.0		
065	317a065	SAMPLE	271203-009		Water	229062	11/14/15 15:08	1.0		
066	317a066	X	CMARKER				11/14/15 15:36	1.0	1	
067	317a067	CCV	MO_500				11/14/15 16:05	1.0	2	
068	317a068	CCV	DSL_500				11/14/15 16:33	1.0	4	
069	317a069	X	CCV				11/14/15 17:01	1.0	2	
070	317a070	X	CCV				11/14/15 17:29	1.0	3	
071	317a071	SAMPLE	271348-001	S	Soil	229370	11/14/15 17:57	1.0		
072	317a072	SAMPLE	271348-002	S	Soil	229370	11/14/15 18:25	1.0		
073	317a073	SAMPLE	271348-003	S	Soil	229370	11/14/15 18:53	1.0		
074	317a074	SAMPLE	271348-004	S	Soil	229370	11/14/15 19:21	1.0		
075	317a075	SAMPLE	271348-005	S	Soil	229370	11/14/15 19:49	1.0		
076	317a076	SAMPLE	271348-006	S	Soil	229370	11/14/15 20:17	1.0		
077	317a077	SAMPLE	271348-007	S	Soil	229370	11/14/15 20:46	1.0		
078	317a078	SAMPLE	271348-008	S	Soil	229370	11/14/15 21:13	1.0		
079	317a079	SAMPLE	271348-009	S	Soil	229370	11/14/15 21:42	1.0		
080	317a080	SAMPLE	271348-010	S	Soil	229370	11/14/15 22:10	1.0		
081	317a081	CCV	MO_500				11/14/15 22:38	1.0	2	
082	317a082	CCV	DSL_500				11/14/15 23:06	1.0	4	
083	317a083	X	CCV				11/14/15 23:34	1.0	2	
084	317a084	X	CCV				11/15/15 00:02	1.0	4	
085	317a085	SAMPLE	271348-012	S	Soil	229370	11/15/15 00:30	1.0		
086	317a086	SAMPLE	271348-015	S	Soil	229370	11/15/15 00:58	1.0		
087	317a087	SAMPLE	271408-001	S	Soil	229370	11/15/15 01:25	1.0		
088	317a088	SAMPLE	271478-001		Soil	229436	11/15/15 01:53	1.0		8:BUNKC:10-40=52000
089	317a089	SAMPLE	271478-002		Soil	229436	11/15/15 02:21	1.0		
090	317a090	SAMPLE	271478-003		Soil	229436	11/15/15 02:49	1.0		
091	317a091	SAMPLE	271478-004		Soil	229436	11/15/15 03:16	1.0		
092	317a092	MSS	271478-005		Soil	229436	11/15/15 03:44	1.0		
093	317a093	MS	QC812776		Soil	229436	11/15/15 04:12	1.0		
094	317a094	MSD	QC812777		Soil	229436	11/15/15 04:40	1.0		
095	317a095	X	CMARKER				11/15/15 05:09	1.0	1	
096	317a096	CCV	MO_500				11/15/15 05:37	1.0	2	
097	317a097	CCV	DSL_1000				11/15/15 06:05	1.0	3	
098	317a098	X	CCV				11/15/15 06:33	1.0	2	
099	317a099	X	CCV				11/15/15 07:01	1.0	3	

JDG 11/13/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 15.

JDG 11/16/15 : I verified that the vials loaded on the instrument matched the

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175456904

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Instrument : GC17A                        Begun       : 11/13/15 07:04
Method     : EPA 8015B                    SOP Version : TEH_rv18
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sequence data entry, for runs 16 through 99.

Standards used: 1=S27935 2=S28150 3=S28303 4=S28302 5=S28111 6=S28313 7=S27338 8=S28301 9=S28475

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 224523202

Instrument : GC14B
Method : EPA 8015B
Begun : 12/29/14 08:02
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	364_001	X	IB			12/29/14 08:02	1.0		
002	364_002	X	CMARKER			12/29/14 08:30	1.0	1	
003	364_003	X	MO_500			12/29/14 08:58	1.0	2	
004	364_004	X	DSL_1000			12/29/14 09:26	1.0	3	
005	364_005	X	DSL_1000			12/29/14 10:12	1.0	3	
006	364_006	X	DSL_500			12/29/14 11:56	1.0	4	
007	364_007	X	IB			12/29/14 14:39	1.0		
008	364_008	IB	CALIB			12/29/14 15:07	1.0		
009	364_009	ICAL	DSL_10			12/29/14 15:35	1.0	5	
010	364_010	ICAL	DSL_100			12/29/14 16:04	1.0	6	
011	364_011	ICAL	DSL_500			12/29/14 16:32	1.0	7	
012	364_012	ICAL	DSL_1000			12/29/14 17:00	1.0	8	
013	364_013	ICAL	DSL_5000			12/29/14 17:28	1.0	9	
014	364_014	IB	CALIB			12/29/14 17:56	1.0		
015	364_015	X	DSL_500			12/29/14 18:24	1.0	4	
016	364_016	ICV	DSL_500			12/29/14 18:52	1.0	4	
017	364_017	IB	CALIB			12/29/14 19:20	1.0		
018	364_018	CMARKER	C8-C50			12/29/14 19:49	1.0	1	
019	364_019	IB	CALIB			12/29/14 20:17	1.0		

SFL 12/30/14 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26087 2=S26284 3=S25997 4=S25996 5=S26213 6=S25844 7=S25845 8=S25846 9=S25842

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225426669

Instrument : GC14B
Method : EPA 8015B

Begun : 10/23/15 07:09
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	296_001	X	IB			10/23/15 07:09	1.0		
002	296_002	X	CMARKER			10/23/15 07:39	1.0	1	
003	296_003	CCV	MO_500			10/23/15 08:09	1.0	2	
004	296_004	CCV	DSL_500			10/23/15 08:39	1.0	3	
005	296_005	IB	CALIB			10/23/15 13:41	1.0		
006	296_006	ICAL	HEX OTP_5			10/23/15 14:10	1.0	4	
007	296_007	ICAL	HEX OTP_10			10/23/15 14:40	1.0	5	
008	296_008	ICAL	HEX OTP_25			10/23/15 15:09	1.0	6	
009	296_009	ICAL	HEX OTP_50			10/23/15 15:39	1.0	7	
010	296_010	ICAL	HEX OTP_100			10/23/15 16:09	1.0	8	
011	296_011	ICAL	HEX OTP_200			10/23/15 16:38	1.0	9	
012	296_012	IB	CALIB			10/23/15 17:08	1.0		

SFL 10/24/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

Standards used: 1=S27935 2=S28150 3=S28302 4=S27409 5=S27410 6=S27411 7=S27412 8=S27413 9=S27414

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225442498

Instrument : GC14B
Method : EPA 8015B
Begun : 11/03/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	307_001	X	IB				11/03/15 06:58	1.0		
002	307_002	X	CMARKER				11/03/15 07:29	1.0	1	
003	307_003	X	MO_500				11/03/15 07:59	1.0	2	
004	307_004	X	DSL_250				11/03/15 08:30	1.0	3	
005	307_005	X	MO_500				11/03/15 09:06	1.0	2	
006	307_006	X	IB				11/03/15 12:24	1.0		
007	307_007	CMARKER	C8-C50				11/03/15 12:54	1.0	1	
008	307_008	X	IB				11/03/15 13:31	1.0		
009	307_009	X	MO_500				11/03/15 14:01	1.0	2	
010	307_010	CCV	DSL_250				11/03/15 14:31	1.0	3	
011	307_011	CCV	MO_500				11/03/15 16:08	1.0	2	
012	307_012	MS	QC810643		Water	228909	11/03/15 16:48	1.0		
013	307_013	MSD	QC810644		Water	228909	11/03/15 17:18	1.0		
014	307_014	SAMPLE	271127-001		Water	228909	11/03/15 17:48	1.0		
015	307_015	SAMPLE	271127-002		Water	228909	11/03/15 18:19	1.0		
016	307_016	SAMPLE	271127-003		Water	228909	11/03/15 18:49	1.0		
017	307_017	SAMPLE	271127-004		Water	228909	11/03/15 19:20	1.0		
018	307_018	SAMPLE	271127-005		Water	228909	11/03/15 19:50	1.0		
019	307_019	SAMPLE	271127-007		Water	228909	11/03/15 20:21	1.0		
020	307_020	SAMPLE	271127-008		Water	228909	11/03/15 20:51	1.0		
021	307_021	SAMPLE	271127-009		Water	228909	11/03/15 21:21	1.0		
022	307_022	CCV	DSL_500				11/03/15 21:51	1.0	4	
023	307_023	CCV	MO_500				11/03/15 22:21	1.0	2	
024	307_024	X	CCV				11/03/15 22:50	1.0	4	
025	307_025	X	CCV				11/03/15 23:20	1.0	2	
026	307_026	SAMPLE	271127-010		Water	228909	11/03/15 23:49	1.0		
027	307_027	SAMPLE	271127-011		Water	228909	11/04/15 00:19	1.0		
028	307_028	SAMPLE	271127-012		Water	228909	11/04/15 00:48	1.0		
029	307_029	SAMPLE	271127-013		Water	228909	11/04/15 01:17	1.0		
030	307_030	SAMPLE	270980-001		Water	228972	11/04/15 01:47	1.0		
031	307_031	SAMPLE	270998-001		Water	228972	11/04/15 02:16	1.0		
032	307_032	SAMPLE	271050-002		Soil	228956	11/04/15 02:45	1.0		
033	307_033	SAMPLE	271050-003		Soil	228956	11/04/15 03:15	1.0		
034	307_034	SAMPLE	271050-004		Soil	228956	11/04/15 03:44	1.0		
035	307_035	SAMPLE	271050-005		Soil	228956	11/04/15 04:14	1.0		
036	307_036	X	CMARKER		Soil		11/04/15 04:44	1.0	1	
037	307_037	CCV	DSL_1000				11/04/15 05:15	1.0	5	
038	307_038	CCV	MO_500				11/04/15 05:45	1.0	2	
039	307_039	X	CCV				11/04/15 06:15	1.0	5	
040	307_040	X	CCV				11/04/15 06:45	1.0	2	
041	307_041	X	POWDER TEST: TRAY 2				11/04/15 07:28	1.0		
042	307_042	X	TANK CHECK: EM51175				11/04/15 07:58	1.0		
043	307_043	CCV	MINOIL_500				11/04/15 09:08	1.0	6	
044	307_044	SAMPLE	270941-004		Soil	228763	11/04/15 09:43	20.0		
045	307_045	SAMPLE	270941-005		Soil	228763	11/04/15 10:13	20.0		
046	307_046	X	IB				11/04/15 10:43	1.0		
047	307_047	SAMPLE	271050-002	S	Soil	228956	11/04/15 11:14	1.0		
048	307_048	SAMPLE	271050-003	S	Soil	228956	11/04/15 11:44	1.0		
049	307_049	SAMPLE	271050-004	S	Soil	228956	11/04/15 12:14	1.0		
050	307_050	SAMPLE	271050-005	S	Soil	228956	11/04/15 12:44	1.0		
051	307_051	SAMPLE	271050-006	S	Soil	228956	11/04/15 13:14	1.0		
052	307_052	CCV	MO_500				11/04/15 13:44	1.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225442498

Instrument : GC14B
Method : EPA 8015B

Begun : 11/03/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	307_053	CCV	DSL_250				11/04/15 14:14	1.0	3	
054	307_054	CCV	MINOIL_500				11/04/15 14:43	1.0	6	
055	307_055	BLANK	QC811110		Soil	229025	11/04/15 15:37	1.0		
056	307_056	BLANK	QC811110	S	Soil	229025	11/04/15 16:06	1.0		
057	307_057	LCS	QC811111	S	Soil	229025	11/04/15 16:36	1.0		
058	307_058	MSS	271034-003		Soil	229025	11/04/15 17:06	2.0		
059	307_059	MS	QC811112		Soil	229025	11/04/15 17:36	2.0		
060	307_060	MSD	QC811113		Soil	229025	11/04/15 18:06	2.0		
061	307_061	SAMPLE	271034-004		Soil	229025	11/04/15 18:37	1.0		
062	307_062	SAMPLE	271034-005		Soil	229025	11/04/15 19:07	1.0		
063	307_063	SAMPLE	271150-001		Soil	229025	11/04/15 19:37	100.0		
064	307_064	SAMPLE	271156-002		Soil	229025	11/04/15 20:07	1.0		
065	307_065	X	IB				11/04/15 20:37	1.0		
066	307_066	SAMPLE	271243-001		Soil	229025	11/04/15 21:08	1.0		
067	307_067	X	IB				11/04/15 21:39	1.0		
068	307_068	SAMPLE	270974-003	S	Soil	229025	11/04/15 22:10	1.0		
069	307_069	SAMPLE	271213-001	S	Soil	229025	11/04/15 22:40	1.0		
070	307_070	CCV	MO_500				11/04/15 23:10	1.0	2	
071	307_071	CCV	DSL_500				11/04/15 23:40	1.0	4	
072	307_072	X	CCV				11/05/15 00:11	1.0	2	
073	307_073	X	CCV				11/05/15 00:40	1.0	4	
074	307_074	SAMPLE	271213-002	S	Soil	229025	11/05/15 01:11	1.0		
075	307_075	SAMPLE	271217-001	S	Soil	229025	11/05/15 01:40	1.0		
076	307_076	SAMPLE	271217-002	S	Soil	229025	11/05/15 02:10	1.0		
077	307_077	SAMPLE	271217-003	S	Soil	229025	11/05/15 02:40	1.0		
078	307_078	SAMPLE	271217-004	S	Soil	229025	11/05/15 03:11	1.0		
079	307_079	SAMPLE	271217-005	S	Soil	229025	11/05/15 03:40	1.0		
080	307_080	SAMPLE	271217-006	S	Soil	229025	11/05/15 04:11	1.0		
081	307_081	SAMPLE	271217-007	S	Soil	229025	11/05/15 04:43	1.0		
082	307_082	SAMPLE	271108-001		Soil	228956	11/05/15 05:14	1.0		
083	307_083	SAMPLE	271125-001		Soil	228956	11/05/15 05:45	1.0		
084	307_084	X	CMARKER				11/05/15 06:16	1.0	1	
085	307_085	X	MO_500				11/05/15 06:47	1.0	2	
086	307_086	CCV	DSL_1000				11/05/15 07:18	1.0	5	
087	307_087	CCV	MO_500				11/05/15 08:25	1.0	2	
088	307_088	BLANK	QC811158	S	Soil	229040	11/05/15 08:56	1.0		
089	307_089	LCS	QC811159	S	Soil	229040	11/05/15 09:26	1.0		
090	307_090	BLANK	QC811214		Water	229054	11/05/15 09:57	1.0		
091	307_091	LCS	QC811215		Water	229054	11/05/15 10:27	1.0		
092	307_092	BLANK	QC811158		Soil	229040	11/05/15 11:08	1.0		
093	307_093	BLANK	QC811380		Soil	229097	11/05/15 11:39	1.0		
094	307_094	LCS	QC811381		Soil	229097	11/05/15 12:10	1.0		
095	307_095	BLANK	QC811018		Water	229008	11/05/15 12:40	1.0		
097	307_097	CCV	MO_500				11/05/15 13:47	1.0	2	
098	307_098	CCV	DSL_500				11/05/15 14:16	1.0	4	
099	307_099	CHECK	MO_500				11/05/15 14:57	1.0	7	
100	307_100	X	1.NOTSONICATED-GRANU				11/05/15 15:26	1.0		
101	307_101	X	2.NOTSONICATED-POWDE				11/05/15 15:55	1.0		
102	307_102	X	3.SONICATED-POWDER				11/05/15 16:24	1.0		
103	307_103	X	4.SONICATED-GRANULAR				11/05/15 16:54	1.0		
104	307_104	X	6.NOSONICATION				11/05/15 17:25	1.0		
105	307_105	X	7.SAND NOT SONICATED				11/05/15 17:55	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225442498

