Previous

SOTA Environmental Technology, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Well ID: MW-22
Project No: 00HW019
Probe Type: Westbay
Date: 1/31/01
Serial No.: 1058
Personnel: PRJ/JNT
Datum: TOC
Casing Size/Type: 1.5" Westbay
Elevation of Datum (ft. +MSL): 1176.98
Weather: Cool

Ambient Readings	Start	Finish
Time	1700	1711
Pressure (psia)	14.33	14.33
Temperature (°C)	16.76	20.35

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
5	588	133.56						
			184.88					
			184.85					
			184.91		20.31	1704	194.54	982.44
				132.79				
4	467	80.27						
			133.71					
			133.68					
			133.73		20.97	1706	191.60	985.38
				80.25				
3	389	46.40						
			101.14					
			101.17					
			101.12		20.98	1707	188.72	988.26
				46.40				
2	329	20.34						
			75.00					
			74.97					
			75.03		20.81	1709	189.03	987.95
				20.37				
1	245	14.46						
			37.03					
			37.01					
			37.06		20.50	1710	192.62	984.36
				14.46				

SOTA Environmental Technology, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Well ID: MW-23
Project No: 00HW019
Probe Type: Westbay
Date: 1/31/01
Serial No.: 1058
Personnel: PRJ/JNT
Datum: TOC
Casing Size/Type: 1.5" Westbay
Elevation of Datum (ft. +MSL): 1108.84
Weather: Cold

Ambient Readings	Start	Finish
Time	1935	1952
Pressure (psia)	14.32	14.33
Temperature (°C)	17.71	20.06

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
5	542	158.58						
			194.00					
			193.98					
			193.95		21.36	1942	127.53	981.31
				158.56				
4	445	116.45						
			152.10					
			152.04					
			152.07		21.49	1944	127.21	981.63
				116.45				
3	319	61.77						
			98.50					
			98.53					
			98.49		20.44	1946	124.78	984.06
				61.74				
2	254	33.51						
			70.17					
			70.12					
			70.14		20.86	1948	125.22	983.62
				33.50				
1	174	14.43						
			34.90					
			34.87					
			34.85		20.24	1951	126.58	982.26
				14.41				

SOTA Environmental Technology, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Well ID: MW-24
Project No: 00HW019
Probe Type: Westbay
Date: 1/31/01
Serial No.: 1058
Personnel: PRJ/JNT
Datum: TOC
Casing Size/Type: 1.5" Westbay
Elevation of Datum (ft. +MSL): 1200.94
Weather: Cool

Ambient Readings	Start	Finish
Time	1722	1735
Pressure (psia)	14.29	14.32
Temperature (°C)	17.71	20.91

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
5	678	167.20						
			211.25					
			211.27					
			211.30		19.90	1725	223.56	977.38
				167.24				
4	554	113.34						
			158.84					
			158.82					
			158.87		21.16	1728	220.52	980.42
				113.37				
3	435	61.69						
			108.14					
			108.12					
			108.13		21.32	1730	218.51	982.43
				61.69				
2	373	35.65						
			42.74					
			42.77					
			42.79		21.40	1731	307.30	893.64
				35.70				
1	279	14.45						
			39.80					
			39.77					
			39.74		21.06	1734	220.22	980.72
				14.45				

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011077
Collected by:
Collected on: 01/05/01

Received: 01/05/01
Extracted: N/A
Tested: 01/05-09/01
Reported: 01/15/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01077-1	MW-21-1 01-01077-2	MW-21-2 01-01077-3
Bicarbonate	SM2320B	mg/L	2	<2	147	268
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	3.34	6.30	6.69
Solids, Total Dissolved (TDS)	160.1	mg/L	10	36	534	844
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	E314	µg/L	4	<4	11	<4
Dilution Factor				1	12.5	40
Chloride Cl^-	300.0	mg/L	0.2	<0.2	59	160
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	1.69	8.5	7.7
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	<0.5	120	160
Dilution Factor				1	1	1
Arsenic	200.9	µg/L	5	<5	<5	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	µg/L	200	<200	85,400	138,000
Iron, Fe,	6010	µg/L	50	28.4J	64.6	106
Magnesium, Mg,	6010	µg/L	100	<100	24,600	44,600
Potassium, K,	6010	µg/L	400	144J	1,910	3,400
Sodium, Na,	6010	µg/L	2000	<2000	29,600	63,500
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	1.6	0.4J
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01077-1	MW-21-1 01-01077-2	MW-21-2 01-01077-3
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	0.5J	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	0.5	1.2
Toluene	524.2	µg/L	0.5	3.6	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	9.8	0.3J
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	0.5J	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	2.1	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-21-3 01-01077-4	MW-21-4 01-01077-5
Bicarbonate	SM2320B	mg/L	2	257	191
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	7.10	7.12
Solids, Total Dissolved (TDS)	160.1	mg/L	10	726	424
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate	E314	μg/L	4	<4	<4
Dilution Factor				20	10
Chloride Cl^-	300.0	mg/L	0.2	101	52
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	9.0	7.3
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	100	52
Dilution Factor				1	1
Arsenic, As	200.9	μg/L	5	<5	<5
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	118,000	73,400
Iron, Fe,	6010	μg/L	50	68.9	124
Magnesium, Mg,	6010	μg/L	100	36,100	23,000
Potassium, K,	6010	μg/L	400	2,950	2,090
Sodium, Na,	6010	μg/L	2000	39,500	27,100
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	0.6	0.4J
Bromoform	524.2	μg/L	0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	0.4J	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	1.1	0.7
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-21-3 01-01077-4	MW-21-4 01-01077-5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	0.5J	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	0.3J	1
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	0.3J	1
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	2.5	4.3
Toluene	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	0.9	1.2
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-21-5 01-01077-6	Trip Blanks 01-01077-7
Bicarbonate	SM2320B	mg/L	2	205	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	-
pH	150.1	pH unit	0.01	7.25	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	575	-
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate	E314	µg/L	4	<4	-
Dilution Factor				20	1
Chloride Cl^-	300.0	mg/L	0.2	67	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	8.0	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	90	-
Dilution Factor				1	1
Arsenic, As	200.9	µg/L	5	<5	-
Dilution Factor				1	1
Calcium, Ca,	6010	µg/L	200	95,400	-
Iron, Fe,	6010	µg/L	50	930	-
Magnesium, Mg,	6010	µg/L	100	31,200	-
Potassium, K,	6010	µg/L	400	2,720	-
Sodium, Na,	6010	µg/L	2000	35,200	-
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	0.6	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	1.7	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane (DB	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-21-5 01-01077-6	Analysis Result Trip Blanks 01-01077-7
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	2.6	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	2.6	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	0.4J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	15.1	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	0.7	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane(	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO DR. City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job #00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ____ days ____ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	HEXAVALENT Cr 7196	PERCHLORATE CADHS/EPA 314	LEAD 200.8	ARSENIC 200.9	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H				Remarks
	MW-21-5	1-5-01	0830	H_2O	PER LAB	8	X	X	X	X	X	X	X	X	X				DATA EVALUATION NEEDS TO BE EPA LEVEL IV (D)
	TRIP BLANKS	1-5-01	—	H_2O	HCl	2	X												
	MW-21-4	1-5-01	1100	H_2O	PER LAB	8	X	X	X	X	X	X	X	X	X				
	MW-21-3	1-5-01	1300	H_2O	PER LAB	8	X	X	X	X	X	X	X	X	X				
	MW-21-2	1-5-01	1415	H_2O	PER LAB	8	X	X	X	X	X	X	X	X	X				
	MW-21-1	1-5-01	1535	H_2O	PER LAB	8	X	X	X	X	X	X	X	X	X				
	EQUIPMENT RINSATE	1-5-01	1430	H_2O	PER LAB	8	X	X	X	X	X	X	X	X	X				

1077

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by Paul [signature] Date/Time 1-5-01 / 1820 Received by Paul [signature] Date/Time 1/5/01 / 1820

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011095
Collected by:
Collected on: 01/08/01

Received: 01/08/01
Extracted: N/A
Tested: 01/09-11/01
Reported: 01/17/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01095-1	MW-17-1 01-01095-2	MW-17-2 01-01095-3
Bicarbonate	SM2320B	mg/L	2	<2	146	133
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	7.12	6.87	7.97
Solids, Total Dissolved (TDS)	160.1	mg/L	10	11	251	200
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	E314	μg/L	4	<4	<4	<4
Dilution Factor				1	2	2
Chloride Cl^-	300.0	mg/L	0.2	0.05J	9.72	6.8
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.02J	0.81	0.57
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	<0.5	37	22
Dilution Factor				1	1	1
Arsenic	200.9	μg/L	5	<5	2.1J	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	185J	35,200	28,300
Iron, Fe,	6010	μg/L	50	11.9J	135	244
Magnesium, Mg,	6010	μg/L	100	<100	12,000	14,800
Potassium, K,	6010	μg/L	400	66.3J	1,740	2,340
Sodium, Na,	6010	μg/L	2000	<2000	12,000	14,700
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5	0.3J
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01095-1	MW-17-1 01-01095-2	MW-17-2 01-01095-3
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.3J	0.3J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	1.9	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-3 01-01095-4	MW-17-4 01-01095-5	MW-17-5 01-01095-6
Bicarbonate	SM2320B	mg/L	2	157	166	170
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	7.90	7.65	7.90
Solids, Total Dissolved (TDS)	160.1	mg/L	10	258	267	284
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	E314	µg/L	4	<4	8	7
Dilution Factor				4	4	4
Chloride Cl^-	300.0	mg/L	0.2	10	10	11
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.93	1.3	1.4
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	32	30	30
Dilution Factor				1	1	1
Arsenic, As	200.9	µg/L	5	3.2J	3.7J	2.8J
Dilution Factor				1	1	1
Calcium, Ca,	6010	µg/L	200	38,900	43,100	41,900
Iron, Fe,	6010	µg/L	50	651	372	2,580
Magnesium, Mg,	6010	µg/L	100	18,200	12,300	12,800
Potassium, K,	6010	µg/L	400	2,030	1,620	1,870
Sodium, Na,	6010	µg/L	2000	19,400	30,200	30,300
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	0.5	<0.5	0.3J
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	1.8	0.9	1.2
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-3 01-01095-4	MW-17-4 01-01095-5	MW-17-5 01-01095-6
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	0.5J	0.4J	0.6J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	0.3J	0.5J
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	1.1	4.6	7.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-2D 01-01095-7	Analysis Result Trip Blanks 01-01095-8
Bicarbonate	SM2320B	mg/L	2	135	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	-
pH	150.1	pH unit	0.01	8.07	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	204	-
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate	E314	μg/L	4	<4	-
Dilution Factor				2	1
Chloride Cl^-	300.0	mg/L	0.2	6.6	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.56	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	22	-
Dilution Factor				1	1
Arsenic	200.9	μg/L	5	<5	-
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	28,200	-
Iron, Fe,	6010	μg/L	50	255	-
Magnesium, Mg,	6010	μg/L	100	14,600	-
Potassium, K,	6010	μg/L	400	2,280	-
Sodium, Na,	6010	μg/L	2000	14,600	-
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	0.5J	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-2D 01-01095-7	Trip Blanks 01-01095-8
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	0.4J	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
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Chain of Custody