Instrument : GC14B
Method : EPA 8015B

Begun : 11/03/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
106	307_106	X	8.SAND SONICATED				11/05/15 18:25	1.0		
107	307_107	SAMPLE	271013-002		Soil	228998	11/05/15 18:56	2.0		
108	307_108	SAMPLE	271013-006		Soil	228998	11/05/15 19:26	1.0		
109	307_109	SAMPLE	271013-007		Soil	228998	11/05/15 19:56	2.0		
110	307_110	SAMPLE	271013-008		Soil	228998	11/05/15 20:26	1.0		
111	307_111	SAMPLE	271013-016		Soil	228998	11/05/15 20:56	1.0		
112	307_112	SAMPLE	271013-018		Soil	228998	11/05/15 21:26	1.0		
113	307_113	SAMPLE	271045-006		Soil	228998	11/05/15 21:57	1.0		
114	307_114	SAMPLE	271045-008		Soil	228998	11/05/15 22:26	1.0		
115	307_115	SAMPLE	271045-009		Soil	228998	11/05/15 22:56	1.0		
116	307_116	SAMPLE	271045-010		Soil	228998	11/05/15 23:25	1.0		
117	307_117	CCV	MO_500				11/05/15 23:54	1.0	2	
118	307_118	CCV	DSL_1000				11/06/15 00:24	1.0	5	
119	307_119	X	CCV				11/06/15 00:53	1.0	2	
120	307_120	X	CCV				11/06/15 01:22	1.0	5	
121	307_121	SAMPLE	271045-016		Soil	228998	11/06/15 01:51	1.0		
122	307_122	SAMPLE	271045-010	S	Soil	228998	11/06/15 02:20	1.0		
123	307_123	SAMPLE	271045-016	S	Soil	228998	11/06/15 02:50	1.0		
124	307_124	SAMPLE	271144-005	S	Soil	228998	11/06/15 03:19	1.0		
125	307_125	X	IB				11/06/15 03:49	1.0		
126	307_126	MSS	271144-006	S	Soil	228998	11/06/15 04:20	20.0		
127	307_127	SAMPLE	271144-007	S	Soil	228998	11/06/15 04:49	1.0		2:BUNKC:12-40=6500
128	307_128	X	IB				11/06/15 05:19	1.0		
129	307_129	SAMPLE	271144-008	S	Soil	228998	11/06/15 05:50	1.0		
130	307_130	SAMPLE	271144-009	S	Soil	228998	11/06/15 06:21	20.0		
131	307_131	SAMPLE	271144-010	S	Soil	228998	11/06/15 06:51	1.0		2:BUNKC:12-40=5400
132	307_132	X	IB				11/06/15 07:21	1.0		
133	307_133	SAMPLE	271144-011	S	Soil	228998	11/06/15 07:51	1.0		
134	307_134	X	CMARKER				11/06/15 08:22	1.0	1	
135	307_135	X	MO_500				11/06/15 08:52	1.0	2	
136	307_136	CCV	DSL_500				11/06/15 09:22	1.0	4	
137	307_137	X	TEST 1: SAND EM48118				11/06/15 09:52	1.0		
138	307_138	X	TEST2: POWDER (BAKED				11/06/15 10:22	1.0		
139	307_139	CCV	MO_500				11/06/15 10:52	1.0	7	
140	307_140	MSS	271034-006		Soil	229040	11/06/15 14:08	1.0		
141	307_141	SAMPLE	271034-010		Soil	229040	11/06/15 14:37	1.0		
142	307_142	SAMPLE	271320-001		Soil	229157	11/06/15 15:45	1.0		
143	307_143	SAMPLE	271321-002		Soil	229157	11/06/15 16:14	1.0		
144	307_144	CCV	MO_500				11/06/15 18:17	1.0	2	
145	307_145	CCV	DSL_1000				11/06/15 18:47	1.0	5	
146	307_146	X	CMARKER				11/06/15 20:58	1.0	1	
147	307_147	CCV	JET_250				11/06/15 21:28	1.0	8	
148	307_148	SAMPLE	271144-005		Soil	228998	11/06/15 21:58	2.0		
149	307_149	MSS	271144-006		Soil	228998	11/06/15 22:27	2.0		
150	307_150	SAMPLE	271144-007		Soil	228998	11/06/15 22:57	2.0		
151	307_151	SAMPLE	271144-008		Soil	228998	11/06/15 23:26	2.0		
152	307_152	SAMPLE	271144-009		Soil	228998	11/06/15 23:56	2.0		
153	307_153	SAMPLE	271144-010		Soil	228998	11/07/15 00:25	2.0		
154	307_154	SAMPLE	271144-011		Soil	228998	11/07/15 00:54	1.0		
155	307_155	SAMPLE	271144-012		Soil	228998	11/07/15 01:23	2.0		
156	307_156	MS	QC810984		Soil	228998	11/07/15 01:52	2.0		
157	307_157	MSD	QC810985		Soil	228998	11/07/15 02:22	2.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225442498

Instrument : GC14B
Method : EPA 8015B

Begun : 11/03/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
158	307_158	CCV	DSL_1000				11/07/15 02:51	1.0	5	
159	307_159	CCV	MO_500				11/07/15 03:20	1.0	2	
160	307_160	X	CCV				11/07/15 03:51	1.0	5	
161	307_161	X	CCV				11/07/15 04:22	1.0	2	
162	307_162	CCV	JET_250				11/07/15 04:53	1.0	8	
163	307_163	SAMPLE	271144-005	S	Soil	228998	11/07/15 05:23	1.0		
164	307_164	MSS	271144-006	S	Soil	228998	11/07/15 05:54	1.0		3:BUNKC:12-40=7500
165	307_165	SAMPLE	271144-008	S	Soil	228998	11/07/15 06:25	1.0		

JDG 11/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 54.

JDG 11/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 55 through 98.

JDG 11/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 99 through 141.

BJP 11/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 142 through 145.

SFL 11/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 146 through 165.

Standards used: 1=S27935 2=S28150 3=S28301 4=S28302 5=S28303 6=S27638 7=S28475 8=S28111

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225448419

Instrument : GC14B
Method : EPA 8015B
Begun : 11/07/15 09:39
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	311_001	X	IB				11/07/15 09:39	1.0		
002	311_002	X	CMARKER				11/07/15 10:09	1.0	1	
003	311_003	CCV	MO_500				11/07/15 10:39	1.0	2	
004	311_004	CCV	DSL_500				11/07/15 11:09	1.0	3	
005	311_005	CCV	JET_250				11/07/15 11:42	1.0	4	
006	311_006	BLANK	QC811214	S	Water	229054	11/07/15 12:36	1.0		
007	311_007	LCS	QC811215	S	Water	229054	11/07/15 13:06	1.0		
008	311_008	MSS	271203-002		Water	229054	11/07/15 13:36	1.0		
009	311_009	MS	QC811216		Water	229054	11/07/15 14:05	1.0		
010	311_010	MSD	QC811217		Water	229054	11/07/15 14:35	1.0		
011	311_011	SAMPLE	271203-001		Water	229054	11/07/15 15:04	1.0		
012	311_012	SAMPLE	271256-011	S	Water	229054	11/07/15 15:33	1.0		
013	311_013	SAMPLE	271256-012	S	Water	229054	11/07/15 16:02	1.0		
014	311_014	SAMPLE	271256-014	S	Water	229054	11/07/15 16:32	1.0		
015	311_015	SAMPLE	271256-018	S	Water	229054	11/07/15 17:02	1.0		
016	311_016	SAMPLE	271256-019	S	Water	229054	11/07/15 17:32	1.0		
017	311_017	SAMPLE	271256-020	S	Water	229054	11/07/15 18:02	1.0		
018	311_018	CCV	MO_500				11/07/15 18:32	1.0	2	
019	311_019	CCV	DSL_250				11/07/15 19:02	1.0	5	
020	311_020	CCV	JET_250				11/07/15 19:33	1.0	4	
021	311_021	X	CCV				11/07/15 20:03	1.0	2	
022	311_022	X	CCV				11/07/15 20:33	1.0	5	
023	311_023	X	CCV				11/07/15 21:04	1.0	4	
024	311_024	SAMPLE	271144-005		Soil	228998	11/07/15 21:34	2.0		
025	311_025	MSS	271144-006		Soil	228998	11/07/15 22:04	2.0		
026	311_026	SAMPLE	271144-007		Soil	228998	11/07/15 22:34	2.0		
027	311_027	X	IB				11/07/15 23:03	1.0		
028	311_028	SAMPLE	271144-008		Soil	228998	11/07/15 23:33	2.0		
029	311_029	SAMPLE	271144-009		Soil	228998	11/08/15 00:02	2.0		
030	311_030	SAMPLE	271144-010		Soil	228998	11/08/15 00:31	2.0		
031	311_031	SAMPLE	271144-012		Soil	228998	11/08/15 01:01	2.0		
032	311_032	X	IB				11/08/15 01:30	1.0		
033	311_033	SAMPLE	271144-011		Soil	228998	11/08/15 01:59	1.0		
034	311_034	SAMPLE	271144-010	S	Soil	228998	11/08/15 02:29	1.0		
035	311_035	SAMPLE	271144-011	S	Soil	228998	11/08/15 02:58	1.0		
036	311_036	X	CMARKER				11/08/15 03:27	1.0	1	
037	311_037	CCV	MO_500				11/08/15 03:57	1.0	2	
038	311_038	CCV	DSL_500				11/08/15 04:27	1.0	3	
039	311_039	CCV	JET_250				11/08/15 04:57	1.0	4	
040	311_040	X	CCV				11/08/15 05:27	1.0	2	
041	311_041	X	CCV				11/08/15 05:58	1.0	3	
042	311_042	X	CCV				11/08/15 06:28	1.0	4	
043	311_043	SAMPLE	271144-005	S	Soil	228998	11/08/15 06:59	1.0		
044	311_044	MSS	271144-006	S	Soil	228998	11/08/15 07:29	1.0		2:BUNKC:12-40=7300
045	311_045	SAMPLE	271144-008	S	Soil	228998	11/08/15 07:59	1.0		
046	311_046	CCV	MO_500				11/08/15 08:29	1.0	2	
047	311_047	CCV	DSL_250				11/08/15 08:59	1.0	5	
048	311_048	CCV	JET_250				11/08/15 09:30	1.0	4	
049	311_049	X	CCV				11/08/15 10:00	1.0	2	
050	311_050	X	CCV				11/08/15 10:30	1.0	5	
051	311_051	X	CCV				11/08/15 11:00	1.0	4	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225448419

Instrument : GC14B
Begun : 11/07/15 09:39
Method : EPA 8015B
SOP Version : TEH_rv18

BJP 11/09/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 51.