Please Print in pen

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO DR. City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ____ days ____ hours Sampled by:

Analysis Items

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	HEXAVALENT Cr 7196	PERCHLORATE CA DHS/EPA 314	LEAD 200.8	ARSENIC 200.9	NDMA 1625C	1,4-DIOXANE 8270	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H	MS/MSD	Remarks
	MW-17-5	1/8/01	1030	H_2O	PER LAB	8	X	X	X	X	X	X			X	X	X		
	TRIP BLANK	1/8/01	—	H_2O	HCl	2	X												QA/QC
	MW-17-4	1/8/01	1225	H_2O	PER LAB	7	X	X	X	X	X	X			X	X	X		REQUIREMENTS
	MW-17-3	1/8/01	1400	H_2O	PER LAB	8	X	X	X	X	X	X	X	X	X	X	X		EPA LEVEL
	MW-17-2	1/8/01	1600	H_2O	PER LAB	6	X	X	X	X	X	X			X	X	X		IV (D)
	MW-17-2D	1/8/01	1715	H_2O	PER LAB	6	X	X	X	X	X	X			X	X	X		
	MW-17-1	1/8/01	1800	H_2O	PER LAB	6	X	X	X	X	X	X			X	X	X	X	
	EQUIPMENT RINSATE	1/8/01	1420	H_2O	PER LAB	6	X	X	X	X	X	X			X	X	X		

White – With report
Yellow – Lab copy
Pink – Originator

1095

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ____ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☒ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by Paul Jeffers Date/Time 1/8/01 / 1923 Received by Roy Ogilvie 1/8/01 Date/Time 1923 /

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011135
Collected by:
Collected on: 01/09/01

Received: 01/09/01
Extracted: N/A
Tested: 01/09-11/01
Reported: 01/17/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01135-1	MW-3-1 01-01135-2	MW-3-2 01-01135-3
Bicarbonate	SM2320B	mg/L	2	<2	172	159
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	7.65	7.34	7.67
Solids, Total Dissolved (TDS)	160.1	mg/L	10	13	264	265
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	E314	μg/L	4	<4	<4	<4
Dilution Factor				1	4	4
Chloride Cl^-	300.0	mg/L	0.2	0.06J	13	14
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.02J	0.79	0.47
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	<0.5	33	33
Dilution Factor				1	1	1
Arsenic, As	200.9	μg/L	5	<5	<5	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	<200	45,700	40,200
Iron, Fe,	6010	μg/L	50	30.1J	1,090	326
Magnesium, Mg,	6010	μg/L	100	<100	16,800	18,300
Potassium, K,	6010	μg/L	400	68.7J	2,710	2,640
Sodium, Na,	6010	μg/L	2000	<2000	19,900	19,500
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01135-1	MW-3-1 01-01135-2	MW-3-2 01-01135-3
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	0.5J	0.4J	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	0.4J	0.4J	0.5J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-3-3 01-01135-4	MW-3-4 01-01135-5
Bicarbonate	SM2320B	mg/L	2	155	150
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	7.69	8.09
Solids, Total Dissolved (TDS)	160.1	mg/L	10	275	249
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate, low level	E314	μg/L	4	<4	<4
Dilution Factor				5	4
Chloride Cl^-	300.0	mg/L	0.2	20	11
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	<0.2	0.2
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	35	12
Dilution Factor				1	1
Arsenic, As	200.9	μg/L	5	2.1J	4.1J
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	28,500	19,400
Iron, Fe,	6010	μg/L	50	222	269
Magnesium, Mg,	6010	μg/L	100	14,400	8,330
Potassium, K,	6010	μg/L	400	3,040	1,960
Sodium, Na,	6010	μg/L	2000	41,200	47,500
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	2.6	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	32.9	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-3-3 01-01135-4	MW-3-4 01-01135-5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	0.4J	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	0.6J	0.5J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	0.9	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-3-5 01-01135-6	Trip Blanks 01-01135-7
Bicarbonate	SM2320B	mg/L	2	93	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	-
pH	150.1	pH unit	0.01	9.17	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	224	-
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate	E314	µg/L	4	<4	-
Dilution Factor				4	1
Chloride Cl^-	300.0	mg/L	0.2	10	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	<0.16	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	6.9	-
Dilution Factor				1	1
Arsenic, As	200.9	µg/L	5	6.2	-
Dilution Factor				1	1
Calcium, Ca,	6010	µg/L	200	2,640	-
Iron, Fe,	6010	µg/L	50	1,640	-
Magnesium, Mg,	6010	µg/L	100	554	-
Potassium, K,	6010	µg/L	400	1,130	-
Sodium, Na,	6010	µg/L	2000	74,800	-
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-3-5 01-01135-6	Analysis Result Trip Blanks 01-01135-7
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	0.3J	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	0.3J	0.9
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	0.3J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	0.5J	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 ST. BERNARDO DR. City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job #00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	HEXAVALENT Cr 7196	PERCHLORATE CADHS/EPA 314	LEAD 200.8	ARSENIC 200.9	~~NDMA~~ PH 4500-H	MAJOR ANIONS AND CATIONS	TDS 2540-C				Remarks
	MW-3-5	1/9/01	0945	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	TRIP BLANKS	1/9/01	—	H_2O	HCl	2	X												QA/QC
	MW-3-4	1/9/01	1050	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENTS
	EQUIPMENT RINSATE	1/9/01	1100	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				EPA LEVEL
	MW-3-3	1/9/01	1215	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				IV (D)
	MW-3-2	1/9/01	1250	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-3-1	1/9/01	1330	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				

1135

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/9/01 / 1520 Received by [signature] Date/Time 1/9/01 / 1520

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

APCL Form 4-101, Ver. 4.0, Dec. 22, 1994

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011172
Collected by:
Collected on: 01/10/01

Received: 01/10/01
Extracted: N/A
Tested: 01/11-16/01
Reported: 01/17/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01172-1	MW-18-2 01-01172-2	MW-18-3 01-01172-3
Bicarbonate	SM2320B	mg/L	2	<2	168	183
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	6.68	6.98	7.10
Solids, Total Dissolved (TDS)	160.1	mg/L	10	<10	244	313
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate,	E314	μg/L	4	<4	<4	<4
Dilution Factor				1	4	4
Chloride Cl^-	300.0	mg/L	0.2	0.2	13	15
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.04J	1.1	0.96
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	<0.5	38	39
Dilution Factor				1	1	1
Arsenic, As	200.9	μg/L	5	<5	<5	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	78.4J	50,000	55,900
Iron, Fe,	6010	μg/L	50	13.6J	80.2	58.8
Magnesium, Mg,	6010	μg/L	100	36.8J	15,700	17,100
Potassium, K,	6010	μg/L	400	170J	2,180	2,440
Sodium, Na,	6010	μg/L	2000	278J	18,900	21,200
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	0.4J	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	1.2	2.2
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01172-1	MW-18-2 01-01172-2	MW-18-3 01-01172-3
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	0.9	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	69	0.6J	0.8J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	0.3J
Toluene	524.2	µg/L	0.5	1.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	2.7	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	0.4J	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	0.8	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-18-4 01-01172-4	MW-18-5 01-01172-5	Trip Blanks 01-01172-6
Bicarbonate	SM2320B	mg/L	2	139	113	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	13	-
pH	150.1	pH unit	0.01	8.28	8.70	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	232	190	-
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	-
Dilution Factor				1	1	1
Perchlorate,	E314	µg/L	4	15	<4	-
Dilution Factor				4	4	1
Chloride Cl^-	300.0	mg/L	0.2	11	10	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.81	0.1J	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	22	4.9	-
Dilution Factor				1	1	1
Arsenic	200.9	µg/L	5	<5	2.2J	-
Dilution Factor				1	1	1
Calcium, Ca,	6010	µg/L	200	23,300	8,270	-
Iron, Fe,	6010	µg/L	50	235	476	-
Magnesium, Mg,	6010	µg/L	100	6,710	4,750	-
Potassium, K,	6010	µg/L	400	2,190	1,500	-
Sodium, Na,	6010	µg/L	2000	36,200	52,900	-
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	3.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	0.8	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	1.4	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-18-4 01-01172-4	MW-18-5 01-01172-5	Trip Blanks 01-01172-6
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.6J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	1.9	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	1.1	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
† All results are reported on dry basis for soil samples.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 10835 W. BERNARDO DR. #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job #00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

Analysis Items

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CAONS/EPA 314	LEAD 200.8	ARSENIC 200.9	MAJOR ANIONS AND CATIONS	TPS 2540-C	PH 4500-H	MS/MSD			Remarks
	MW-18-5	1/10/01	1145	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	TRIP BLANK	1/10/01	—	H_2O	HCl	2	X												QA/QC
	MW-18-4	1/10/01	1340	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENT
	EQUIPMENT RINSATE	1/10/01	1315	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				EPA LEVEL
	MW-18-3	1/10/01	1520	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				IV (D)
	MW-18-2	1/10/01	1610	H_2O	Per lab	6	X	X	X	X	X	X	X	X	X				
PRJ	~~MW-18-1~~	~~1/10/01~~		~~H_2O~~	~~PER LAB~~	~~6~~	X	X	X	X	X	X	X	X	X	X			PRJ
PRJ	~~MW-18-1D~~	~~1/10/01~~		~~H_2O~~	~~PER LAB~~	~~6~~	X	X	X	X	X	X	X	X	X				PRJ