Standards used: 1=S27935 2=S28150 3=S28302 4=S28111 5=S28301

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 865421170

Instrument : GC26A
Method : EPA 8015B

Begun : 10/19/15 07:27
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	292a001	X	IB			10/19/15 07:27	1.0		
002	292a002	X	CMARKER			10/19/15 07:55	1.0	1	
003	292a003	X	MO_500			10/19/15 08:23	1.0	2	
004	292a004	X	DSL_500			10/19/15 08:52	1.0	3	
005	292a005	X	IB			10/19/15 11:30	1.0		
006	292a006	X	IB			10/19/15 11:58	1.0		
007	292a007	X	CMARKER			10/19/15 12:28	1.0	1	
008	292a008	IB	CALIB			10/19/15 15:14	1.0		
009	292a009	ICAL	HEXOTP_5			10/19/15 15:42	1.0	4	
010	292a010	ICAL	HEXOTP_10			10/19/15 16:10	1.0	5	
011	292a011	ICAL	HEXOTP_25			10/19/15 16:38	1.0	6	
012	292a012	ICAL	HEXOTP_50			10/19/15 17:06	1.0	7	
013	292a013	ICAL	HEXOTP_100			10/19/15 17:34	1.0	8	
014	292a014	ICAL	HEXOTP_200			10/19/15 18:02	1.0	9	
015	292a015	IB	CALIB			10/19/15 18:29	1.0		
016	292a016	ICAL	DSL_10			10/19/15 18:57	1.0	10	
017	292a017	ICAL	DSL_100			10/19/15 19:25	1.0	11	
018	292a018	ICAL	DSL_500			10/19/15 19:53	1.0	12	
019	292a019	ICAL	DSL_1000			10/19/15 20:21	1.0	13	
020	292a020	ICAL	DSL_5000			10/19/15 20:48	1.0	14	
021	292a021	IB	CALIB			10/19/15 21:16	1.0		
022	292a022	ICV	DSL_500			10/19/15 21:44	1.0	3	
023	292a023	X	ICV			10/19/15 22:12	1.0	3	
024	292a024	IB	CALIB			10/19/15 22:40	1.0		
025	292a025	ICAL	MO_50			10/19/15 23:08	1.0	15	
026	292a026	ICAL	MO_250			10/19/15 23:36	1.0	16	
027	292a027	ICAL	MO_500			10/20/15 00:04	1.0	17	
028	292a028	ICAL	MO_1000			10/20/15 00:32	1.0	18	
029	292a029	ICAL	MO_2500			10/20/15 00:59	1.0	19	
030	292a030	ICAL	MO_5000			10/20/15 01:27	1.0	19	
031	292a031	X	IB			10/20/15 01:55	1.0		
032	292a032	CMARKER	C8-C50			10/20/15 02:23	1.0	1	

JDG 10/22/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S27935 2=S28150 3=S27804 4=S27409 5=S27410 6=S27411 7=S27412 8=S27413 9=S27414 10=S27111 11=S27112 12=S27113 13=S27114 14=S27110 15=S27679 16=S27680 17=S27681 18=S27682 19=S27678

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 865448413

Instrument : GC26A
Method : EPA 8015B

Begun : 11/07/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	311a001	X	IB				11/07/15 09:33	1.0		
002	311a002	X	CMARKER				11/07/15 10:01	1.0	1	
003	311a003	CCV	MO_500				11/07/15 10:30	1.0	2	
004	311a004	CCV	DSL_250				11/07/15 10:58	1.0	3	
005	311a005	CCV	JP5_250				11/07/15 12:39	1.0	4	
006	311a006	CCV	BUNK_500				11/07/15 13:07	1.0	5	
007	311a007	BLANK	QC811026		Water	229010	11/07/15 13:45	1.0		
008	311a008	BS	QC811027		Water	229010	11/07/15 14:13	1.0		
009	311a009	BSD	QC811028		Water	229010	11/07/15 14:41	1.0		
010	311a010	BLANK	QC811026	S	Water	229010	11/07/15 15:08	1.0		
011	311a011	BS	QC811027	S	Water	229010	11/07/15 15:36	1.0		
012	311a012	BSD	QC811028	S	Water	229010	11/07/15 16:04	1.0		
013	311a013	SAMPLE	271118-001		Water	229010	11/07/15 16:32	1.0		
014	311a014	SAMPLE	271118-002		Water	229010	11/07/15 17:00	1.0		
015	311a015	SAMPLE	271118-003		Water	229010	11/07/15 17:28	1.0		
016	311a016	SAMPLE	271118-004		Water	229010	11/07/15 17:57	1.0		
017	311a017	SAMPLE	271118-005		Water	229010	11/07/15 18:25	1.0		
018	311a018	SAMPLE	271118-006		Water	229010	11/07/15 18:53	1.0		
019	311a019	SAMPLE	271118-007		Water	229010	11/07/15 19:22	1.0		
020	311a020	SAMPLE	271118-008		Water	229010	11/07/15 19:50	1.0		
021	311a021	SAMPLE	271118-009		Water	229010	11/07/15 20:19	1.0		
022	311a022	SAMPLE	271107-001		Water	229010	11/07/15 20:47	1.0		
023	311a023	CCV	MO_500				11/07/15 21:15	1.0	2	
024	311a024	CCV	DSL_500				11/07/15 21:44	1.0	6	
025	311a025	CCV	JP5_250				11/07/15 22:12	1.0	4	
026	311a026	CCV	BUNK_500				11/07/15 22:40	1.0	5	
027	311a027	X	CCV				11/07/15 23:08	1.0	2	
028	311a028	X	CCV				11/07/15 23:36	1.0	6	
029	311a029	X	CCV				11/08/15 00:03	1.0	4	
030	311a030	X	CCV				11/08/15 00:31	1.0	5	
031	311a031	X	CMARKER				11/08/15 00:59	1.0	1	
032	311a032	SAMPLE	271118-001	S	Water	229010	11/08/15 01:27	1.0		
033	311a033	SAMPLE	271118-002	S	Water	229010	11/08/15 01:54	1.0		
034	311a034	SAMPLE	271118-003	S	Water	229010	11/08/15 02:22	1.0		
035	311a035	SAMPLE	271118-004	S	Water	229010	11/08/15 02:50	1.0		
036	311a036	SAMPLE	271118-005	S	Water	229010	11/08/15 03:17	1.0		
037	311a037	SAMPLE	271118-006	S	Water	229010	11/08/15 03:46	1.0		
038	311a038	SAMPLE	271118-007	S	Water	229010	11/08/15 04:15	1.0		
039	311a039	SAMPLE	271118-008	S	Water	229010	11/08/15 04:43	1.0		
040	311a040	SAMPLE	271118-009	S	Water	229010	11/08/15 05:12	1.0		
041	311a041	SAMPLE	271156-001		Water	229010	11/08/15 05:40	1.0		
042	311a042	CCV	MO_500				11/08/15 06:09	1.0	2	
043	311a043	CCV	DSL_1000				11/08/15 06:37	1.0	7	
044	311a044	CCV	JP5_250				11/08/15 07:05	1.0	4	
045	311a045	CCV	BUNK_500				11/08/15 07:34	1.0	5	
046	311a046	X	CCV				11/08/15 08:03	1.0	2	
047	311a047	X	CCV				11/08/15 08:31	1.0	7	
048	311a048	X	CCV				11/08/15 08:59	1.0	4	
049	311a049	X	CCV				11/08/15 09:28	1.0	5	

SFL 11/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 6.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 865448413

Instrument : GC26A
Method : EPA 8015B
Begun : 11/07/15 09:33
SOP Version : TEH_rv18

JDG 11/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 7 through 49.

Standards used: 1=S27935 2=S28150 3=S28301 4=S28313 5=S27338 6=S28302 7=S28303

SAMPLE PREPARATION SUMMARY

Batch # : 229010
Started By : EYL
Method : 3520C
Spike #1 ID : S28305
Prep Date : 03-NOV-2015 14:54
SOP Version : TEH_3520_rv15
Spike #2 ID : S28139
Analysis : TEH
Finished By : BOY
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
271076-001		Water	500	2.5	1	0.005	9	.5				TEH	
271076-002		Water	500	2.5	1	0.005	7	.5				TEH	
271076-003		Water	500	2.5	1	0.005	9	.5				TEH	
271107-001		Water	500	2.5	1	0.005	9	.5				TEHM	
271118-001		Water	500	2.5	1	0.005	9	.5			3630C	TEH	
271118-002		Water	500	2.5	1	0.005	9	.5			3630C	TEH	
271118-003		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271118-004		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271118-005		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271118-006		Water	500	2.5	1	0.005	8	.5			3630C	TEH	
271118-007		Water	500	2.5	1	0.005	8	.5			3630C	TEH	
271118-008		Water	500	2.5	1	0.005	8	.5			3630C	TEH	
271118-009		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271149-001		Water	500	2.5	1	0.005	8	.5			3630C	TEHM	
271149-002		Water	500	2.5	1	0.005	8	.5			3630C	TEHM	
271156-001		Water	1000	2.5	1	0.0025	9	1				TEHM	
271203-024		Water	450	2.5	1	0.005556	9	.5				TEH	
271203-025		Water	300	2.5	1	0.008333	8	.5				TEH	
QC811026	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC811027	BS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC811028	BSD	Water	500	2.5	1	0.005		.5	.5		3630C		

BJP 11/11/15 : Matrix spikes were not performed for this analysis in batch 229010 due to insufficient sample amount.

EAH 11/11/15 : Reviewed for all jobs except 271156.

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

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: BOY
Cleanup Date: 11/6/15

Benchbook # **BK 3729**
Page 54

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
271118-001	229910	☑1.0 ☐____	☑1.0 ☐____	
2		☑1.0 ☐____	☑1.0 ☐____	
3		☑1.0 ☐____	☑1.0 ☐____	
4		☑1.0 ☐____	☑1.0 ☐____	
5		☑1.0 ☐____	☑1.0 ☐____	
6		☑1.0 ☐____	☑1.0 ☐____	
7		☑1.0 ☐____	☑1.0 ☐____	
8		☑1.0 ☐____	☑1.0 ☐____	
9		☑1.0 ☐____	☑1.0 ☐____	
271149-001		☑1.0 ☐____	☑1.0 ☐____	
2		☑1.0 ☐____	☑1.0 ☐____	
MB QC811026		☑1.0 ☐____	☑1.0 ☐____	
BS 7		☑1.0 ☐____	☑1.0 ☐____	
BSD 8		☑1.0 ☐____	☑1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	APG 11915

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using C&T assembled 1.0 g columns	Y14A041	BOY 11/6/15
☐ Extracts were cleaned up using — g cartridges	NA	
Extracts were eluted with 4.0 mL CH_2Cl_2	FC156910	
Concentrated to volumes as noted above	✓	

11/6/15
Extraction Chemist / Date

Continued from page ____
Continued on page ____

11915
Reviewed by / Date

PROJECT Gravity Separation Log

Notebook No. BK2791

Continued From Page

Sample ID		Sep Funnel used	Date/Time started w/initials	Date/Time stopped w/initials	Turbid	Sediment	Sheen	commen
271065300 1	A	yes	10/30/2015 @ 1855 ARW	11/2/2015 @1600 EML	no	no	no	
2	B							
3	A							
4	A							
5	A							
6	A							
7	B							
8	B							
9	B							
10	A							
12	A							
271111800 1	B			11/3/2015 @13:17 EML	yes	no	no	
2	B				no			
3	B				yes			
4	B							
5	B							
6	B							
7	B				no			
8	A							
9	D							

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

Page 54 BK 3680

LIMS Batch No: 229010
LIMS Analysis: TEHM
Date Extracted: 11/3/15

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
271076-001	H	☑ 500 ☐	☐7 ☑ 9	☑ 2.5 ☐		☑ ≤2pH	
2	I	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
↓ 3	G	☑ 500 ☐	☐7 ☑ 9	☑ 2.5 ☐		☑ ≤2pH	
271107-001	↓	☑ 500 ☐	☐7 ☑ 9	☑ 2.5 ☐		☑ ≤2pH	
271118-001	B	☑ 500 ☐	☐7 ☑ 9	☑ 2.5 ☐	X	☑ ≤2pH	
2		☑ 500 ☐	☐7 ☑ 9	☑ 2.5 ☐	X	☑ ≤2pH	
3		☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
4		☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
5		☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
6		☑ 500 ☐	☐7 ☑ 8	☑ 2.5 ☐	X	☑ ≤2pH	
7		☑ 500 ☐	☐7 ☑ 8	☑ 2.5 ☐	X	☑ ≤2pH	
8	↓	☑ 500 ☐	☐7 ☑ 8	☑ 2.5 ☐	X	☑ ≤2pH	
↓ 9	D	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
271149-001	G	☑ 500 ☐	☐7 ☑ 8	☑ 2.5 ☐	X	☑ ≤2pH	
↓ 2	J	☑ 500 ☐	☐7 ☑ 9	☑ 2.5 ☐	X	☑ ≤2pH	
BY 271156-001	L	☐ 500 ☑ 1000	☐7 ☑ 9	☑ 2.5 ☐		☑ ≤2pH	*
271201 ~~271201-001~~		~~☐ 500 ☐~~	~~☐7 ☐~~	~~☐ 2.5 ☐~~		~~☐ ≤2pH~~	EUL
~~271201-002~~		~~☐ 500 ☐~~	~~☐7 ☐~~	~~☐ 2.5 ☐~~		~~☐ ≤2pH~~	11/3/15
271203-024	J	☐ 500 ☑ 450	☐7 ☑ 9	☑ 2.5 ☐		☑ ≤2pH	decanted c. 0.9 inch of sediment
↓ 25	G	☐ 500 ☑ 300	☐7 ☑ 8	☑ 2.5 ☐		☑ ≤2pH	decanted 2.25 inch of sediment
MB QC811026	NA	☑ 500 ☐	☐7 ☑ NA	☑ 2.5 ☐	X	☑ ≤2pH	
BS ↓ 7	↓	☑ 500 ☐	☐7 ☑ NA	☑ 2.5 ☐	X	☑ ≤2pH	
BSD ↓ 8	↓	☑ 500 ☐	☐7 ☑ NA	☑ 2.5 ☐	X	☑ ≤2pH	
		~~☐ 500 ☐~~	~~☐7 ☐~~	~~☐ 2.5 ☐~~		~~☐ ≤2pH~~	AGG 11915

☑ MS/MSD not included due to: ☑ insufficent volume, or ☐ other (reason) ______

*1mL surr used

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S28305	EUL 11/3/15
0.5 mL of TEH_SP was added to all spikes	S28139	↓
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS152524	
☒ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EM55175	
Extraction Start Time:	14:54	↓
Extraction End Time:	0854	CPJ 11/4/15
☑ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	NA	BUY 11/5/15
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	FS25355C502	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	↓

AGG 11/3/15
Extraction Chemist **Date**

Contined from Page ___
Continued on Page ___

11915
Reviewed by **Date**

SAMPLE PREPARATION SUMMARY

Batch # : 229054
Analysis : TEH
Started By : BOY
Prep Date : 04-NOV-2015 12:34
Finished By : JCD
Method : 3520C
SOP Version : TEH_3520_rv15
Units : mL
Spike #1 ID : S28305
Spike #2 ID : S28139

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
271203-001		Water	1000	5	1	0.005	7	1				TEH	
271203-002		Water	400	2.5	1	0.00625	7	.5				TEH	
271222-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271222-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271222-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271222-004		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271222-005		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271256-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271256-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271256-009		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271256-011		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271256-012		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271256-014		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271256-018		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271256-019		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
271256-020		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271256-021		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271256-022		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
271282-001		Water	1060	5	1	0.004717	7	1				TEHM	
271282-003		Water	1000	5	1	0.005	7	1				TEHM	
QC811214	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC811215	LCS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC811216	MS	Water	400	2.5	1	0.00625	7	.5	.5				
QC811217	MSD	Water	400	2.5	1	0.00625	7	.5	.5				

JDG 11/06/15 : Reviewed for rush job 271282

EAH 11/06/15 : Reviewed 271282 without MS/MSD.