1172

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/10/01 / 1905 Received by [signature] Date/Time 1/10/01 / 1905P

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011199
Collected by:
Collected on: 01/11/01

Received: 01/11/01
Extracted: N/A
Tested: 01/12-17/01
Reported: 01/23/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01199-1	MW-20-4 01-01199-2
Bicarbonate	SM2320B	mg/L	2	<2	117
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	13
pH	150.1	pH unit	0.01	6.11	8.54
Solids, Total Dissolved (TDS)	160.1	mg/L	10	<10	200
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate	314	µg/L	4	<4	<4
Dilution Factor				1	4
Chloride Cl^-	300.0	mg/L	0.2	0.05J	11
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.16	<0.16
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	<0.5	19
Dilution Factor				1	1
Arsenic, As	200.9	µg/L	5	<5	<5
Dilution Factor				1	1
Calcium, Ca,	6010	µg/L	200	72.5J	10,900
Iron, Fe,	6010	µg/L	50	12.6J	403
Magnesium, Mg,	6010	µg/L	100	25.6J	3,320
Potassium, K,	6010	µg/L	400	187J	1,120
Sodium, Na,	6010	µg/L	2000	<2000	60,000
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01199-1	MW-20-4 01-01199-2
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	20	0.6J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	0.7	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	0.4J	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-5 01-01199-3	MW-20-4D 01-01199-4	Trip Blanks 01-01199-5
Bicarbonate	SM2320B	mg/L	2	120	122	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	49	8.8	-
pH	150.1	pH unit	0.01	9.07	8.35	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	240	210	-
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	-
Dilution Factor				1	1	1
Perchlorate	314	µg/L	4	<4	<4	-
Dilution Factor				2	2	1
Chloride Cl^-	300.0	mg/L	0.2	10.1	10.7	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.05J	<0.08	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	21	20	-
Dilution Factor				1	1	1
Arsenic, As	200.9	µg/L	5	<5	<5	-
Dilution Factor				1	1	1
Calcium, Ca,	6010	µg/L	200	6,490	10,900	-
Iron, Fe,	6010	µg/L	50	51.3	200	-
Magnesium, Mg,	6010	µg/L	100	1,300	3,220	-
Potassium, K,	6010	µg/L	400	1,610	1,090	-
Sodium, Na,	6010	µg/L	2000	81,400	57,600	-
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-5 01-01199-3	MW-20-4D 01-01199-4	Trip Blanks 01-01199-5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.8J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	0.4J	0.6	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

APCL

Applied P & Ch Laboratory

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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO #212 City: SAN DIEGO State: CA. Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: [X] regular [ ] rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CAOHS/EPA 314	LEAD 200.8	ARSENIC 200.9	TDS 2540-C	MAJOR ANIONS AND CATIONS	PH 4500-H				Remarks
	MW-20-5	1/11/01	1345	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	TRIP BLANKS	1/11/01	—	H_2O	HCl	2	X												QA/QC
	MW-20-4	1/11/01	1500	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENT
	EQUIPMENT RINSATE	1/11/01	1525	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				EPA LEVEL
	MW-20-4D	1/11/01	1530	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				IV (D)

1199

QC Requirement: [ ] Regular; [ ] QA/QC Report; [ ] WIP; [ ] Raw Data; [ ] Extended Raw Data [ ] CLP; [ ] ACE [ ] AFCEE [ ] NEESA ___ (E, C or D); [ ] Other _____ (Please specify)

Sample Disposal: [ ] Return [ ] Disposal by APCL [ ] Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: [ ] Intact; [ ] Broken. Cooler Seal: [ ] Intact; [ ] Broken; [ ] None. Tag # _____ Temperature: [ ] Room [ ] Cold (_____ °C).

Relinquished by Paul [signature] Date/Time 1/11/01 / 1810 Received by [signature] 1/11/01 Date/Time 18:10 /

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011220
Collected by:
Collected on: 01/12/01

Received: 01/12/01
Extracted: N/A
Tested: 01/12-17/01
Reported: 01/23/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01220-1	MW-20-1 01-01220-2
Bicarbonate	SM2320B	mg/L	2	<2	161
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	6.21	7.36
Solids, Total Dissolved (TDS)	160.1	mg/L	10	<10	542
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate,	314	μg/L	4	<4	5
Dilution Factor				1	10
Chloride Cl^-	300.0	mg/L	0.2	0.1J	47
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.74	9.90
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	<0.5	122
Dilution Factor				1	1
Arsenic, As,	200.9	μg/L	5	<5	<5
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	<200	90,300
Iron, Fe,	6010	μg/L	50	15.7J	73.1
Magnesium, Mg,	6010	μg/L	100	<100	28,700
Potassium, K,	6010	μg/L	400	187J	3,250
Sodium, Na,	6010	μg/L	2000	<2000	21,700
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	1.4
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01220-1	MW-20-1 01-01220-2
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane (DB	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	0.4J
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.3J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	0.4J	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane(	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-2 01-01220-3	MW-20-3 01-01220-4	Trip Blanks 01-01220-5
Bicarbonate	SM2320B	mg/L	2	157	188	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	-
pH	150.1	pH unit	0.01	7.43	7.75	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	233	295	-
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	-
Dilution Factor				1	1	1
Perchlorate,	314	µg/L	4	<4	<4	-
Dilution Factor				4	8	1
Chloride Cl^-	300.0	mg/L	0.2	12	33	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	2.0	0.92	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	31	28	-
Dilution Factor				1	1	1
Arsenic, As,	200.9	µg/L	5	<5	<5	-
Dilution Factor				1	1	1
Calcium, Ca,	6010	µg/L	200	44,500	29,900	-
Iron, Fe,	6010	µg/L	50	43.6J	92.1	-
Magnesium, Mg,	6010	µg/L	100	16,500	13,800	-
Potassium, K,	6010	µg/L	400	1,740	2,480	-
Sodium, Na,	6010	µg/L	2000	14,200	59,900	-
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	0.4J	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	2.8	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane (DB	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-2 01-01220-3	MW-20-3 01-01220-4	Trip Blanks 01-01220-5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.4J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane(	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO #212 City: SAN DIEGO State: CA. Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00NW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CAOHS/EPA 314	LEAD 200.8	ARSENIC 200.8	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H	MS/MSD			Remarks
	MW-20-3	1/12/01	0920	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	TRIP BLANK	1/12/01	—	H_2O	HCl	2	X												QA/QC
	EQUIPMENT RINSATE	1/12/01	1000	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENTS
	MW-20-2	1/12/01	1030	H_2O	PERLAB	11	X	X	X	X	X	X	X	X	X	X			EPA LEVEL
	MW-20-1	1/12/01	1200	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				IV (D)

1220

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/12/01 / 1430 Received by [signature] Date/Time 1/12/01 / 1430

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011261
Collected by:
Collected on: 01/15/01

Received: 01/15/01
Extracted: N/A
Tested: 01/16-22/01
Reported: 01/24/01

Sample Description: Water from JPL
Project Description: 00HW019

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01261-1	MW-19-1 01-01261-2	MW-19-2 01-01261-3
Bicarbonate	SM2320B	mg/L	2	<2	163	174
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	6.32	7.49	6.84
Solids, Total Dissolved (TDS)	160.1	mg/L	10	<10	259	359
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	314	μg/L	4	<4	<4	<4
Dilution Factor				1	4	8
Chloride Cl^-	300.0	mg/L	0.2	<0.2	18.8	25
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.42	0.64	3.8
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	<0.5	29	48
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	<5	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	205	47,100	57,300
Iron, Fe,	6010	μg/L	50	34.5J	2,310	2,270
Magnesium, Mg,	6010	μg/L	100	<100	15,000	20,300
Potassium, K,	6010	μg/L	400	127J	2,250	1,660
Sodium, Na,	6010	μg/L	2000	<2000	14,800	16,000
Volatile Organic Compounds						
Dilution Factor				5	1	1
Benzene	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<2.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<2.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<2.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<2.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<25	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<2.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<2.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<2.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01261-1	MW-19-1 01-01261-2	MW-19-2 01-01261-3
4-Chlorotoluene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<2.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	3	<0.5	1.4
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	98	0.7J	0.6J
4-Methyl-2-Pentanone	524.2	µg/L	5	<25	<5	<5
Naphthalene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	5.7	0.4J	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<2.5	<0.5	0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<2.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<2.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	2J	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	4	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-19-3 01-01261-4	MW-19-4 01-01261-5	MW-19-5 01-01261-6
Bicarbonate	SM2320B	mg/L	2	256	144	197
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	7.35	8.18	7.83
Solids, Total Dissolved (TDS)	160.1	mg/L	10	706	243	478
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	314	μg/L	4	<4	<4	<4
Dilution Factor				25	4	20
Chloride Cl^-	300.0	mg/L	0.2	105	15	65
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	8.7	1.5	5.8
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	110	33	59
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	3.2J	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	121,000	31,200	72,700
Iron, Fe,	6010	μg/L	50	2,890	163	345
Magnesium, Mg,	6010	μg/L	100	41,700	17,100	28,700
Potassium, K,	6010	μg/L	400	3,010	1,730	2,540
Sodium, Na,	6010	μg/L	2000	33,300	22,500	32,600
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	0.4J	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	0.4J	2.6	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-19-3 01-01261-4	MW-19-4 01-01261-5	MW-19-5 01-01261-6
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	0.7	0.8	0.5J
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	1	0.9J	0.7J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	1.4	<0.5	2.1
Toluene	524.2	µg/L	0.5	<0.5	0.3J	0.3J
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	0.5	<0.5	0.4J
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-19-2D 01-01261-7	Source Blank 01-01261-8	Trip Blanks 01-01261-9
Bicarbonate	SM2320B	mg/L	2	150	-	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	-	-
pH	150.1	pH unit	0.01	6.83	-	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	352	-	-
Chromium (VI)	7196	mg/L	0.01	<0.01	-	-
Dilution Factor				1	1	1
Perchlorate	314	μg/L	4	<4	-	-
Dilution Factor				8	1	1
Chloride Cl^-	300.0	mg/L	0.2	26	-	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	7.50	-	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	49	-	-
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	-	-
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	60,700	-	-
Iron, Fe,	6010	μg/L	50	1,080	-	-
Magnesium, Mg,	6010	μg/L	100	21,600	-	-
Potassium, K,	6010	μg/L	400	1,710	-	-
Sodium, Na,	6010	μg/L	2000	16,300	-	-
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	MW-19-2D 01-01261-7	Analysis Result Source Blank 01-01261-8	Trip Blanks 01-01261-9
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	0.7	1	2.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.5J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	0.3J	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	0.6	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ____ days ____ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CADNS/EPA 314	LEAD 200.8	ARSENIC 200.9	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H	MS/MSD			Remarks
	MW-19-5	1/15/01	1040	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	TRIP BLANK	1/15/01	—	H_2O	HCl	2	X												QA/QC
	EQUIPMENT RINSATE	1/15/01	1100	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENT
	MW-19-4	1/15/01	1133	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				EPA LEVEL
	MW-19-3	1/15/01	1252	H_2O	PERLAB	9	X	X	X	X	X	X	X	X	X	X			IV (D)
	MW-19-2	1/15/01	1410	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	MW-19-2D	1/15/01	1440	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	SOURCE BLANK	1/15/01	1400	H_2O	HCl	2	X												
	MW-19-1	1/15/01	1535	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				

1261

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/15/01 / 1800 Received by [signature] Date/Time / 1/15/01 / 800

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011275
Collected by:
Collected on: 01/16/01

Received: 01/16/01
Extracted: N/A
Tested: 01/17-23/01
Reported: 01/26/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01275-1	MW-14-1 01-01275-2	MW-14-2 01-01275-3
Bicarbonate	SM2320B	mg/L	2	<2	201	216
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	5.51	6.74	7.25
Solids, Total Dissolved (TDS)	160.1	mg/L	10	<10	754	714
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate,	314	μg/L	4	<4	<4	<4
Dilution Factor				1	40	25
Chloride Cl^-	300.0	mg/L	0.2	0.04J	130	114
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.39	18	14
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	<0.5	190	180
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	<5	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	311	149,000	139,000
Iron, Fe,	6010	μg/L	50	27.6J	291	485
Magnesium, Mg,	6010	μg/L	100	53.5J	47,200	46,300
Potassium, K,	6010	μg/L	400	123J	2,970	2,670
Sodium, Na,	6010	μg/L	2000	230J	49,200	34,500
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	0.6	0.7
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01275-1	MW-14-1 01-01275-2	MW-14-2 01-01275-3
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	1.1	0.5J
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	0.3J	0.3J	0.4J
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	11	0.5J	0.4J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	1.4	0.7
Toluene	524.2	µg/L	0.5	0.9	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	2.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-3 01-01275-4	MW-14-4 01-01275-5
Bicarbonate	SM2320B	mg/L	2	212	159
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	7.62	7.71
Solids, Total Dissolved (TDS)	160.1	mg/L	10	589	321
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate,	314	μg/L	4	6	<4
Dilution Factor				20	10
Chloride Cl^-	300.0	mg/L	0.2	99	42
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	13	10.6
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	130	34
Dilution Factor				1	1
Arsenic, As,	200.9	μg/L	5	<5	2.2J
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	110,000	58,800
Iron, Fe,	6010	μg/L	50	90.1	113
Magnesium, Mg,	6010	μg/L	100	41,500	19,300
Potassium, K,	6010	μg/L	400	3,000	2,030
Sodium, Na,	6010	μg/L	2000	40,000	29,300
Volatile Organic Compounds					
Dilution Factor				5 [a]	1
Benzene	524.2	μg/L	0.5	<2.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<2.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<2.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<2.5	<0.5
Bromoform	524.2	μg/L	0.5	<2.5	<0.5
Bromomethane	524.2	μg/L	0.5	<2.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<2.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<2.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<2.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<25	<5
Carbon tetrachloride	524.2	μg/L	0.5	<2.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<2.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<2.5	<0.5
Chloroethane	524.2	μg/L	0.5	<2.5	<0.5
Chloroform	524.2	μg/L	0.5	<2.5	<0.5
Chloromethane	524.2	μg/L	0.5	<2.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<2.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<2.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<2.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<2.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-3 01-01275-4	MW-14-4 01-01275-5
Dibromomethane	524.2	µg/L	0.5	<2.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<2.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<2.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<2.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<2.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<2.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<2.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<2.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<2.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<2.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<2.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<2.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<2.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<2.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<2.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<2.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<2.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<2.5	<0.5
Methylene chloride	524.2	µg/L	0.5	8.1	0.4J
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<5	0.7J
4-Methyl-2-Pentanone	524.2	µg/L	5	<25	<5
Naphthalene	524.2	µg/L	0.5	<2.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<2.5	<0.5
Styrene	524.2	µg/L	0.5	<2.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<2.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<2.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<2.5	<0.5
Toluene	524.2	µg/L	0.5	<2.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<2.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<2.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<2.5	<0.5
Trichloroethene	524.2	µg/L	0.5	4	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<2.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<2.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<2.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<2.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<2.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<2.5	<0.5
o-Xylene	524.2	µg/L	0.5	<2.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<2.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-5 01-01275-6	Analysis Result Trip Blanks 01-01275-7
Bicarbonate	SM2320B	mg/L	2	133	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	8.8	-
pH	150.1	pH unit	0.01	8.41	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	150	-
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate,	314	μg/L	4	<4	-
Dilution Factor				2.5	1
Chloride Cl^-	300.0	mg/L	0.2	9.4	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.2	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	16	-
Dilution Factor				1	1
Arsenic, As,	200.9	μg/L	5	2.7J	-
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	17,500	-
Iron, Fe,	6010	μg/L	50	570	-
Magnesium, Mg,	6010	μg/L	100	12,300	-
Potassium, K,	6010	μg/L	400	1,920	-
Sodium, Na,	6010	μg/L	2000	32,000	-
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-5 01-01275-6	Trip Blanks 01-01275-7
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	0.4J	0.9
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	0.6J	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
(a) Sample was diluted due to foaming.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CADHS/EPA 314	LEAD 200.8	ARSENIC 200.9	MAJOR CATIONS AND ANIONS	TDS 2540-C	PH 4500-H				Remarks
	MW-14-5	1/16/01	0926	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				QA/QC
	MW-14-4	1/16/01	1025	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENT
	TRIP BLANK	1/16/01	—	H_2O	HCl	2	X												EPA LEVEL
	EQUIPMENT RINSATE	1/16/01	1100	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				IV (D)
	MW-14-3	1/16/01	1130	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-14-2	1/16/01	1215	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-14-1	1/16/01	1255	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				

1275

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☒ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/16/01 / 1637 Received by [signature] Date/Time 1-16-01 / 1637

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011299
Collected by:
Collected on: 01/17/01

Received: 01/17/01
Extracted: N/A
Tested: 01/18-23/01
Reported: 01/29/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01299-1	MW-11-1 01-01299-2	MW-11-2 01-01299-3
Bicarbonate	SM2320B	mg/L	2	-	203	166
Carbonate	SM2320B	mg-$CaCO_3$/L	2	-	<2	<2
pH	150.1	pH unit	0.01	-	7.31	7.54
Solids, Total Dissolved (TDS)	160.1	mg/L	10	-	332	266
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate,	314	μg/L	4	<4	<4	<4
Dilution Factor				1	4	4
Chloride Cl^-	300.0	mg/L	0.2	-	20.2	16
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	-	1.0	<0.16
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	-	46	37
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	<5	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	-	58,100	40,500
Iron, Fe,	6010	μg/L	50	-	100	390
Magnesium, Mg,	6010	μg/L	100	-	18,800	17,100
Potassium, K,	6010	μg/L	400	-	2,890	2,630
Sodium, Na,	6010	μg/L	2000	-	25,500	22,900
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	0.4J	0.7
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01299-1	MW-11-1 01-01299-2	MW-11-2 01-01299-3
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	12	<1	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	0.8	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-3 01-01299-4	MW-11-4 01-01299-5	MW-11-5 01-01299-6
Bicarbonate	SM2320B	mg/L	2	161	131	117
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	6.6	<2
pH	150.1	pH unit	0.01	7.89	8.22	7.80
Solids, Total Dissolved (TDS)	160.1	mg/L	10	266	190	205
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate,	314	μg/L	4	<4	<4	<4
Dilution Factor				4	4	4
Chloride Cl^-	300.0	mg/L	0.2	13	11	12
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	<0.16	<0.16	<0.16
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	23	4.2	19
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	<5	6.0
Calcium, Ca,	6010	μg/L	200	38,800	18,900	20,900
Iron, Fe,	6010	μg/L	50	866	121	311
Magnesium, Mg,	6010	μg/L	100	13,000	10,600	1,990
Potassium, K,	6010	μg/L	400	1,890	1,900	1,160
Sodium, Na,	6010	μg/L	2000	24,200	25,400	47,700
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	0.3J	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-3 01-01299-4	MW-11-4 01-01299-5	MW-11-5 01-01299-6
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	0.6	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-5D 01-01299-7	Trip Blanks 01-01299-8
Bicarbonate	SM2320B	mg/L	2	135	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	-
pH	150.1	pH unit	0.01	7.95	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	216	-
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate,	314	μg/L	4	<4	-
Dilution Factor				4	1
Chloride Cl^-	300.0	mg/L	0.2	12	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	<0.16	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	18	-
Dilution Factor				1	1
Arsenic, As,	200.9	μg/L	5	5.8	-
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	21,100	-
Iron, Fe,	6010	μg/L	50	185	-
Magnesium, Mg,	6010	μg/L	100	2,000	-
Potassium, K,	6010	μg/L	400	1,190	-
Sodium, Na,	6010	μg/L	2000	48,300	-
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	1J	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-5D 01-01299-7	Analysis Result Trip Blanks 01-01299-8
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	0.3J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858-485-8100 Fax #: 858 485-0812