Analyst: BJP Date: 11/09/15 Reviewer: EAH Date: 11/09/15

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

Page 55 BK 3680

LIMS Batch No: 229054
LIMS Analysis: TEHM
Date Extracted: 11/4/15

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
271203-001	G	☐ 500 ☑ 1000	☑7 ☐	☑2.5 ☑5 BUY		☑≤2pH	*
↓ 2	H	☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☑≤2pH	1.25m of sediment; MSS
271222-001	B	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
2		☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
3		☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
4	↓	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
↓ 5	C	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
271256-001	I	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	glassware cracked, minimal liquid lost
2	↓	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
9	E	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
11	D	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
12	↓	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
14	B	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
18	A	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
19	↓	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
20	B	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
21	E	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
↓ 22	B	☑500 ☐	☑7 ☐	☑2.5 ☐	X	☑≤2pH	
271282-001	O	☐ 500 ☑ 1060	☑7 ☐	☐ 2.5 ☑ 5.0		☑≤2pH	*
↓ 3	P	☐ 500 ☑ 1000	☑7 ☐	☐ 2.5 ☑ 5.0		☑≤2pH	*
MB QC811214	NA	☑500 ☐	☐7 ☑NA	☑2.5 ☐	X	☑≤2pH	
LCS 5	↓	☑500 ☐	☐7 ☑NA	☑2.5 ☐	X	☑≤2pH	
MS 6	G	☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☑≤2pH	1.2m of sediment
MSD 7	I	☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☑≤2pH	1.25m of sediment

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)____

* 1ml surr used

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S28305B	11/4/15 BUY
0.5 mL of TEH_SP was added to all spikes	S28134E	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS152524	
☑ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	FC 102215	
Extraction Start Time:	12:34	
Extraction End Time:	0652	JCD 11/5/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	NA	
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	FS154411	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	

MB, LCS + RUSHES

11/4/15
Extraction Chemist **Date**

Contined from Page /
Continued on Page /

11/6/15
11/9/15
Reviewed by **Date**

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: BOY
Cleanup Date: 11/6/15

Benchbook # **BK 3729**
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Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
271222-001	229054	☑ 1.0 ☐____	☑ 1.0 ☐____	
2		☑ 1.0 ☐____	☑ 1.0 ☐____	
3		☑ 1.0 ☐____	☑ 1.0 ☐____	
4		☑ 1.0 ☐____	☑ 1.0 ☐____	
5		☑ 1.0 ☐____	☑ 1.0 ☐____	
271256-001		☑ 1.0 ☐____	☑ 1.0 ☐____	
2		☑ 1.0 ☐____	☑ 1.0 ☐____	
9		☑ 1.0 ☐____	☑ 1.0 ☐____	
11		☑ 1.0 ☐____	☑ 1.0 ☐____	
12		☑ 1.0 ☐____	☑ 1.0 ☐____	
14		☑ 1.0 ☐____	☑ 1.0 ☐____	
18		☑ 1.0 ☐____	☑ 1.0 ☐____	
19		☑ 1.0 ☐____	☑ 1.0 ☐____	
20		☑ 1.0 ☐____	☑ 1.0 ☐____	
21		☑ 1.0 ☐____	☑ 1.0 ☐____	
22		☑ 1.0 ☐____	☑ 1.0 ☐____	
MB QC811214		☑ 1.0 ☐____	☑ 1.0 ☐____	
LCS QC811215		☑ 1.0 ☐____	☑ 1.0 ☐____	
		~~☐ 1.0 ☐____~~	~~☐ 1.0 ☐____~~	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	
		☐ 1.0 ☐____	☐ 1.0 ☐____	JRG 11915
		☐ 1.0 ☐____	☐ 1.0 ☐____	

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using C&T assembled 1.0 g columns	Y14A041	BOY 11/6/15
☐ Extracts were cleaned up using — g cartridges	NA	
Extracts were eluted with 4.0 mL CH_2Cl_2	FC156910 ✓	
Concentrated to volumes as noted above		

11/6/15
Extraction Chemist / Date

Continued from page /
Continued on page /

11915
Reviewed by / Date

SAMPLE PREPARATION SUMMARY

Batch # : 229062
Started By : BOY
Method : 3520C
Spike #1 ID : S28305

Prep Date : 04-NOV-2015 14:19
SOP Version : TEH_3520_rv15
Spike #2 ID : S28139

Analysis : TEH
Finished By : BOY
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
271203-003		Water	425	2.5	1	0.005882	7	.5				TEH	
271203-005		Water	500	2.5	1	0.005	7	.5				TEH	Prepped 05-NOV-2015 19:00
271203-006		Water	500	2.5	1	0.005	7	.5				TEH	Prepped 05-NOV-2015 19:00
271203-007		Water	450	2.5	1	0.005556	7	.5				TEH	Prepped 05-NOV-2015 19:00
271203-008		Water	400	2.5	1	0.00625	7	.5				TEH	
271203-009		Water	400	2.5	1	0.00625	7	.5				TEH	
271203-010		Water	450	2.5	1	0.005556	7	.5				TEH	Prepped 05-NOV-2015 19:00
271203-011		Water	400	2.5	1	0.00625	7	.5				TEH	Prepped 05-NOV-2015 19:00
271203-013		Water	425	2.5	1	0.005882	7	.5				TEH	
271203-014		Water	400	2.5	1	0.00625	7	.5				TEH	
271203-015		Water	450	2.5	1	0.005556	7	.5				TEH	
271203-016		Water	450	2.5	1	0.005556	7	.5				TEH	
271203-017		Water	400	2.5	1	0.00625	7	.5				TEH	
271203-018		Water	360	2.5	1	0.006944	7	.5				TEH	
271203-020		Water	390	2.5	1	0.00641	7	.5				TEH	
271203-021		Water	425	2.5	1	0.005882	7	.5				TEH	
271203-022		Water	375	2.5	1	0.006667	7	.5				TEH	
271203-023		Water	400	2.5	1	0.00625	7	.5				TEH	Prepped 05-NOV-2015 19:00
QC811242	BLANK	Water	500	2.5	1	0.005	7	.5					
QC811243	BS	Water	500	2.5	1	0.005	7	.5	.5				
QC811244	BSD	Water	500	2.5	1	0.005	7	.5	.5				

JDG 11/13/15 : Matrix spikes were not performed for this analysis in batch 229062 due to insufficient sample amount.

Analyst: JDG Date: 11/16/15 Reviewer: EAH Date: 11/17/15

TEH (8015) Water Prep Log Curtis & Tompkins, Ltd.

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LIMS Batch No: 229062
LIMS Analysis: TEHH
Date Extracted: 11/4/15

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
271203-003	G	☐ 500 ☑ 425	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1 in of sediment ; decanted
8	H	☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1 in of sediment ; decanted
9	G	☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☑ ≤2pH	0.75 in of sediment ; decanted
13	H	☐ 500 ☑ 425	☑7 ☐	☑2.5 ☐		☑ ≤2pH	0.5 in of sediment ; decanted
14	G	☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☑ ≤2pH	.5 in of sediment ; decanted
15	H	☐ 500 ☑ 450	☑7 ☐	☑2.5 ☐		☑ ≤2pH	0.5 in of sediment ; decanted
16	I	☐ 500 ☑ 450	☑7 ☐	☑2.5 ☐		☑ ≤2pH	0.5 in of sediment ; decanted
17	H	☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☑ ≤2pH	0.75 in of sediment ; decanted
18	H	☐ 500 ☑ 360	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1.5 in of sediment ; decanted
20	H	☐ 500 ☑ 390	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1.25 in of sediment ; decanted
21	H	☐ 500 ☑ 425	☑7 ☐	☑2.5 ☐		☑ ≤2pH	0.75 in of sediment ; decanted
22	G	☐ 500 ☑ 375	☑7 ☐	☑2.5 ☐		☑ ≤2pH	1.25 in of sediment ; decanted
MB QC811242	NA	☑ 500 ☐ 80	☑7 ☑ NA	☑2.5 ☐		☑ ≤2pH	
BS 3		☑ 500 ☐	☑7 ☑ NA	☑2.5 ☐		☑ ≤2pH	
BSD 4		☑ 500 ☐	☑7 ☑ NA	☑2.5 ☐		☑ ≤2pH	
271203-005	H	☑ 500 ☐	☑7 ☐	☑2.5 ☐		☐ ≤2pH	0.5 in of sediment ; decanted QD 11/5/15 19:00
6	G	☑ 500 ☐	☑7 ☐	☑2.5 ☐		☐ ≤2pH	0.25 in of sediment ; decanted
7		☐ 500 ☑ 450	☑7 ☐	☑2.5 ☐		☐ ≤2pH	1 in of sediment ; decanted
10		☐ 500 ☑ 450	☑7 ☐	☑2.5 ☐		☐ ≤2pH	0.75 in of sediment ; decanted
11		☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☐ ≤2pH	1.5 in of sediment ; decanted
23	E	☐ 500 ☑ 400	☑7 ☐	☑2.5 ☐		☐ ≤2pH	1 in of sediment ; decanted
		☐ 500 ☐	☐7 ☐	☐ 2.5 ☐		☐ ≤2pH	
		☐ 500 ☐	☐7 ☐	☐ 2.5 ☐		☐ ≤2pH	
		☐ 500 ☐	☐7 ☐	☐ 2.5 ☐		☐ ≤2pH	11915

☑ MS/MSD not included due to: ☑ insufficent volume, or ☐ other (reason)____________________

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S28305C	11/4/15 BOY
0.5 mL of TEH_SP was added to all spikes	S28139E	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS152524	
☑ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	FC102215	
Extraction Start Time:	14:19 / 1900	
Extraction End Time:	~~13:00~~ 8:19/1304	11/5/15 CQS
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	NA	11/6/15 BOT
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	FS2535xS02	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	

11/4/15
Extraction Chemist **Date**

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Continued on Page /

11915
Reviewed by **Date**

Laboratory Job Number 271203

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	PATLNSS-S	Diln Fac:	1.000
Lab ID:	271203-001	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229102	11/05/15
Chloromethane	ND	1.0	229102	11/05/15
Vinyl Chloride	ND	0.5	229102	11/05/15
Bromomethane	ND	1.0	229102	11/05/15
Chloroethane	ND	1.0	229102	11/05/15
Trichlorofluoromethane	ND	1.0	229102	11/05/15
Acetone	ND	10	229155	11/06/15
Freon 113	ND	2.0	229102	11/05/15
1,1-Dichloroethene	ND	0.5	229102	11/05/15
Methylene Chloride	ND	10	229102	11/05/15
Carbon Disulfide	ND	0.5	229102	11/05/15
MTBE	ND	0.5	229102	11/05/15
trans-1,2-Dichloroethene	ND	0.5	229102	11/05/15
Vinyl Acetate	ND	10	229102	11/05/15
1,1-Dichloroethane	ND	0.5	229102	11/05/15
2-Butanone	ND	10	229102	11/05/15
cis-1,2-Dichloroethene	ND	0.5	229102	11/05/15
2,2-Dichloropropane	ND	0.5	229102	11/05/15
Chloroform	ND	0.5	229102	11/05/15
Bromochloromethane	ND	0.5	229102	11/05/15
1,1,1-Trichloroethane	ND	0.5	229102	11/05/15
1,1-Dichloropropene	ND	0.5	229102	11/05/15
Carbon Tetrachloride	ND	0.5	229102	11/05/15
1,2-Dichloroethane	ND	0.5	229102	11/05/15
Benzene	ND	0.5	229102	11/05/15
Trichloroethene	ND	0.5	229102	11/05/15
1,2-Dichloropropane	ND	0.5	229102	11/05/15
Bromodichloromethane	ND	0.5	229102	11/05/15
Dibromomethane	ND	0.5	229102	11/05/15
4-Methyl-2-Pentanone	ND	10	229102	11/05/15
cis-1,3-Dichloropropene	ND	0.5	229102	11/05/15
Toluene	ND	0.5	229102	11/05/15
trans-1,3-Dichloropropene	ND	0.5	229102	11/05/15
1,1,2-Trichloroethane	ND	0.5	229102	11/05/15
2-Hexanone	ND	10	229102	11/05/15
1,3-Dichloropropane	ND	0.5	229102	11/05/15
Tetrachloroethene	ND	0.5	229102	11/05/15
Dibromochloromethane	ND	0.5	229102	11/05/15

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	PATLNSS-S	Diln Fac:	1.000
Lab ID:	271203-001	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229102	11/05/15
Chlorobenzene	ND	0.5	229102	11/05/15
1,1,1,2-Tetrachloroethane	ND	0.5	229102	11/05/15
Ethylbenzene	ND	0.5	229102	11/05/15
m,p-Xylenes	ND	0.5	229102	11/05/15
o-Xylene	ND	0.5	229102	11/05/15
Styrene	ND	0.5	229102	11/05/15
Bromoform	ND	1.0	229102	11/05/15
Isopropylbenzene	ND	0.5	229102	11/05/15
1,1,2,2-Tetrachloroethane	ND	0.5	229102	11/05/15
1,2,3-Trichloropropane	ND	0.5	229102	11/05/15
Propylbenzene	ND	0.5	229102	11/05/15
Bromobenzene	ND	0.5	229102	11/05/15
1,3,5-Trimethylbenzene	ND	0.5	229102	11/05/15
2-Chlorotoluene	ND	0.5	229102	11/05/15
4-Chlorotoluene	ND	0.5	229102	11/05/15
tert-Butylbenzene	ND	0.5	229102	11/05/15
1,2,4-Trimethylbenzene	ND	0.5	229102	11/05/15
sec-Butylbenzene	ND	0.5	229102	11/05/15
para-Isopropyl Toluene	ND	0.5	229102	11/05/15
1,3-Dichlorobenzene	ND	0.5	229102	11/05/15
1,4-Dichlorobenzene	ND	0.5	229102	11/05/15
n-Butylbenzene	ND	0.5	229102	11/05/15
1,2-Dichlorobenzene	ND	0.5	229102	11/05/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229102	11/05/15
1,2,4-Trichlorobenzene	ND	0.5	229102	11/05/15
Hexachlorobutadiene	ND	2.0	229102	11/05/15
Naphthalene	ND	2.0	229102	11/05/15
1,2,3-Trichlorobenzene	ND	0.5	229102	11/05/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	95	80-128	229102	11/05/15
1,2-Dichloroethane-d4	100	75-139	229102	11/05/15
Toluene-d8	88	80-120	229102	11/05/15
Bromofluorobenzene	96	80-120	229102	11/05/15

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-01-16-NS	Diln Fac:	1.000
Lab ID:	271203-002	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	ND	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-01-16-NS	Diln Fac:	1.000
Lab ID:	271203-002	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	97	80-128	229102
1,2-Dichloroethane-d4	100	75-139	229102
Toluene-d8	92	80-120	229102
Bromofluorobenzene	96	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-01-26-NS	Diln Fac:	1.000
Lab ID:	271203-003	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229102	11/05/15
Chloromethane	ND	1.0	229102	11/05/15
Vinyl Chloride	ND	0.5	229102	11/05/15
Bromomethane	ND	1.0	229102	11/05/15
Chloroethane	ND	1.0	229102	11/05/15
Trichlorofluoromethane	ND	1.0	229102	11/05/15
Acetone	ND	10	229155	11/06/15
Freon 113	ND	2.0	229102	11/05/15
1,1-Dichloroethene	ND	0.5	229102	11/05/15
Methylene Chloride	ND	10	229102	11/05/15
Carbon Disulfide	ND	0.5	229102	11/05/15
MTBE	ND	0.5	229102	11/05/15
trans-1,2-Dichloroethene	ND	0.5	229102	11/05/15
Vinyl Acetate	ND	10	229102	11/05/15
1,1-Dichloroethane	ND	0.5	229102	11/05/15
2-Butanone	ND	10	229102	11/05/15
cis-1,2-Dichloroethene	ND	0.5	229102	11/05/15
2,2-Dichloropropane	ND	0.5	229102	11/05/15
Chloroform	ND	0.5	229102	11/05/15
Bromochloromethane	ND	0.5	229102	11/05/15
1,1,1-Trichloroethane	ND	0.5	229102	11/05/15
1,1-Dichloropropene	ND	0.5	229102	11/05/15
Carbon Tetrachloride	ND	0.5	229102	11/05/15
1,2-Dichloroethane	ND	0.5	229102	11/05/15
Benzene	ND	0.5	229102	11/05/15
Trichloroethene	ND	0.5	229102	11/05/15
1,2-Dichloropropane	ND	0.5	229102	11/05/15
Bromodichloromethane	ND	0.5	229102	11/05/15
Dibromomethane	ND	0.5	229102	11/05/15
4-Methyl-2-Pentanone	ND	10	229102	11/05/15
cis-1,3-Dichloropropene	ND	0.5	229102	11/05/15
Toluene	ND	0.5	229102	11/05/15
trans-1,3-Dichloropropene	ND	0.5	229102	11/05/15
1,1,2-Trichloroethane	ND	0.5	229102	11/05/15
2-Hexanone	ND	10	229102	11/05/15
1,3-Dichloropropane	ND	0.5	229102	11/05/15
Tetrachloroethene	ND	0.5	229102	11/05/15
Dibromochloromethane	ND	0.5	229102	11/05/15

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-01-26-NS	Diln Fac:	1.000
Lab ID:	271203-003	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229102	11/05/15
Chlorobenzene	ND	0.5	229102	11/05/15
1,1,1,2-Tetrachloroethane	ND	0.5	229102	11/05/15
Ethylbenzene	ND	0.5	229102	11/05/15
m,p-Xylenes	ND	0.5	229102	11/05/15
o-Xylene	ND	0.5	229102	11/05/15
Styrene	ND	0.5	229102	11/05/15
Bromoform	ND	1.0	229102	11/05/15
Isopropylbenzene	ND	0.5	229102	11/05/15
1,1,2,2-Tetrachloroethane	ND	0.5	229102	11/05/15
1,2,3-Trichloropropane	ND	0.5	229102	11/05/15
Propylbenzene	ND	0.5	229102	11/05/15
Bromobenzene	ND	0.5	229102	11/05/15
1,3,5-Trimethylbenzene	ND	0.5	229102	11/05/15
2-Chlorotoluene	ND	0.5	229102	11/05/15
4-Chlorotoluene	ND	0.5	229102	11/05/15
tert-Butylbenzene	ND	0.5	229102	11/05/15
1,2,4-Trimethylbenzene	ND	0.5	229102	11/05/15
sec-Butylbenzene	ND	0.5	229102	11/05/15
para-Isopropyl Toluene	ND	0.5	229102	11/05/15
1,3-Dichlorobenzene	ND	0.5	229102	11/05/15
1,4-Dichlorobenzene	ND	0.5	229102	11/05/15
n-Butylbenzene	ND	0.5	229102	11/05/15
1,2-Dichlorobenzene	ND	0.5	229102	11/05/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229102	11/05/15
1,2,4-Trichlorobenzene	ND	0.5	229102	11/05/15
Hexachlorobutadiene	ND	2.0	229102	11/05/15
Naphthalene	ND	2.0	229102	11/05/15
1,2,3-Trichlorobenzene	ND	0.5	229102	11/05/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	96	80-128	229102	11/05/15
1,2-Dichloroethane-d4	101	75-139	229102	11/05/15
Toluene-d8	92	80-120	229102	11/05/15
Bromofluorobenzene	98	80-120	229102	11/05/15

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	TB-1	Diln Fac:	1.000
Lab ID:	271203-004	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229102	11/05/15
Chloromethane	ND	1.0	229102	11/05/15
Vinyl Chloride	ND	0.5	229102	11/05/15
Bromomethane	ND	1.0	229102	11/05/15
Chloroethane	ND	1.0	229102	11/05/15
Trichlorofluoromethane	ND	1.0	229102	11/05/15
Acetone	ND	10	229155	11/06/15
Freon 113	ND	2.0	229102	11/05/15
1,1-Dichloroethene	ND	0.5	229102	11/05/15
Methylene Chloride	ND	10	229102	11/05/15
Carbon Disulfide	ND	0.5	229102	11/05/15
MTBE	ND	0.5	229102	11/05/15
trans-1,2-Dichloroethene	ND	0.5	229102	11/05/15
Vinyl Acetate	ND	10	229102	11/05/15
1,1-Dichloroethane	ND	0.5	229102	11/05/15
2-Butanone	ND	10	229102	11/05/15
cis-1,2-Dichloroethene	ND	0.5	229102	11/05/15
2,2-Dichloropropane	ND	0.5	229102	11/05/15
Chloroform	ND	0.5	229102	11/05/15
Bromochloromethane	ND	0.5	229102	11/05/15
1,1,1-Trichloroethane	ND	0.5	229102	11/05/15
1,1-Dichloropropene	ND	0.5	229102	11/05/15
Carbon Tetrachloride	ND	0.5	229102	11/05/15
1,2-Dichloroethane	ND	0.5	229102	11/05/15
Benzene	ND	0.5	229102	11/05/15
Trichloroethene	ND	0.5	229102	11/05/15
1,2-Dichloropropane	ND	0.5	229102	11/05/15
Bromodichloromethane	ND	0.5	229102	11/05/15
Dibromomethane	ND	0.5	229102	11/05/15
4-Methyl-2-Pentanone	ND	10	229102	11/05/15
cis-1,3-Dichloropropene	ND	0.5	229102	11/05/15
Toluene	ND	0.5	229102	11/05/15
trans-1,3-Dichloropropene	ND	0.5	229102	11/05/15
1,1,2-Trichloroethane	ND	0.5	229102	11/05/15
2-Hexanone	ND	10	229102	11/05/15
1,3-Dichloropropane	ND	0.5	229102	11/05/15
Tetrachloroethene	ND	0.5	229102	11/05/15
Dibromochloromethane	ND	0.5	229102	11/05/15

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	TB-1	Diln Fac:	1.000
Lab ID:	271203-004	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229102	11/05/15
Chlorobenzene	ND	0.5	229102	11/05/15
1,1,1,2-Tetrachloroethane	ND	0.5	229102	11/05/15
Ethylbenzene	ND	0.5	229102	11/05/15
m,p-Xylenes	ND	0.5	229102	11/05/15
o-Xylene	ND	0.5	229102	11/05/15
Styrene	ND	0.5	229102	11/05/15
Bromoform	ND	1.0	229102	11/05/15
Isopropylbenzene	ND	0.5	229102	11/05/15
1,1,2,2-Tetrachloroethane	ND	0.5	229102	11/05/15
1,2,3-Trichloropropane	ND	0.5	229102	11/05/15
Propylbenzene	ND	0.5	229102	11/05/15
Bromobenzene	ND	0.5	229102	11/05/15
1,3,5-Trimethylbenzene	ND	0.5	229102	11/05/15
2-Chlorotoluene	ND	0.5	229102	11/05/15
4-Chlorotoluene	ND	0.5	229102	11/05/15
tert-Butylbenzene	ND	0.5	229102	11/05/15
1,2,4-Trimethylbenzene	ND	0.5	229102	11/05/15
sec-Butylbenzene	ND	0.5	229102	11/05/15
para-Isopropyl Toluene	ND	0.5	229102	11/05/15
1,3-Dichlorobenzene	ND	0.5	229102	11/05/15
1,4-Dichlorobenzene	ND	0.5	229102	11/05/15
n-Butylbenzene	ND	0.5	229102	11/05/15
1,2-Dichlorobenzene	ND	0.5	229102	11/05/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229102	11/05/15
1,2,4-Trichlorobenzene	ND	0.5	229102	11/05/15
Hexachlorobutadiene	ND	2.0	229102	11/05/15
Naphthalene	ND	2.0	229102	11/05/15
1,2,3-Trichlorobenzene	ND	0.5	229102	11/05/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	96	80-128	229102	11/05/15
1,2-Dichloroethane-d4	105	75-139	229102	11/05/15
Toluene-d8	91	80-120	229102	11/05/15
Bromofluorobenzene	98	80-120	229102	11/05/15

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-03-24-FD	Diln Fac:	1.000
Lab ID:	271203-005	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	ND	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-03-24-FD	Diln Fac:	1.000
Lab ID:	271203-005	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	97	80-128	229102
1,2-Dichloroethane-d4	103	75-139	229102
Toluene-d8	90	80-120	229102
Bromofluorobenzene	100	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-03-24-NS	Diln Fac:	1.000
Lab ID:	271203-006	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	ND	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-03-24-NS	Diln Fac:	1.000
Lab ID:	271203-006	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	96	80-128	229102
1,2-Dichloroethane-d4	103	75-139	229102
Toluene-d8	90	80-120	229102
Bromofluorobenzene	96	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-03-32-NS	Diln Fac:	1.000
Lab ID:	271203-007	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	229102	11/05/15
Chloromethane	ND	1.0	229102	11/05/15
Vinyl Chloride	ND	0.5	229102	11/05/15
Bromomethane	ND	1.0	229102	11/05/15
Chloroethane	ND	1.0	229102	11/05/15
Trichlorofluoromethane	ND	1.0	229102	11/05/15
Acetone	ND	10	229155	11/06/15
Freon 113	ND	2.0	229102	11/05/15
1,1-Dichloroethene	ND	0.5	229102	11/05/15
Methylene Chloride	ND	10	229102	11/05/15
Carbon Disulfide	ND	0.5	229102	11/05/15
MTBE	ND	0.5	229102	11/05/15
trans-1,2-Dichloroethene	ND	0.5	229102	11/05/15
Vinyl Acetate	ND	10	229102	11/05/15
1,1-Dichloroethane	ND	0.5	229102	11/05/15
2-Butanone	ND	10	229102	11/05/15
cis-1,2-Dichloroethene	ND	0.5	229102	11/05/15
2,2-Dichloropropane	ND	0.5	229102	11/05/15
Chloroform	ND	0.5	229102	11/05/15
Bromochloromethane	ND	0.5	229102	11/05/15
1,1,1-Trichloroethane	ND	0.5	229102	11/05/15
1,1-Dichloropropene	ND	0.5	229102	11/05/15
Carbon Tetrachloride	ND	0.5	229102	11/05/15
1,2-Dichloroethane	ND	0.5	229102	11/05/15
Benzene	ND	0.5	229102	11/05/15
Trichloroethene	ND	0.5	229102	11/05/15
1,2-Dichloropropane	ND	0.5	229102	11/05/15
Bromodichloromethane	ND	0.5	229102	11/05/15
Dibromomethane	ND	0.5	229102	11/05/15
4-Methyl-2-Pentanone	ND	10	229102	11/05/15
cis-1,3-Dichloropropene	ND	0.5	229102	11/05/15
Toluene	ND	0.5	229102	11/05/15
trans-1,3-Dichloropropene	ND	0.5	229102	11/05/15
1,1,2-Trichloroethane	ND	0.5	229102	11/05/15
2-Hexanone	ND	10	229102	11/05/15
1,3-Dichloropropane	ND	0.5	229102	11/05/15
Tetrachloroethene	ND	0.5	229102	11/05/15
Dibromochloromethane	ND	0.5	229102	11/05/15