Address: 10835 W. BERNARDO DR #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ Regular ☐ rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE 314 EPA	LEAD 200.8	ARSENIC 200.9	MAJOR CATIONS 200.7	TDS 2540-C	PH 4500-H	MS/MSD			Remarks
	MW-11-5	1/17/01	0945	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				QA/QC
	MW-11-5D	1/17/01	1015	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENT
	TRIP BLANK	1/17/01	—	H_2O	HCl	2	X												EPA LEVEL
	EQUIPMENT RINSATE	1/17/01	1015	H_2O	PERLAB	6	X	X	X	X	X	X							IV (D)
	MW-11-4	1/17/01	1110	H_2O	PERLAB	9	X	X	X	X	X	X	X	X	X	X			
	MW-11-3	1/17/01	1323	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	MW-11-2	1/17/01	1420	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	MW-11-1	1/17/01	1500	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				

1299

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/17/01 / 1630 Received by [signature] Date/Time 1/17/01 1630

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011326
Collected by:
Collected on: 01/18/01

Received: 01/18/01
Extracted: N/A
Tested: 01/19-24/01
Reported: 01/31/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01326-1	MW-22-1 01-01326-2	MW-22-2 01-01326-3
Bicarbonate	SM2320B	mg/L	2	-	245	177
Carbonate	SM2320B	mg-$CaCO_3$/L	2	-	<2	<2
pH	150.1	pH unit	0.01	-	7.00	7.83
Solids, Total Dissolved (TDS)	160.1	mg/L	10	-	887	397
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate,	314	μg/L	4	<4	<4	<4
Dilution Factor				1	25	8
Chloride Cl^-	300.0	mg/L	0.2	-	134	45
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	-	12	7.02
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	-	190	39
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	<5	2.9J
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	-	151,000	59,300
Iron, Fe,	6010	μg/L	50	-	782	113
Magnesium, Mg,	6010	μg/L	100	-	49,100	20,800
Potassium, K,	6010	μg/L	400	-	3,080	2,110
Sodium, Na,	6010	μg/L	2000	-	36,400	31,800
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	0.4J	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	0.4J	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01326-1	MW-22-1 01-01326-2	MW-22-2 01-01326-3
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	0.7	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	36	0.4J	0.4J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	2.0	<0.5
Toluene	524.2	µg/L	0.5	1.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	0.4J	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	0.8	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-3 01-01326-4	MW-22-4 01-01326-5	MW-22-5 01-01326-6
Bicarbonate	SM2320B	mg/L	2	144	137	95
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	22
pH	150.1	pH unit	0.01	7.88	7.72	8.69
Solids, Total Dissolved (TDS)	160.1	mg/L	10	308	218	240
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate,	314	μg/L	4	<4	<4	<4
Dilution Factor				8	4	2.5
Chloride Cl^-	300.0	mg/L	0.2	32	14	8.7
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	8.14	4.72	<0.1
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	23	7.8	37
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	2.7J	2.3J	3.9J
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	44,600	33,000	14,000
Iron, Fe,	6010	μg/L	50	520	302	2,730
Magnesium, Mg,	6010	μg/L	100	13,700	9,540	2,420
Potassium, K,	6010	μg/L	400	1,890	1,520	1,310
Sodium, Na,	6010	μg/L	2000	34,300	27,700	72,700
Volatile Organic Compounds						
Dilution Factor				1	5 [a]	1
Benzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<25	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<2.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-3 01-01326-4	MW-22-4 01-01326-5	MW-22-5 01-01326-6
Dibromomethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<2.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<2.5	0.4J
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<25	<5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	0.4J	<5	<1
Naphthalene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<2.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<2.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<2.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-4D 01-01326-7	Trip Blank 01-01326-8
Bicarbonate	SM2320B	mg/L	2	137	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	-
pH	150.1	pH unit	0.01	7.80	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	224	-
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate,	314	µg/L	4	<4	-
Dilution Factor				4	1
Chloride Cl^-	300.0	mg/L	0.2	12	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	4.48	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	7.0	-
Dilution Factor				1	1
Arsenic, As,	200.9	µg/L	5	3.1J	-
Dilution Factor				1	1
Calcium, Ca,	6010	µg/L	200	34,000	-
Iron, Fe,	6010	µg/L	50	898	-
Magnesium, Mg,	6010	µg/L	100	9,710	-
Potassium, K,	6010	µg/L	400	1,550	-
Sodium, Na,	6010	µg/L	2000	28,200	-
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-4D 01-01326-7	Analysis Result Trip Blank 01-01326-8
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	0.7	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
(a) Sample was diluted due to foaming. (Same on another sample bottle).

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 10835 W. BERNARDO #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # DOHW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CAOHS/EPA 314	LEAD 200.8	ARSENIC 200.9	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 9.500-H	MS/MSD			Remarks
	MW-22-5	1/18/01	0953	H_2O	PER LAB	9	X	X	X	X	X	X	X	X	X	X			
	TRIP BLANK	1/18/01	—	H_2O	HCl	2	X												QA/QC
	EQUIPMENT RINSATE	1/18/01	1045	H_2O	PER LAB	5	X	X	X	X	X	X							Requirement
	MW-22-4	1/18/01	1120	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				EPA LEVEL
	MW-22-4D	1/18/01	1150	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				IV (D)
	MW-22-3	1/18/01	1315	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-22-2	1/18/01	1415	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-22-1	1/18/01	1515	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				

1326

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by Paul Jeffers Date/Time 1/18/01 / 1735 Received by Roy Aguilar 1/18/01 Date/Time 17, 35 /

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011342
Collected by:
Collected on: 01/19/01

Received: 01/19/01
Extracted: N/A
Tested: 01/19-23/01
Reported: 01/26/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-1 01-01342-2	MW-23-2 01-01342-3
Bicarbonate	SM2320B	mg/L	2	272	210
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	6.91	8.05
Solids, Total Dissolved (TDS)	160.1	mg/L	10	898	712
Dilution Factor				25	25
Chloride Cl^-	300.0	mg/L	0.2	118	104
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	13	13
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	190	150
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	156,000	117,000
Iron, Fe,	6010	μg/L	50	2,450	330
Magnesium, Mg,	6010	μg/L	100	49,200	39,400
Potassium, K,	6010	μg/L	400	3,140	2,870
Sodium, Na,	6010	μg/L	2000	36,800	36,000

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-3 01-01342-4	MW-23-4 01-01342-5	MW-23-5 01-01342-6
Bicarbonate	SM2320B	mg/L	2	137	139	212
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	7.39	8.09	9.40
Solids, Total Dissolved (TDS)	160.1	mg/L	10	280	217	294
Dilution Factor				8	4	4
Chloride Cl^-	300.0	mg/L	0.2	28	16	14
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	9.19	5.97	0.1J
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	18	7.3	11
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	45,100	28,300	5,070
Iron, Fe,	6010	μg/L	50	803	196	218
Magnesium, Mg,	6010	μg/L	100	14,200	10,900	474
Potassium, K,	6010	μg/L	400	1,730	1,760	2,700
Sodium, Na,	6010	μg/L	2000	27,600	29,000	114,000

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01342-1	MW-23-1 01-01342-2	MW-23-2 01-01342-3
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	E314	µg/L	4	<4	<4	<4
Dilution Factor				1	1	1
Arsenic, As	200.9	µg/L	5	<5	<5	2.7J
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	0.5	0.4J
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	0.9	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01342-1	MW-23-1 01-01342-2	MW-23-2 01-01342-3
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	11	0.6J	0.4J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	1.6	0.4J
Toluene	524.2	µg/L	0.5	0.7	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	0.9	0.4J
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	0.4J	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-3 01-01342-4	MW-23-4 01-01342-5
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate	E314	µg/L	4	<4	<4
Dilution Factor				1	1
Arsenic	200.9	µg/L	5	3.6J	4.2J

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-3 01-01342-4	MW-23-4 01-01342-5
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-3 01-01342-4	MW-23-4 01-01342-5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-5 01-01342-6	Trip blank 01-01342-7
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate	E314	μg/L	4	<4	-
Arsenic	200.9	μg/L	5	6.2	-

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-5 01-01342-6	Analysis Result Trip blank 01-01342-7
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-5 01-01342-6	Trip blank 01-01342-7
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	0.3J	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	0.4J	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	TRICHLORATE CADHS/EPA 314	LEAD 200.8	ARSENIC 200.9	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H				Remarks
	MW-23-5	1/19/01	0810	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				QA/QC
	MW-23-4	1/19/01	0900	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENT
	EQUIPMENT RINSATE	1/19/01	0930	H_2O	PER LAB	6	X	X	X	X	X	X							EPA LEVEL
	TRIP BLANK	1/19/01	—	H_2O	HCl	2	X												IV (D)
	MW-23-3	1/19/01	1000	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-23-2	1/19/01	1035	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-23-1	1/19/01	1120	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				

1342

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☑ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/19/01 / 1247 Received by [signature] Date/Time 1/19/01 / 1249 pm

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011382
Collected by:
Collected on: 01/22/01