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-03-32-NS	Diln Fac:	1.000
Lab ID:	271203-007	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	0.5	229102	11/05/15
Chlorobenzene	ND	0.5	229102	11/05/15
1,1,1,2-Tetrachloroethane	ND	0.5	229102	11/05/15
Ethylbenzene	ND	0.5	229102	11/05/15
m,p-Xylenes	ND	0.5	229102	11/05/15
o-Xylene	ND	0.5	229102	11/05/15
Styrene	ND	0.5	229102	11/05/15
Bromoform	ND	1.0	229102	11/05/15
Isopropylbenzene	ND	0.5	229102	11/05/15
1,1,2,2-Tetrachloroethane	ND	0.5	229102	11/05/15
1,2,3-Trichloropropane	ND	0.5	229102	11/05/15
Propylbenzene	ND	0.5	229102	11/05/15
Bromobenzene	ND	0.5	229102	11/05/15
1,3,5-Trimethylbenzene	ND	0.5	229102	11/05/15
2-Chlorotoluene	ND	0.5	229102	11/05/15
4-Chlorotoluene	ND	0.5	229102	11/05/15
tert-Butylbenzene	ND	0.5	229102	11/05/15
1,2,4-Trimethylbenzene	ND	0.5	229102	11/05/15
sec-Butylbenzene	ND	0.5	229102	11/05/15
para-Isopropyl Toluene	ND	0.5	229102	11/05/15
1,3-Dichlorobenzene	ND	0.5	229102	11/05/15
1,4-Dichlorobenzene	ND	0.5	229102	11/05/15
n-Butylbenzene	ND	0.5	229102	11/05/15
1,2-Dichlorobenzene	ND	0.5	229102	11/05/15
1,2-Dibromo-3-Chloropropane	ND	2.0	229102	11/05/15
1,2,4-Trichlorobenzene	ND	0.5	229102	11/05/15
Hexachlorobutadiene	ND	2.0	229102	11/05/15
Naphthalene	ND	2.0	229102	11/05/15
1,2,3-Trichlorobenzene	ND	0.5	229102	11/05/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	97	80-128	229102	11/05/15
1,2-Dichloroethane-d4	105	75-139	229102	11/05/15
Toluene-d8	86	80-120	229102	11/05/15
Bromofluorobenzene	95	80-120	229102	11/05/15

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-05-16-NS	Diln Fac:	1.000
Lab ID:	271203-008	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	ND	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-05-16-NS	Diln Fac:	1.000
Lab ID:	271203-008	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	97	80-128	229102
1,2-Dichloroethane-d4	109	75-139	229102
Toluene-d8	92	80-120	229102
Bromofluorobenzene	97	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-05-24-NS	Diln Fac:	1.000
Lab ID:	271203-009	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	ND	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-05-24-NS	Diln Fac:	1.000
Lab ID:	271203-009	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	98	80-128	229102
1,2-Dichloroethane-d4	103	75-139	229102
Toluene-d8	86	80-120	229102
Bromofluorobenzene	98	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-06-14-NS	Diln Fac:	1.000
Lab ID:	271203-010	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	ND	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	1.0	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-06-14-NS	Diln Fac:	1.000
Lab ID:	271203-010	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	100	80-128	229102
1,2-Dichloroethane-d4	107	75-139	229102
Toluene-d8	92	80-120	229102
Bromofluorobenzene	92	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-06-24-NS	Diln Fac:	1.000
Lab ID:	271203-011	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	13	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	0.6	0.5	229102
MTBE	1.0	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-06-24-NS	Diln Fac:	1.000
Lab ID:	271203-011	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	99	80-128	229102
1,2-Dichloroethane-d4	107	75-139	229102
Toluene-d8	90	80-120	229102
Bromofluorobenzene	95	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	TB-3	Diln Fac:	1.000
Lab ID:	271203-012	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	ND	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	TB-3	Diln Fac:	1.000
Lab ID:	271203-012	Sampled:	10/30/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	97	80-128	229102
1,2-Dichloroethane-d4	101	75-139	229102
Toluene-d8	93	80-120	229102
Bromofluorobenzene	97	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-07-16-NS	Diln Fac:	1.000
Lab ID:	271203-013	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	ND	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-07-16-NS	Diln Fac:	1.000
Lab ID:	271203-013	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	97	80-128	229102
1,2-Dichloroethane-d4	97	75-139	229102
Toluene-d8	94	80-120	229102
Bromofluorobenzene	100	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-07-26-NS	Diln Fac:	1.000
Lab ID:	271203-014	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
Freon 12	ND	1.0	229102
Chloromethane	ND	1.0	229102
Vinyl Chloride	ND	0.5	229102
Bromomethane	ND	1.0	229102
Chloroethane	ND	1.0	229102
Trichlorofluoromethane	ND	1.0	229102
Acetone	ND	10	229155
Freon 113	ND	2.0	229102
1,1-Dichloroethene	ND	0.5	229102
Methylene Chloride	ND	10	229102
Carbon Disulfide	0.8	0.5	229102
MTBE	ND	0.5	229102
trans-1,2-Dichloroethene	ND	0.5	229102
Vinyl Acetate	ND	10	229102
1,1-Dichloroethane	ND	0.5	229102
2-Butanone	ND	10	229102
cis-1,2-Dichloroethene	ND	0.5	229102
2,2-Dichloropropane	ND	0.5	229102
Chloroform	ND	0.5	229102
Bromochloromethane	ND	0.5	229102
1,1,1-Trichloroethane	ND	0.5	229102
1,1-Dichloropropene	ND	0.5	229102
Carbon Tetrachloride	ND	0.5	229102
1,2-Dichloroethane	ND	0.5	229102
Benzene	ND	0.5	229102
Trichloroethene	ND	0.5	229102
1,2-Dichloropropane	ND	0.5	229102
Bromodichloromethane	ND	0.5	229102
Dibromomethane	ND	0.5	229102
4-Methyl-2-Pentanone	ND	10	229102
cis-1,3-Dichloropropene	ND	0.5	229102
Toluene	ND	0.5	229102
trans-1,3-Dichloropropene	ND	0.5	229102
1,1,2-Trichloroethane	ND	0.5	229102
2-Hexanone	ND	10	229102
1,3-Dichloropropane	ND	0.5	229102
Tetrachloroethene	ND	0.5	229102
Dibromochloromethane	ND	0.5	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-07-26-NS	Diln Fac:	1.000
Lab ID:	271203-014	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15

Analyte	Result	RL	Batch#
1,2-Dibromoethane	ND	0.5	229102
Chlorobenzene	ND	0.5	229102
1,1,1,2-Tetrachloroethane	ND	0.5	229102
Ethylbenzene	ND	0.5	229102
m,p-Xylenes	ND	0.5	229102
o-Xylene	ND	0.5	229102
Styrene	ND	0.5	229102
Bromoform	ND	1.0	229102
Isopropylbenzene	ND	0.5	229102
1,1,2,2-Tetrachloroethane	ND	0.5	229102
1,2,3-Trichloropropane	ND	0.5	229102
Propylbenzene	ND	0.5	229102
Bromobenzene	ND	0.5	229102
1,3,5-Trimethylbenzene	ND	0.5	229102
2-Chlorotoluene	ND	0.5	229102
4-Chlorotoluene	ND	0.5	229102
tert-Butylbenzene	ND	0.5	229102
1,2,4-Trimethylbenzene	ND	0.5	229102
sec-Butylbenzene	ND	0.5	229102
para-Isopropyl Toluene	ND	0.5	229102
1,3-Dichlorobenzene	ND	0.5	229102
1,4-Dichlorobenzene	ND	0.5	229102
n-Butylbenzene	ND	0.5	229102
1,2-Dichlorobenzene	ND	0.5	229102
1,2-Dibromo-3-Chloropropane	ND	2.0	229102
1,2,4-Trichlorobenzene	ND	0.5	229102
Hexachlorobutadiene	ND	2.0	229102
Naphthalene	ND	2.0	229102
1,2,3-Trichlorobenzene	ND	0.5	229102

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	99	80-128	229102
1,2-Dichloroethane-d4	107	75-139	229102
Toluene-d8	87	80-120	229102
Bromofluorobenzene	100	80-120	229102

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-09-16-FD	Batch#:	229211
Lab ID:	271203-015	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	1.4	0.5

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-09-16-FD	Batch#:	229211
Lab ID:	271203-015	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	102	80-128
1,2-Dichloroethane-d4	130	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	84	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-09-16-NS	Batch#:	229211
Lab ID:	271203-016	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	1.2	0.5

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-09-16-NS	Batch#:	229211
Lab ID:	271203-016	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	100	80-128
1,2-Dichloroethane-d4	132	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	84	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-09-24-NS	Batch#:	229211
Lab ID:	271203-017	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	0.5	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 #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-09-24-NS	Batch#:	229211
Lab ID:	271203-017	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	102	80-128
1,2-Dichloroethane-d4	129	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	84	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-10-16-NS	Batch#:	229211
Lab ID:	271203-018	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	1.6	0.5

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-10-16-NS	Batch#:	229211
Lab ID:	271203-018	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	103	80-128
1,2-Dichloroethane-d4	133	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	85	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	TB-2	Batch#:	229193
Lab ID:	271203-019	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/07/15
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
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

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	TB-2	Batch#:	229193
Lab ID:	271203-019	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/07/15
Diln Fac:	1.000		

Analyte	Result	RL
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	95	80-128
1,2-Dichloroethane-d4	82	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	127 *	80-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-10-26-NS	Batch#:	229211
Lab ID:	271203-020	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	0.6	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 #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-10-26-NS	Batch#:	229211
Lab ID:	271203-020	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	100	80-128
1,2-Dichloroethane-d4	129	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	85	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-11-12-NS	Batch#:	229211
Lab ID:	271203-021	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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 #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-11-12-NS	Batch#:	229211
Lab ID:	271203-021	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	100	80-128
1,2-Dichloroethane-d4	130	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	84	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-11-22-NS	Batch#:	229211
Lab ID:	271203-022	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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 #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-11-22-NS	Batch#:	229211
Lab ID:	271203-022	Sampled:	10/28/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/09/15
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	101	80-128
1,2-Dichloroethane-d4	130	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	84	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-12-12-NS	Batch#:	229118
Lab ID:	271203-023	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/05/15
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 #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-12-12-NS	Batch#:	229118
Lab ID:	271203-023	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/05/15
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	94	80-128
1,2-Dichloroethane-d4	82	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	112	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-12-22-NS	Batch#:	229118
Lab ID:	271203-024	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/05/15
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 #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-12-22-NS	Batch#:	229118
Lab ID:	271203-024	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/05/15
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	94	80-128
1,2-Dichloroethane-d4	80	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	114	80-120

ND= Not Detected
RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-18-12-NS	Batch#:	229118
Lab ID:	271203-025	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/05/15
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 #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-18-12-NS	Batch#:	229118
Lab ID:	271203-025	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/05/15
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	94	80-128
1,2-Dichloroethane-d4	83	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	111	80-120

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	229102
MSS Lab ID:	271236-009	Sampled:	11/02/15
Matrix:	Water	Received:	11/03/15
Units:	ug/L	Analyzed:	11/09/15
Diln Fac:	1.000		

Type: MS Lab ID: QC811403

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	3.556	25.00	32.82	117	73-129
Benzene	<0.1000	25.00	30.27	121 *	80-120
Trichloroethene	47.46	25.00	72.39	100	73-123
Toluene	<0.1000	25.00	24.32	97	80-120
Chlorobenzene	<0.1136	25.00	24.68	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	93	75-139
Toluene-d8	81	80-120
Bromofluorobenzene	96	80-120

Type: MSD Lab ID: QC811404

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	23.11	78	73-129	35 *	25
Benzene	25.00	22.20	89	80-120	31 *	20
Trichloroethene	25.00	58.97	46 *	73-123	20	20
Toluene	25.00	22.51	90	80-120	8	21
Chlorobenzene	25.00	22.79	91	80-120	8	24

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-128
1,2-Dichloroethane-d4	83	75-139
Toluene-d8	89	80-120
Bromofluorobenzene	95	80-120

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811405	Batch#:	229102
Matrix:	Water	Analyzed:	11/05/15
Units:	ug/L		

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 b	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
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

b= See narrative
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811405	Batch#:	229102
Matrix:	Water	Analyzed:	11/05/15
Units:	ug/L		

Analyte	Result	RL
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	93	80-128
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	89	80-120
Bromofluorobenzene	99	80-120

b= See narrative
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	SB-12-22-NS	Batch#:	229118
MSS Lab ID:	271203-024	Sampled:	10/29/15
Matrix:	Water	Received:	10/31/15
Units:	ug/L	Analyzed:	11/06/15
Diln Fac:	1.000		

Type: MS Lab ID: QC811472

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1000	25.00	29.35	117	73-129
Benzene	<0.1000	25.00	28.37	113	80-120
Trichloroethene	<0.1161	25.00	27.17	109	73-123
Toluene	<0.1000	25.00	27.53	110	80-120
Chlorobenzene	<0.1000	25.00	28.50	114	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-128
1,2-Dichloroethane-d4	79	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	97	80-120

Type: MSD Lab ID: QC811473

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	28.61	114	73-129	3	25
Benzene	25.00	27.94	112	80-120	2	20
Trichloroethene	25.00	26.83	107	73-123	1	20
Toluene	25.00	27.19	109	80-120	1	21
Chlorobenzene	25.00	27.85	111	80-120	2	24

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-128
1,2-Dichloroethane-d4	78	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	99	80-120

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811474	Batch#:	229118
Matrix:	Water	Analyzed:	11/05/15
Units:	ug/L		

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

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811474	Batch#:	229118
Matrix:	Water	Analyzed:	11/05/15
Units:	ug/L		

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	97	80-128
1,2-Dichloroethane-d4	82	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	116	80-120

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811523	Batch#:	229118
Matrix:	Water	Analyzed:	11/05/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	13.54	108	66-135
Benzene	12.50	13.54	108	80-123
Trichloroethene	12.50	12.73	102	80-123
Toluene	12.50	13.16	105	80-121
Chlorobenzene	12.50	13.67	109	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-128
1,2-Dichloroethane-d4	79	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	106	80-120

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811536	Batch#:	229102
Matrix:	Water	Analyzed:	11/05/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	23.62	94	66-135
Benzene	25.00	26.80	107	80-123
Trichloroethene	25.00	26.56	106	80-123
Toluene	25.00	25.01	100	80-121
Chlorobenzene	25.00	25.50	102	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-128
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	89	80-120
Bromofluorobenzene	95	80-120

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	229155
Units:	ug/L	Analyzed:	11/06/15
Diln Fac:	1.000		

Type: BS

Lab ID: QC811624

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	12.51	100	66-135
Benzene	12.50	13.79	110	80-123
Trichloroethene	12.50	13.30	106	80-123
Toluene	12.50	15.02	120	80-121
Chlorobenzene	12.50	14.30	114	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	115	75-139
Toluene-d8	111	80-120
Bromofluorobenzene	113	80-120

Type: BSD

Lab ID: QC811625

Analyte	Spiked	Result	%REC	Limits	RPD		Lim
1,1-Dichloroethene	12.50	10.06	80	66-135	22		24
Benzene	12.50	11.26	90	80-123	20		20
Trichloroethene	12.50	10.77	86	80-123	21	*	20
Toluene	12.50	12.39	99	80-121	19		20
Chlorobenzene	12.50	11.73	94	80-123	20		20

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-128
1,2-Dichloroethane-d4	118	75-139
Toluene-d8	110	80-120
Bromofluorobenzene	112	80-120

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811626	Batch#:	229155
Matrix:	Water	Analyzed:	11/06/15
Units:	ug/L		

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

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811626	Batch#:	229155
Matrix:	Water	Analyzed:	11/06/15
Units:	ug/L		

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	111	80-128
1,2-Dichloroethane-d4	118	75-139
Toluene-d8	111	80-120
Bromofluorobenzene	115	80-120

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811768	Batch#:	229193
Matrix:	Water	Analyzed:	11/07/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	12.20	98	66-135
Benzene	12.50	12.79	102	80-123
Trichloroethene	12.50	12.02	96	80-123
Toluene	12.50	12.44	99	80-121
Chlorobenzene	12.50	12.85	103	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-128
1,2-Dichloroethane-d4	79	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	110	80-120

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811770	Batch#:	229193
Matrix:	Water	Analyzed:	11/07/15
Units:	ug/L		

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
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

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811770	Batch#:	229193
Matrix:	Water	Analyzed:	11/07/15
Units:	ug/L		

Analyte	Result	RL
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	92	80-128
1,2-Dichloroethane-d4	82	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	123 *	80-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	229193
MSS Lab ID:	271248-002	Sampled:	11/03/15
Matrix:	Water	Received:	11/03/15
Units:	ug/L	Analyzed:	11/07/15
Diln Fac:	3.333		

Type: MS

Lab ID: QC811785

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.3333	83.33	93.94	113	73-129
Benzene	<0.3333	83.33	94.81	114	80-120
Trichloroethene	226.3	83.33	303.7	93	73-123
Toluene	<0.3333	83.33	92.03	110	80-120
Chlorobenzene	<0.3333	83.33	95.08	114	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-128
1,2-Dichloroethane-d4	80	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	98	80-120

Type: MSD

Lab ID: QC811786

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	83.33	84.60	102	73-129	10	25
Benzene	83.33	89.17	107	80-120	6	20
Trichloroethene	83.33	283.3	68 *	73-123	7	20
Toluene	83.33	85.12	102	80-120	8	21
Chlorobenzene	83.33	89.29	107	80-120	6	24

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-128
1,2-Dichloroethane-d4	79	75-139
Toluene-d8	92	80-120
Bromofluorobenzene	100	80-120

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	Location:	RWQCB PCE LUKIN
Client:	URS Corporation	Prep:	EPA 5030B
Project#:	RWQCB PCE LUKIN	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	229211
Units:	ug/L	Analyzed:	11/09/15
Diln Fac:	1.000		

Type: BS Lab ID: QC811845

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	9.979	80	66-135
Benzene	12.50	11.51	92	80-123
Trichloroethene	12.50	12.65	101	80-123
Toluene	12.50	11.77	94	80-121
Chlorobenzene	12.50	12.99	104	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-128
1,2-Dichloroethane-d4	128	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	84	80-120

Type: BSD Lab ID: QC811846

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	9.484	76	66-135	5	24
Benzene	12.50	11.39	91	80-123	1	20
Trichloroethene	12.50	12.60	101	80-123	0	20
Toluene	12.50	11.37	91	80-121	4	20
Chlorobenzene	12.50	12.66	101	80-123	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-128
1,2-Dichloroethane-d4	128	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	84	80-120

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811847	Batch#:	229211
Matrix:	Water	Analyzed:	11/09/15
Units:	ug/L		

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

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	271203	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:	QC811847	Batch#:	229211
Matrix:	Water	Analyzed:	11/09/15
Units:	ug/L		

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	100	80-128
1,2-Dichloroethane-d4	129	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	85	80-120

ND= Not Detected
RL= Reporting Limit

Initial & Continuing Calibration Data

CURTIS & TOMPKINS BFB TUNE FOR 271203 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 271203 MSVOA Water
EPA 8260B

Inst : MSVOA03
Run Name : BFB
IDF : 1.0
Seqnum : 425447153002
File : ck602
Time : 06-NOV-2015 13:16

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	80269	23.62	
75	30% - 60% of mass 95	165120	48.59	
95		339818	100.00	
96	5% - 9% of mass 95	22488	6.62	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	252245	74.23	
175	5% - 9% of mass 174	18475	7.32	
176	> 95% and < 101% of mass 174	244373	96.88	
177	5% - 9% of mass 176	15933	6.52	

Analyst: TEW   Date: 11/09/15   Reviewer: LW   Date: 11/10/15

CURTIS & TOMPKINS BFB TUNE FOR 271203 MSVOA Water
EPA 8260B

Inst : MSVOA09
Run Name : BFB
IDF : 1.0
Seqnum : 485399877003
File : ij403
Time : 04-OCT-2015 18:52

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	16384	24.19	
75	30% - 60% of mass 95	33384	49.29	
95		67725	100.00	
96	5% - 9% of mass 95	4641	6.85	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	51917	76.66	
175	5% - 9% of mass 174	3943	7.59	
176	> 95% and < 101% of mass 174	50093	96.49	
177	5% - 9% of mass 176	3384	6.76	

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

CURTIS & TOMPKINS BFB TUNE FOR 271203 MSVOA Water
EPA 8260B

Inst : MSVOA09
Run Name : BFB
IDF : 1.0
Seqnum : 485401479002
File : ij502
Time : 05-OCT-2015 19:52

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	15657	22.89	
75	30% - 60% of mass 95	32573	47.61	
95		68410	100.00	
96	5% - 9% of mass 95	4761	6.96	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	55885	81.69	
175	5% - 9% of mass 174	4234	7.58	
176	> 95% and < 101% of mass 174	53674	96.04	
177	5% - 9% of mass 176	3473	6.47	

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

CURTIS & TOMPKINS BFB TUNE FOR 271203 MSVOA Water
EPA 8260B

Inst : MSVOA09
Run Name : BFB
IDF : 1.0
Seqnum : 485402532002
File : ij602
Time : 06-OCT-2015 13:23

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	28597	24.33	
75	30% - 60% of mass 95	58338	49.63	
95		117538	100.00	
96	5% - 9% of mass 95	7947	6.76	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	90168	76.71	
175	5% - 9% of mass 174	7198	7.98	
176	> 95% and < 101% of mass 174	87394	96.92	
177	5% - 9% of mass 176	6079	6.96	

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

CURTIS & TOMPKINS BFB TUNE FOR 271203 MSVOA Water
EPA 8260B

Inst : MSVOA09
Seqnum : 485445681009
Run Name : BFB
File : ik509
IDF : 1.0
Time : 05-NOV-2015 18:46

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	14227	21.38	
75	30% - 60% of mass 95	29720	44.66	
95		66541	100.00	
96	5% - 9% of mass 95	4560	6.85	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	61368	92.23	
175	5% - 9% of mass 174	4772	7.78	
176	> 95% and < 101% of mass 174	58757	95.75	
177	5% - 9% of mass 176	3945	6.71	

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

CURTIS & TOMPKINS BFB TUNE FOR 271203 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 485451358008 File : ik908 Time : 09-NOV-2015 16:25

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	41234	20.48	
75	30% - 60% of mass 95	90122	44.76	
95		201344	100.00	
96	5% - 9% of mass 95	13610	6.76	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	180480	89.64	
175	5% - 9% of mass 174	14044	7.78	
176	> 95% and < 101% of mass 174	174250	96.55	
177	5% - 9% of mass 176	11239	6.45	

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

CURTIS & TOMPKINS BFB TUNE FOR 271203 MSVOA Water
EPA 8260B

Inst   : MSVOA10   Run Name : BFB   IDF : 1.0
Seqnum : 495321824003   File   : jhb03   Time : 11-AUG-2015 13:21

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	138637	25.18	
75	30% - 60% of mass 95	276864	50.29	
95		550549	100.00	
96	5% - 9% of mass 95	37531	6.82	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	366506	66.57	
175	5% - 9% of mass 174	27706	7.56	
176	> 95% and < 101% of mass 174	360490	98.36	
177	5% - 9% of mass 176	24042	6.67	

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

CURTIS & TOMPKINS BFB TUNE FOR 271203 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 495445756003 File : jk503 Time : 05-NOV-2015 14:23

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	84474	22.37	
75	30% - 60% of mass 95	175850	46.57	
95		377621	100.00	
96	5% - 9% of mass 95	26282	6.96	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	283669	75.12	
175	5% - 9% of mass 174	20525	7.24	
176	> 95% and < 101% of mass 174	278293	98.10	
177	5% - 9% of mass 176	17382	6.25	

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

CURTIS & TOMPKINS BFB TUNE FOR 271203 MSVOA Water
EPA 8260B

Inst : MSVOA10
Run Name : BFB
IDF : 1.0
Seqnum : 495448497003
File : jk703
Time : 07-NOV-2015 12:10

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	107080	22.99	
75	30% - 60% of mass 95	218965	47.01	
95		465813	100.00	
96	5% - 9% of mass 95	31928	6.85	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	347605	74.62	
175	5% - 9% of mass 174	25384	7.30	
176	> 95% and < 101% of mass 174	336661	96.85	
177	5% - 9% of mass 176	22426	6.66	

Analyst: KER   Date: 11/09/15   Reviewer: LW   Date: 11/09/15

CURTIS & TOMPKINS BFB TUNE FOR 271203 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 271203 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 271203 MSVOA Water
EPA 8260B

Inst : MSVOA14 Run Name : BFB IDF : 1.0
Seqnum : 955451069011 File : nk911 Time : 09-NOV-2015 14:58

Standards: S27825

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	4825	30.10	
75	30% - 60% of mass 95	9136	57.00	
95		16028	100.00	
96	5% - 9% of mass 95	1047	6.53	
173	< 2% of mass 174	220	1.53	
174	> 50% and < 100% of mass 95	14418	89.96	
175	5% - 9% of mass 174	1238	8.59	
176	> 95% and < 101% of mass 174	14134	98.03	
177	5% - 9% of mass 176	873	6.18	

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

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 271203 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 (500000X)
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 (100000X), S27823 (100000X), S27893 (100000X), S26571 (100000X)
L5	cin22	425383715022	10PPB	24-SEP-2015 01:54	S27973 (5000X), S27005 (50000X), S27823 (50000X), S27893 (50000X), S26571 (50000X)
L6	cin23	425383715023	20PPB	24-SEP-2015 02:37	S27973 (5000X), S27005 (25000X), S27823 (25000X), S27893 (25000X), S26571 (25000X)
L7	cin24	425383715024	50PPB	24-SEP-2015 02:58	S27973 (5000X), S27005 (10000X), S27823 (10000X), S27893 (10000X), S26571 (10000X)
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	**-28**	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	**-28**	2.0000	-4	5.0000	1	10.000	2	20.000	9	50.000	5	75.000	6	100.00	8
Hexachlorobutadiene			0.5000	**-31**	2.0000	2	5.0000	6	10.000	1	20.000	10	50.000	0	75.000	4	100.00	8
Naphthalene			0.5000	**-24**	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	**-31**	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 = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

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

Inst : MSVOA03　　Name : 8260GX3W
Calnum : 425383715001　　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 271203 MSVOA Water: EPA 8260B