Received: 01/22/01
Extracted: N/A
Tested: 01/23-30/01
Reported: 02/01/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01382-1	MW-12-1 01-01382-2	MW-12-2 01-01382-3
Bicarbonate	SM2320B	mg/L	2	-	159	190
Carbonate	SM2320B	mg-$CaCO_3$/L	2	-	<2	<2
pH	150.1	pH unit	0.01	-	7.79	7.92
Solids, Total Dissolved (TDS)	160.1	mg/L	10	-	241	265
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	314	μg/L	4	<4	<4	<4
Dilution Factor				1	2.5	4
Chloride Cl^-	300.0	mg/L	0.2	-	10.8	16
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	-	0.50	1.4
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	-	40	41
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	<5	<5
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	-	41,200	44,800
Iron, Fe,	6010	μg/L	50	-	3,250	152
Magnesium, Mg,	6010	μg/L	100	-	18,200	19,100
Potassium, K,	6010	μg/L	400	-	2,810	2,990
Sodium, Na,	6010	μg/L	2000	-	21,500	24,700
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01382-1	MW-12-1 01-01382-2	MW-12-2 01-01382-3
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.4J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-12-3 01-01382-4	MW-12-4 01-01382-5	MW-12-5 01-01382-6
Bicarbonate	SM2320B	mg/L	2	199	190	168
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	7.87	7.78	7.91
Solids, Total Dissolved (TDS)	160.1	mg/L	10	280	271	238
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	314	µg/L	4	<4	6	<4
Dilution Factor				4	4	4
Chloride Cl^-	300.0	mg/L	0.2	16.4	15	15
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.64	1.1	1.3
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	39	32	15
Dilution Factor				1	1	1
Arsenic, As,	200.9	µg/L	5	<5	<5	2.7J
Dilution Factor				1	1	1
Calcium, Ca,	6010	µg/L	200	53,700	55,300	35,000
Iron, Fe,	6010	µg/L	50	145	206	125
Magnesium, Mg,	6010	µg/L	100	16,800	14,100	9,850
Potassium, K,	6010	µg/L	400	2,550	2,040	1,950
Sodium, Na,	6010	µg/L	2000	22,000	22,600	35,000
Volatile Organic Compounds						
Dilution Factor				5 [a]	5 [a]	5 [a]
Benzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Bromobenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Bromochloromethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Bromodichloromethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Bromoform	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Bromomethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
n-Butylbenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
sec-Butylbenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
tert-Butylbenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
2-Butanone (MEK)	524.2	µg/L	5	2J	<25	3J
Carbon tetrachloride	524.2	µg/L	0.5	2J	3	<2.5
Chlorobenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Chlorodibromomethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Chloroethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Chloroform	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Chloromethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
2-Chlorotoluene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
4-Chlorotoluene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<2.5	<2.5	<2.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-12-3 01-01382-4	MW-12-4 01-01382-5	MW-12-5 01-01382-6
Dibromomethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,1-Dichloroethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2-Dichloroethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,1-Dichloroethene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2-Dichloropropane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,3-Dichloropropane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
2,2-Dichloropropane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,1-Dichloropropene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Ethylbenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Hexachlorobutadiene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<2.5	<2.5	<2.5
p-Isopropyltoluene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Methylene chloride	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<5	<5	<5
4-Methyl-2-Pentanone	524.2	µg/L	5	<25	<25	<25
Naphthalene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
n-Propylbenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Styrene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Tetrachloroethene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Toluene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Trichloroethene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Trichlorofluoromethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
Vinyl chloride	524.2	µg/L	0.5	<2.5	<2.5	<2.5
o-Xylene	524.2	µg/L	0.5	<2.5	<2.5	<2.5
m/p-Xylene	524.2	µg/L	0.5	<2.5	<2.5	<2.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-12-5D 01-01382-7	Trip blank 01-01382-8
Bicarbonate	SM2320B	mg/L	2	168	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	-
pH	150.1	pH unit	0.01	7.96	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	229	-
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate	314	µg/L	4	<4	-
Dilution Factor				4	1
Chloride Cl^-	300.0	mg/L	0.2	15	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	1.3	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	16	-
Dilution Factor				1	1
Arsenic, As,	200.9	µg/L	5	<5	-
Dilution Factor				1	1
Calcium, Ca,	6010	µg/L	200	36,600	-
Iron, Fe,	6010	µg/L	50	130	-
Magnesium, Mg,	6010	µg/L	100	10,200	-
Potassium, K,	6010	µg/L	400	2,080	-
Sodium, Na,	6010	µg/L	2000	36,300	-
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	2J
Carbon tetrachloride	524.2	µg/L	0.5	1	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	1.2
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-12-5D 01-01382-7	Analysis Result Trip blank 01-01382-8
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
(a) Sample was diluted due to foaming.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO # 212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	Total Cr 200.8	Cr VI 7196	Perchlorate (200.7/EPA 314)	Lead 200.8	Arsenic 200.8	Major Anions and Cations	TDS 2540-C	pH 4500-H	MS/MSD			Remarks
	MW-12-5	1/22/01	1020	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-12-5D	1/22/01	1051	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				QA/QC
	MW-12-4	1/22/01	1145	H_2O	PER LAB	9	X	X	X	X	X	X	X	X	X	X			REQUIREMENT
	EQUIPMENT RINSATE	1/22/01	1200	H_2O	PER LAB	6	X	X	X	X	X	X							EPA LEVEL
	TRIP BLANK	1/22/01	—	H_2O	HCl	2	X												IV (D)
	MW-12-3	1/22/01	1305	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-12-2	1/22/01	1332	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-12-1	1/22/01	1430	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				

1380

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/22/01 / 1651 Received by Roy Aguilar 1/22/01 Date/Time 5:00 PM /

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011395
Collected by:
Collected on: 01/23/01

Received: 01/23/01
Extracted: N/A
Tested: 01/24-29/01
Reported: 01/31/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-1 01-01395-2	MW-24-2 01-01395-3
Bicarbonate	SM2320B	mg/L	2	161	139
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	7.87	8.35
Solids, Total Dissolved (TDS)	160.1	mg/L	10	298	290
Dilution Factor				5	10
Chloride Cl^-	300.0	mg/L	0.2	22	43
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	6.05	1.7
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	37	28
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	49,800	25,600
Iron, Fe,	6010	μg/L	50	167	274
Magnesium, Mg,	6010	μg/L	100	18,000	19,600
Potassium, K,	6010	μg/L	400	2,410	2,960
Sodium, Na,	6010	μg/L	2000	18,100	40,800

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 01-01395-4	MW-24-4 01-01395-5	MW-24-5 01-01395-6
Bicarbonate	SM2320B	mg/L	2	138	99	159
Carbonate	SM2320B	mg-$CaCO_3$/L	2	2	18	<2
pH	150.1	pH unit	0.01	8.59	8.89	7.84
Solids, Total Dissolved (TDS)	160.1	mg/L	10	220	170	246
Dilution Factor				4	4	2.5
Chloride Cl^-	300.0	mg/L	0.2	16.3	13	9.5
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.94	0.58	1.1
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	12	6.4	19
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	15,700	8,080	29,200
Iron, Fe,	6010	μg/L	50	330	225	587
Magnesium, Mg,	6010	μg/L	100	12,400	8,720	9,140
Potassium, K,	6010	μg/L	400	2,250	2,250	1,860
Sodium, Na,	6010	μg/L	2000	41,000	44,300	39,100

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01395-1	MW-24-1 01-01395-2	MW-24-2 01-01395-3
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	20	1
Perchlorate	314	µg/L	4	<4	1,100	42
Dilution Factor				1	1	1
Arsenic, As	200.9	µg/L	5	<5	<5	<5
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	0.7J	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	12.1	0.5J
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	7.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	0.4J	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	0.4J	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01395-1	MW-24-1 01-01395-2	MW-24-2 01-01395-3
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	0.6	0.5J
Toluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	5.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	1.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 01-01395-4	MW-24-4 01-01395-5	MW-24-5 01-01395-6
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate	314	μg/L	4	<4	<4	<4
Dilution Factor				1	1	1
Arsenic, As	200.9	μg/L	5	<5	<5	<5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 01-01395-4	MW-24-4 01-01395-5	MW-24-5 01-01395-6
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 01-01395-4	MW-24-4 01-01395-5	MW-24-5 01-01395-6
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.5J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result Source blank 01-01395-7	Trip blank 01-01395-8
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	2J
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result Source blank 01-01395-7	Analysis Result Trip blank 01-01395-8
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.8J
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result Source blank 01-01395-7	Analysis Result Trip blank 01-01395-8
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

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Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code SPL Job #COHW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

Analysis Items

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CADHS/EPA 314	LEAD 200.8	ARSENIC 200.9	NDMA 1625C	1,4-DIOXANE 8260	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H		Remarks
	MW-24-5	1/23/01	1030	H_2O	PER LAB	6	X	X	X	X	X	X			X	X	X		
	MW-24-4	1/23/01	1125	H_2O	PER LAB	6	X	X	X	X	X	X			X	X	X		QA/QC
	MW-24-3	1/23/01	1305	H_2O	PER LAB	6	X	X	X	X	X	X			X	X	X		REQUIREMENT
	MW-24-2	1/23/01	1357	H_2O	PER LAB	6	X	X	X	X	X	X			X	X	X		EPA LEVEL
	MW-24-1	1/23/01	1445	H_2O	PER LAB	10	X	X	X	X	X	X	X	X	X	X	X		IV (D)
	EQUIPMENT RINSATE	1/23/01	1055	H_2O	PER LAB	6	X	X	X	X	X	X							
	TRIP BLANK	1/23/01	—	H_2O	HCl	2	X												
	SOURCE BLANK	1/23/01	1140	H_2O	HCl	2	X												

1395

White – With report
Yellow – Lab copy
Pink – Originator

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/23/01 / 1815 Received by [signature] 1/23/01 Date/Time 1815 /

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yun Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011420
Collected by:
Collected on: 01/24/01

Received: 01/24/01
Extracted: N/A
Tested: 01/25-29/01
Reported: 02/01/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-1 01-01420-2	MW-4-2 01-01420-3
Bicarbonate	SM2320B	mg/L	2	141	194
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	7.21	7.39
Solids, Total Dissolved (TDS)	160.1	mg/L	10	249	514
Dilution Factor				2.5	20
Chloride Cl^-	300.0	mg/L	0.2	10.2	76
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	0.78	5.8
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	38	82
Dilution Factor				1	1
Calcium, Ca,	6010	μg/L	200	41,700	82,300
Iron, Fe,	6010	μg/L	50	756	1,020
Magnesium, Mg,	6010	μg/L	100	13,700	29,700
Potassium, K,	6010	μg/L	400	2,330	2,740
Sodium, Na,	6010	μg/L	2000	20,300	35,700