Inst : MSVOA09
Calnum : 485399877001
Units : ug/L

Name : 826GOX9W
Date : 04-OCT-2015 22:30
X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	ij409	485399877009	.25/.5PPB	04-OCT-2015 22:30	S27004 (2000000X), S28008 (2000000X), S28087 (2000000X), S27081 (1000000X), S28060 (5000X)
L2	ij410	485399877010	.5/1PPB	04-OCT-2015 23:05	S28060 (5000X), S27004 (1000000X), S28008 (1000000X), S28087 (1000000X), S27081 (500000X)
L3	ij411	485399877011	2PPB	04-OCT-2015 23:40	S27004 (500000X), S28008 (250000X), S28087 (250000X), S27081 (250000X), S28060 (5000X)
L4	ij412	485399877012	5PPB	05-OCT-2015 00:15	S28060 (5000X), S27004 (200000X), S28008 (100000X), S28087 (100000X), S27081 (100000X)
L5	ij413	485399877013	10PPB	05-OCT-2015 00:50	S28060 (5000X), S27004 (100000X), S28008 (50000X), S28087 (50000X), S27081 (50000X)
L6	ij414	485399877014	20PPB	05-OCT-2015 01:25	S28060 (5000X), S27004 (50000X), S28008 (25000X), S28087 (25000X), S27081 (25000X)
L7	ij415	485399877015	50PPB	05-OCT-2015 01:59	S28060 (5000X), S27004 (20000X), S28008 (10000X), S28087 (10000X), S27081 (10000X)
L8	ij416	485399877016	75PPB	05-OCT-2015 02:34	S28060 (5000X), S27004 (13330X), S28008 (6667X), S28087 (6667X), S27081 (6667X)
L9	ij417	485399877017	100PPB	05-OCT-2015 03:10	S28060 (5000X), S27004 (10000X), S28008 (5000X), S28087 (5000X), S27081 (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		0.2698	0.3002	0.2810	0.3108	0.2655	0.2905	0.2821	0.2722	AVRG		3.52108		0.2840	6	15	0.05	0.99	
Chloromethane	0.4189	0.3284	0.3439	0.2867	0.3191	0.3436	0.3296	0.3256	0.3141	AVRG		2.99022		0.3344	11	15	0.10	0.99	
Vinyl Chloride	0.3274	0.2684	0.2884	0.2572	0.2797	0.2895	0.2796	0.2660	0.2619	AVRG		3.57433		0.2798	8	15	0.05	0.99	
Bromomethane		0.1894m	0.2190	0.2051	0.2528	0.2657	0.2701	0.2638	0.2548	AVRG		4.16501		0.2401	13	15	0.05	0.99	
Chloroethane		0.1878	0.1976	0.1770	0.1972	0.1978	0.1990	0.1982	0.1900	AVRG		5.17908		0.1931	4	15	0.05	0.99	
Trichlorofluoromethane		0.3838	0.3885	0.3607	0.3925	0.3699	0.3958	0.3714	0.3700	AVRG		2.63810		0.3791	3	15	0.05	0.99	
Acetone			0.0608	0.0537	0.0583	0.0508	0.0566	0.0610	0.0600	AVRG		17.4442		0.0573	7	15	0.05	0.99	
Freon 113		0.2241	0.1867	0.2055	0.2234	0.2204	0.2352	0.2246	0.2254	AVRG		4.58366		0.2182	7	15	0.05	0.99	
1,1-Dichloroethene		0.2262	0.2045	0.2139	0.2296	0.2292	0.2423	0.2367	0.2317	AVRG		4.41008		0.2268	5	15	0.05	0.99	
Methylene Chloride		0.2626	0.2614	0.2511	0.2815	0.2665	0.2804	0.2697	0.2641	AVRG		3.74320		0.2672	4	15	0.05	0.99	
Carbon Disulfide		0.9100	0.8480	0.8581	0.9254	0.9193	0.9768	0.9478	0.9120	AVRG		1.09627		0.9122	5	15	0.05	0.99	
MTBE		0.4851	0.4485	0.4491	0.5068	0.4589	0.4704	0.4784	0.4862	AVRG		2.11445		0.4729	4	15	0.05	0.99	
trans-1,2-Dichloroethene		0.2574	0.2374	0.2412	0.2597	0.2585	0.2607	0.2520	0.2530	AVRG		3.96024		0.2525	3	15	0.05	0.99	
Vinyl Acetate			0.3566	0.3048	0.3884	0.3560	0.3372	0.2941	0.3500	AVRG		2.93254		0.3410	10	15	0.05	0.99	
1,1-Dichloroethane		0.5027	0.4722	0.4623	0.5206	0.4890	0.5112	0.4634	0.4444	AVRG		2.06945		0.4832	6	15	0.10	0.99	
2-Butanone			0.0805	0.0805m	0.0832	0.0751	0.0745	0.0772	0.0763	AVRG		12.7911		0.0782	4	15	0.05	0.99	
2,2-Dichloropropane		0.3369	0.2930	0.2924	0.3180	0.3169	0.3301	0.2981	0.2901	AVRG		3.23176		0.3094	6	15	0.05	0.99	
cis-1,2-Dichloroethene		0.2790	0.2545	0.2531	0.2792	0.2803	0.2920	0.2838	0.2699	AVRG		3.64997		0.2740	5	15	0.05	0.99	
Chloroform		0.4513	0.4469	0.4302	0.4741	0.4604	0.4791	0.4529	0.4410	AVRG		2.20017		0.4545	4	15	0.05	0.99	
Bromochloromethane		0.1228	0.1198	0.1247	0.1338	0.1303	0.1389	0.1368	0.1301	AVRG		7.71354		0.1296	5	15	0.05	0.99	
1,1,1-Trichloroethane		0.3684	0.3216	0.3231	0.3421	0.3404	0.3509	0.3332	0.3292	AVRG		2.95315		0.3386	5	15	0.05	0.99	
1,1-Dichloropropene		0.3009	0.2687	0.2715	0.2869	0.2801	0.2958	0.2763	0.2695	AVRG		3.55607		0.2812	4	15	0.05	0.99	
Carbon Tetrachloride		0.2768	0.2415	0.2465	0.2624	0.2549	0.2696	0.2585	0.2510	AVRG		3.88143		0.2576	5	15	0.05	0.99	
1,2-Dichloroethane		0.2259	0.2174	0.2174	0.2384	0.2165	0.2262	0.2197	0.2061	AVRG		4.52578		0.2210	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		0.7403	0.7120	0.7022	0.7723	0.7174	0.7528	0.7157	0.6766	AVRG		1.38186		0.7237	4	15	0.05	0.99	
Trichloroethene		0.2160	0.1946	0.2007	0.2183	0.2117	0.2268	0.2120	0.2034	AVRG		4.75211		0.2104	5	15	0.05	0.99	
1,2-Dichloropropane		0.2423	0.2240	0.2211	0.2391	0.2277	0.2378	0.2266	0.2092	AVRG		4.37703		0.2285	5	15	0.05	0.99	
Bromodichloromethane		0.2403	0.2372	0.2371	0.2648	0.2525	0.2773	0.2615	0.2490	AVRG		3.96070		0.2525	6	15	0.05	0.99	
Dibromomethane		0.1110	0.1098	0.1144	0.1254	0.1132	0.1197	0.1207	0.1177	AVRG		8.58397		0.1165	5	15	0.05	0.99	
4-Methyl-2-Pentanone			0.1481	0.1326	0.1514	0.1325	0.1368	0.1335	0.1311	AVRG		7.24739		0.1380	6	15	0.05	0.99	
cis-1,3-Dichloropropene		0.2826	0.2762	0.2794	0.3219	0.2920	0.3050	0.2886	0.2873	AVRG		3.42925		0.2916	5	15	0.05	0.99	
Toluene		0.7580	0.6978	0.7353	0.7183	0.7043	0.7088	0.6492	0.6167	AVRG		1.43152		0.6986	7	15	0.05	0.99	
trans-1,3-Dichloropropene		0.3757	0.3718	0.3957	0.4178	0.3900	0.4148	0.3896	0.3949	AVRG		2.53952		0.3938	4	15	0.05	0.99	
1,1,2-Trichloroethane		0.1212	0.1312	0.1300	0.1318	0.1274	0.1334	0.1280	0.1285	AVRG		7.75724		0.1289	3	15	0.05	0.99	
2-Hexanone			0.1691	0.1692	0.1852	0.1643	0.1647	0.1628	0.1630	AVRG		5.94057		0.1683	5	15	0.05	0.99	
1,3-Dichloropropane		0.3880	0.3824	0.3885	0.4162	0.3867	0.3877	0.3713	0.3759	AVRG		2.58329		0.3871	3	15	0.05	0.99	
Tetrachloroethene		0.3715	0.2947	0.3284	0.3329	0.3264	0.3428	0.3397	0.3375	AVRG		2.99186		0.3342	6	15	0.05	0.99	
Dibromochloromethane		0.3110	0.2897	0.3124	0.3195	0.3070	0.3449	0.3403	0.3442	AVRG		3.11423		0.3211	6	15	0.05	0.99	
1,2-Dibromoethane		0.2254	0.2232	0.2470	0.2499	0.2316	0.2497	0.2500	0.2518	AVRG		4.14793		0.2411	5	15	0.05	0.99	
Chlorobenzene		0.9036	0.7945	0.8518	0.8442	0.8293	0.8343	0.8212	0.8014	AVRG		1.19756		0.8350	4	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2979	0.2819	0.2988	0.2965	0.2907	0.3210	0.3032	0.3095	AVRG		3.33420		0.2999	4	15	0.05	0.99	
Ethylbenzene		1.5334	1.3032	1.4126	1.4093	1.3564	1.3897	1.2649	1.2473	AVRG		0.73281		1.3646	7	15	0.05	0.99	
m,p-Xylenes	0.5431	0.5452	0.4782	0.4959	0.5140	0.4920	0.4595	0.4273	0.4232	AVRG		2.05553		0.4865	9	15	0.05	0.99	
o-Xylene		0.5142	0.4998	0.5135	0.5217	0.5122	0.5299	0.4779	0.4523	AVRG		1.98931		0.5027	5	15	0.05	0.99	
Styrene		0.8473	0.8026	0.8509	0.8576	0.8584	0.7909	0.5922	0.5953	AVRG		1.29133		0.7744	15	15	0.05	0.99	
Bromoform		0.1791	0.1664	0.1712	0.1822	0.1729	0.2003	0.2081	0.2142	AVRG		5.35356		0.1868	10	15	0.10	0.99	
Isopropylbenzene		2.7329	2.5011	2.7177	2.7036	2.6825	2.5585	2.4049	2.2174	AVRG		0.38989		2.5648	7	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.4732	0.5393	0.5237	0.5420	0.4875	0.4719	0.4886	0.4792	AVRG		1.99735		0.5007	6	15	0.30	0.99	
1,2,3-Trichloropropane		0.1089	0.1309	0.1226	0.1284	0.1129	0.1089	0.1204	0.1158	AVRG		8.43167		0.1186	7	15	0.05	0.99	
Propylbenzene		3.3779	3.0257	3.3001	3.2205	3.1789	2.9340	2.6757	2.4195	AVRG		0.33151		3.0165	11	15	0.05	0.99	
Bromobenzene		0.7324	0.7333	0.7559	0.7471	0.7429	0.7319	0.7002	0.6455	AVRG		1.38184		0.7237	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.1793	1.9910	2.1269	2.1269	2.1905	1.8933	1.6962	1.6778	AVRG		0.50372		1.9852	11	15	0.05	0.99	
2-Chlorotoluene		2.2433	2.1133	2.1441	2.1528	2.1651	1.8587	1.6199	1.5841	AVRG		0.50374		1.9852	13	15	0.05	0.99	
4-Chlorotoluene		2.0481	1.8898	1.9471	1.9323	1.9294	1.8714	1.7569	1.6722	AVRG		0.53166		1.8809	6	15	0.05	0.99	
tert-Butylbenzene		1.9747	1.7648	1.9417	1.8953	1.9374	1.8270	1.6863	1.5785	AVRG		0.54773		1.8257	8	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.0592	1.9605	2.0620	2.0338	2.1136	1.7995	1.7301	1.7008	AVRG		0.51748		1.9324	9	15	0.05	0.99	
sec-Butylbenzene		2.8807	2.5170	2.8386	2.7036	2.7935	2.4954	2.4578	2.3850	AVRG		0.37966		2.6340	7	15	0.05	0.99	
para-Isopropyl Toluene		2.1665	1.9232	2.1714	2.0900	2.1022	2.0484	1.9483	1.8234	AVRG		0.49160		2.0342	6	15	0.05	0.99	
1,3-Dichlorobenzene		1.3571	1.2659	1.3048	1.2808	1.2904	1.2921	1.2785	1.2335	AVRG		0.77647		1.2879	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.4214	1.2839	1.3240	1.3054	1.3085	1.3046	1.3016	1.2555	AVRG		0.76156		1.3131	4	15	0.05	0.99	
n-Butylbenzene		2.0334	1.6912	1.8026	1.8122	1.7512	1.7861	1.6651	1.6064	AVRG		0.56545		1.7685	7	15	0.05	0.99	
1,2-Dichlorobenzene		1.2206	1.1846	1.2168	1.1896	1.1758	1.2057	1.2469	1.1967	AVRG		0.83016		1.2046	2	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.0769	0.0805	0.0803	0.0841	0.0728	0.0745	0.0841	0.0797	AVRG		12.6436		0.0791	5	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.6523	0.5974	0.6204	0.6075	0.6152	0.6481	0.6720	0.6511	AVRG		1.57977		0.6330	4	15	0.05	0.99	
Hexachlorobutadiene		0.3625	0.2904	0.3142	0.3192	0.3240	0.3364	0.3329	0.3300	AVRG		3.06562		0.3262	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
Naphthalene		0.8223	0.8800	0.8937	0.9322	0.8456	0.8825	0.9707	0.9537	AVRG		1.11409		0.8976	6	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.5559	0.5422	0.5436	0.5473	0.5392	0.5630	0.5995	0.5768	AVRG		1.79073		0.5584	4	15	0.05	0.99	
Dibromofluoromethane	0.4757	0.4803	0.4848	0.4714	0.4828	0.4857	0.4825	0.4768	0.4694	AVRG		2.08848		0.4788	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.2286	0.2295	0.2469	0.2260	0.2374	0.2199	0.2163	0.2146	0.1997	AVRG		4.45774		0.2243	6	15	0.05	0.99	
Toluene-d8	1.6334	1.6815	1.6785	1.7105	1.6296	1.6946	1.6864	1.5849	1.6152	AVRG		0.60343		1.6572	3	15	0.05	0.99	
Bromofluorobenzene	0.9610	0.9091	0.9540	0.9430	0.9343	0.9249	0.8791	0.8628	0.8336	AVRG		1.09731		0.9113	5	15	0.05	0.99	