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-3 01-01420-4	MW-4-4 01-01420-5	MW-4-5 01-01420-6
Bicarbonate	SM2320B	mg/L	2	179	194	144
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
pH	150.1	pH unit	0.01	6.70	7.36	7.89
Solids, Total Dissolved (TDS)	160.1	mg/L	10	284	243	200
Dilution Factor				8	5	2.5
Chloride Cl^-	300.0	mg/L	0.2	29	22	9.5
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	<0.32	0.1J	0.07J
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	5	2J	15
Dilution Factor				1	1	1
Calcium, Ca,	6010	μg/L	200	40,200	37,100	23,100
Iron, Fe,	6010	μg/L	50	36,100	7,040	1,550
Magnesium, Mg,	6010	μg/L	100	14,900	12,400	8,310
Potassium, K,	6010	μg/L	400	1,840	1,980	1,780
Sodium, Na,	6010	μg/L	2000	30,800	39,400	34,100

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01420-1	MW-4-1 01-01420-2	MW-4-2 01-01420-3
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
Perchlorate,	314	μg/L	4	<4	<4	7
Dilution Factor				1	1	1
Arsenic, As,	200.9	μg/L	5	<5	<5	<5
Volatile Organic Compounds						
Dilution Factor				1	5 [a]	2 [a]
Benzene	524.2	μg/L	0.5	<0.5	<2.5	<1
Bromobenzene	524.2	μg/L	0.5	<0.5	<2.5	<1
Bromochloromethane	524.2	μg/L	0.5	<0.5	<2.5	<1
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<2.5	<1
Bromoform	524.2	μg/L	0.5	<0.5	<2.5	<1
Bromomethane	524.2	μg/L	0.5	<0.5	<2.5	<1
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<1
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<1
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<2.5	<1
2-Butanone (MEK)	524.2	μg/L	5	<5	<25	<10
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<2.5	<1
Chlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<1
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<2.5	<1
Chloroethane	524.2	μg/L	0.5	<0.5	<2.5	<1
Chloroform	524.2	μg/L	0.5	<0.5	<2.5	<1
Chloromethane	524.2	μg/L	0.5	<0.5	<2.5	<1
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<2.5	<1
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<2.5	<1
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<2.5	<1
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<2.5	<1
Dibromomethane	524.2	μg/L	0.5	<0.5	<2.5	<1
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<1
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<1
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<2.5	<1
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<2.5	<1
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<2.5	<1
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<2.5	<1
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<2.5	<1
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<2.5	<1
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<2.5	<1
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<2.5	<1
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<2.5	<1
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<2.5	<1
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<2.5	<1

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Equipment Rinsate 01-01420-1	MW-4-1 01-01420-2	MW-4-2 01-01420-3
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<2.5	<1
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<2.5	<1
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<2.5	<1
Ethylbenzene	524.2	µg/L	0.5	<0.5	<2.5	<1
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<2.5	<1
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<2.5	<1
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<2.5	<1
Methylene chloride	524.2	µg/L	0.5	<0.5	2J	1
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	0.4J	<5	<2
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<25	<10
Naphthalene	524.2	µg/L	0.5	<0.5	<2.5	<1
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<2.5	<1
Styrene	524.2	µg/L	0.5	<0.5	<2.5	<1
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<2.5	<1
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<2.5	<1
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<2.5	<1
Toluene	524.2	µg/L	0.5	<0.5	<2.5	<1
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<2.5	<1
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<2.5	<1
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<2.5	<1
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<2.5	<1
Trichloroethene	524.2	µg/L	0.5	<0.5	<2.5	0.7J
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<2.5	<1
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<2.5	<1
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<2.5	<1
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<2.5	<1
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<2.5	<1
Vinyl chloride	524.2	µg/L	0.5	<0.5	<2.5	<1
o-Xylene	524.2	µg/L	0.5	<0.5	<2.5	<1
m/p-Xylene	524.2	µg/L	0.5	<0.5	<2.5	<1

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-3 01-01420-4	MW-4-4 01-01420-5
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate,	314	µg/L	4	<4	<4
Dilution Factor				1	1
Arsenic, As,	200.9	µg/L	5	<5	<5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-3 01-01420-4	MW-4-4 01-01420-5
Volatile Organic Compounds					
Dilution Factor				2 [a]	5 [a]
Benzene	524.2	μg/L	0.5	<1	<2.5
Bromobenzene	524.2	μg/L	0.5	<1	<2.5
Bromochloromethane	524.2	μg/L	0.5	<1	<2.5
Bromodichloromethane	524.2	μg/L	0.5	<1	<2.5
Bromoform	524.2	μg/L	0.5	<1	<2.5
Bromomethane	524.2	μg/L	0.5	<1	<2.5
n-Butylbenzene	524.2	μg/L	0.5	<1	<2.5
sec-Butylbenzene	524.2	μg/L	0.5	<1	<2.5
tert-Butylbenzene	524.2	μg/L	0.5	<1	<2.5
2-Butanone (MEK)	524.2	μg/L	5	6J	<25
Carbon tetrachloride	524.2	μg/L	0.5	<1	<2.5
Chlorobenzene	524.2	μg/L	0.5	<1	<2.5
Chlorodibromomethane	524.2	μg/L	0.5	<1	<2.5
Chloroethane	524.2	μg/L	0.5	<1	<2.5
Chloroform	524.2	μg/L	0.5	<1	<2.5
Chloromethane	524.2	μg/L	0.5	<1	<2.5
2-Chlorotoluene	524.2	μg/L	0.5	<1	<2.5
4-Chlorotoluene	524.2	μg/L	0.5	<1	<2.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<1	<2.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<1	<2.5
Dibromomethane	524.2	μg/L	0.5	<1	<2.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<1	<2.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<1	<2.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<1	<2.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<1	<2.5
1,1-Dichloroethane	524.2	μg/L	0.5	<1	<2.5
1,2-Dichloroethane	524.2	μg/L	0.5	<1	<2.5
1,1-Dichloroethene	524.2	μg/L	0.5	<1	<2.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<1	<2.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<1	<2.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<1	<2.5
1,2-Dichloropropane	524.2	μg/L	0.5	<1	<2.5
1,3-Dichloropropane	524.2	μg/L	0.5	<1	<2.5
2,2-Dichloropropane	524.2	μg/L	0.5	<1	<2.5
1,1-Dichloropropene	524.2	μg/L	0.5	<1	<2.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<1	<2.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<1	<2.5
Ethylbenzene	524.2	μg/L	0.5	1	<2.5
Hexachlorobutadiene	524.2	μg/L	0.5	<1	<2.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-3 01-01420-4	MW-4-4 01-01420-5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<1	<2.5
p-Isopropyltoluene	524.2	µg/L	0.5	<1	<2.5
Methylene chloride	524.2	µg/L	0.5	1	2J
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	0.7J	<5
4-Methyl-2-Pentanone	524.2	µg/L	5	<10	<25
Naphthalene	524.2	µg/L	0.5	<1	<2.5
n-Propylbenzene	524.2	µg/L	0.5	<1	<2.5
Styrene	524.2	µg/L	0.5	<1	<2.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<1	<2.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<1	<2.5
Tetrachloroethene	524.2	µg/L	0.5	<1	<2.5
Toluene	524.2	µg/L	0.5	<1	<2.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<1	<2.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<1	<2.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<1	<2.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<1	<2.5
Trichloroethene	524.2	µg/L	0.5	<1	<2.5
Trichlorofluoromethane	524.2	µg/L	0.5	<1	<2.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<1	<2.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<1	<2.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<1	<2.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<1	<2.5
Vinyl chloride	524.2	µg/L	0.5	<1	<2.5
o-Xylene	524.2	µg/L	0.5	<1	<2.5
m/p-Xylene	524.2	µg/L	0.5	<1	<2.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-5 01-01420-6	Trip blank 01-01420-7
Chromium (VI)	7196	mg/L	0.01	<0.01	-
Dilution Factor				1	1
Perchlorate,	314	µg/L	4	<4	-
Dilution Factor				1	1
Arsenic, As,	200.9	µg/L	5	<5	-

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-5 01-01420-6	Analysis Result Trip blank 01-01420-7
Volatile Organic Compounds					
Dilution Factor				2 [a]	1
Benzene	524.2	μg/L	0.5	<1	<0.5
Bromobenzene	524.2	μg/L	0.5	<1	<0.5
Bromochloromethane	524.2	μg/L	0.5	<1	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<1	<0.5
Bromoform	524.2	μg/L	0.5	<1	<0.5
Bromomethane	524.2	μg/L	0.5	<1	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<1	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<1	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<1	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<10	<5
Carbon tetrachloride	524.2	μg/L	0.5	<1	<0.5
Chlorobenzene	524.2	μg/L	0.5	<1	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<1	<0.5
Chloroethane	524.2	μg/L	0.5	<1	<0.5
Chloroform	524.2	μg/L	0.5	<1	<0.5
Chloromethane	524.2	μg/L	0.5	<1	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<1	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<1	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<1	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<1	<0.5
Dibromomethane	524.2	μg/L	0.5	<1	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<1	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<1	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<1	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<1	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<1	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<1	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<1	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<1	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<1	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<1	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<1	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<1	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<1	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<1	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<1	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<1	<0.5
Ethylbenzene	524.2	μg/L	0.5	<1	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<1	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-4-5 01-01420-6	Trip blank 01-01420-7
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<1	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<1	<0.5
Methylene chloride	524.2	μg/L	0.5	1	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	4	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<10	<5
Naphthalene	524.2	μg/L	0.5	<1	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<1	<0.5
Styrene	524.2	μg/L	0.5	<1	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<1	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<1	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<1	<0.5
Toluene	524.2	μg/L	0.5	<1	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<1	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<1	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<1	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<1	<0.5
Trichloroethene	524.2	μg/L	0.5	<1	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<1	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<1	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<1	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<1	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<1	<0.5
Vinyl chloride	524.2	μg/L	0.5	<1	<0.5
o-Xylene	524.2	μg/L	0.5	<1	<0.5
m/p-Xylene	524.2	μg/L	0.5	<1	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

(a) Sample was diluted due to foaming.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
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Chain of Custody

Please Print in pen

Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO DR. #211 City: SAN DIEGO State: CA. Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job #00HN019 P.O. #

Project Address APCL Quotation #

Due Date: [X] regular [ ] rush: ____ days ____ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CADHS/EPA 314	LEAD 200.8	ARSENIC 200.9	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H	NDMA 1625C	1,4-DIOXANE 8270		Remarks
	MW-4-5	1/24/01	0945	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
	MW-4-4	1/24/01	1034	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				QA/QC
	MW-4-3	1/24/01	1125	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENTS
	MW-4-2	1/24/01	1247	H_2O	PER LAB	10	X	X	X	X	X	X	X	X	X	X	X		EPA LEVEL
	MW-4-1	1/24/01	1418	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				IV (D)
	TRIP BLANK	1/24/01	—	H_2O	HCl	2	X												
	EQUIPMENT RINSATE	1/24/01	1050	H_2O	PER LAB	6	X	X	X	X	X	X							

1420

QC Requirement: [ ] Regular; [ ] QA/QC Report; [ ] WIP; [ ] Raw Data; [ ] Extended Raw Data [ ] CLP; [ ] ACE [ ] AFCEE [ ] NEESA ___ (E, C or D); [ ] Other _____ (Please specify)

Sample Disposal: [ ] Return [ ] Disposal by APCL [ ] Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: [ ] Intact; [ ] Broken. Cooler Seal: [ ] Intact; [ ] Broken; [ ] None. Tag # _____ Temperature: [ ] Room [ ] Cold (_____ °C).

Relinquished by Paul Jeffers Date/Time 1/24/01 / 1738 Received by [signature] Date/Time 1/24/01 / 1738

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011460
Collected by:
Collected on: 01/25/01

Received: 01/25/01
Extracted: N/A
Tested: 01/25-31/01
Reported: 02/06/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-13 01-01460-1	MW-16 01-01460-2
Bicarbonate	SM2320B	mg/L	2	148	130
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	6.68	6.80
Solids, Total Dissolved (TDS)	160.1	mg/L	10	382	257
Chromium (VI)	7196	mg/L	0.01	0.032	<0.01
Dilution Factor				1	20
Perchlorate	314	µg/L	4	<4	1,780
Dilution Factor				12.5	10
Chloride Cl^-	300.0	mg/L	0.2	53	32
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	6.2	4.8
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	65	27
Dilution Factor				1	1
Arsenic, As,	200.9	µg/L	5	<5	2.4J
Dilution Factor				1	1
Calcium, Ca,	6010	µg/L	200	64,100	44,400
Iron, Fe,	6010	µg/L	50	81.7	46.9J
Magnesium, Mg,	6010	µg/L	100	22,000	17,000
Potassium, K,	6010	µg/L	400	2,700	2,240
Sodium, Na,	6010	µg/L	2000	26,600	23,400

Component Analyzed	Method	Unit	PQL	Analysis Result MW-13 01-01460-1	MW-16 01-01460-2	Trip blank 01-01460-3
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	7.2	14.1	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	3.4	15.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-13 01-01460-1	MW-16 01-01460-2	Trip blank 01-01460-3
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	1	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	0.5J	2.1	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	0.9	0.8	1.8
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	0.6J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	0.6	0.6	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	5.4	2.1	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	1.3	1	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-13 01-01460-1	MW-16 01-01460-2	Trip blank 01-01460-3
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
† All results are reported on dry basis for soil samples.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chain of Custody

Please Print in pen

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO #212 City: SAN DIEGO State: CA. Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00NW019 P.O. #

Project Address APCL Quotation #

Due Date: [X] regular [ ] rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	PERCHLORATE CAONS/EPA 314	LEAD 200.8	ARSENIC 200.9	NDMA 1625C	1,4-DIOXANE 8270	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H	MS/MSD	Remarks
	MW-16	1/25/01	1027	H_2O	PER LAB	14	X	X	X	X	X	X	X	X	X	X	X	X	
	TRIP BLANK	1/25/01	—	H_2O	HCl	2	X												QA/QC
	MW-13	1/25/01	1241	H_2O	PER LAB	10	X	X	X	X	X	X	X	X	X	X	X		REQUIREMENT
	MW-13-D	1/25/01	1245	H_2O	PER LAB	4							X	X			PS		EPA LEVEL
																			IV (D)
																			MS/MSD
																			IS ON NDMA
																			AND 1,4-DIOXANE
																			ONLY

1460

QC Requirement: [ ] Regular; [ ] QA/QC Report; [ ] WIP; [ ] Raw Data; [ ] Extended Raw Data [ ] CLP; [ ] ACE [ ] AFCEE [ ] NEESA ___ (E, C or D); [ ] Other _____ (Please specify)

Sample Disposal: [ ] Return [ ] Disposal by APCL [ ] Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: [X] Intact; [ ] Broken. Cooler Seal: [ ] Intact; [ ] Broken; [ ] None. Tag # _____ Temperature: [ ] Room [ ] Cold (_____ °C).

Relinquished by [signature] Date/Time 1/25/01 1000 Received by [signature] 1/25/01 Date/Time 16:00 /

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

APCL Form 4-101, Ver. 4.0, Dec. 20, 1994

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011476
Collected by:
Collected on: 01/26/01

Received: 01/26/01
Extracted: N/A
Tested: 01/26-31/01
Reported: 02/06/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-10 01-01476-1	MW-5 01-01476-2
Bicarbonate	SM2320B	mg/L	2	192	144
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	6.55	6.69
Solids, Total Dissolved (TDS)	160.1	mg/L	10	846	261
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate	314	μg/L	4	5	21
Dilution Factor				25	5
Chloride Cl^-	300.0	mg/L	0.2	114	21
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	23	3.2
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	170	39
Dilution Factor				1	1
Arsenic	200.9	μg/L	5	<5	<5
Dilution Factor				1	1
Calcium	6010	μg/L	200	138,000	46,500
Iron	6010	μg/L	50	105	38.6J
Magnesium	6010	μg/L	100	47,800	15,400
Potassium	6010	μg/L	400	3,780	3,090
Sodium	6010	μg/L	2000	35,100	18,100

Component Analyzed	Method	Unit	PQL	Analysis Result MW-10 01-01476-1	MW-5 01-01476-2	Trip blank 01-01476-3
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	1	0.5J	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-10 01-01476-1	MW-5 01-01476-2	Trip blank 01-01476-3
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	0.9	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	0.3J	<0.5	1.9
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	1.6	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	0.6	4.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-10 01-01476-1	MW-5 01-01476-2	Trip blank 01-01476-3
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFER Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 200.8	Cr VI 7196	FLUORIDE EPA 340.4	LEAD 200.8	ARSENIC 200.9	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500-H				Remarks
	MW-5	1/26/01	1020	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	MW-10	1/26/01	1150	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				QA/QC
	TRIP BLANK	1/26/01	—	H_2O	HCl	2	X												REQUIREMENT
																			EPA LEVEL
																			IV (D)

White – With report
Yellow – Lab copy
Pink – Originator

1476

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by Paul [signature] Date/Time 1/26/01 / 1256 Received by Paul K Date/Time 1/26/01 / 1256

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011611
Collected by:
Collected on: 02/01/01

Received: 02/01/01
Extracted: N/A
Tested: 02/01-07/01
Reported: 02/12/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-8 01-01611-1
Bicarbonate	SM2320B	mg/L	2	147
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2
pH	150.1	pH unit	0.01	6.68
Solids, Total Dissolved (TDS)	160.1	mg/L	10	240
Chromium (VI)	7196	mg/L	0.01	<0.01
Dilution Factor				1
Perchlorate	314	µg/L	4	5
Dilution Factor				4
Chloride Cl^-	300.0	mg/L	0.2	12
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	1.4
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	30
Dilution Factor				1
Arsenic, As	200.9	µg/L	5	<5
Dilution Factor				1
Calcium, Ca,	6010	µg/L	200	45,100
Iron, Fe,	6010	µg/L	50	2,080
Magnesium, Mg,	6010	µg/L	100	15,000
Potassium, K,	6010	µg/L	400	2,600
Sodium, Na,	6010	µg/L	2000	16,400

Component Analyzed	Method	Unit	PQL	Analysis Result MW-8 01-01611-1	Trip blank 01-01611-2
Volatile Organic Compounds					
Dilution Factor				1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	µg/L	5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	1.1	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	0.4J	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-8 01-01611-1	Trip blank 01-01611-2
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	0.4J	0.4J
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	0.5J	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	0.9	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	1	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-8 01-01611-1	Analysis Result Trip blank 01-01611-2
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO DR. #212 City: SAN DIEGO State: CA. Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ____ days ____ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	Total Cr 200.8	Cr VI 7196	Perchlorate EPA 314	Lead 200.8	Arsenic 200.9	Major Anions and Cations	TDS 2540-C	pH 4500-H				Remarks
	MW-8	2/1/01	0945	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				
	TRIP BLANK	2/1/01	—	H_2O	HCl	2	X												QA/QC
																			REQUIREMENT
																			EPA LEVEL
																			IV (D)

1611

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by Paul [illegible] Date/Time 2/1/01 / 1345 Received by [illegible] Date/Time 2/1/01 / 1345

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011562
Collected by:
Collected on: 01/30/01

Received: 01/30/01
Extracted: N/A
Tested: 01/31-02/07/01
Reported: 02/12/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-6 01-01562-1	MW-15 01-01562-2
Bicarbonate	SM2320B	mg/L	2	219	201
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2
pH	150.1	pH unit	0.01	6.81	7.27
Solids, Total Dissolved (TDS)	160.1	mg/L	10	627	345
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
Perchlorate	314	μg/L	4	<4	<4
Dilution Factor				20	5
Chloride Cl^-	300.0	mg/L	0.2	101	25
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	8.9	1.2
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	130	54
Dilution Factor				1	1
Arsenic	200.9	μg/L	5	<5	<5
Dilution Factor				1	1
Calcium	6010	μg/L	200	119,000	63,200
Iron	6010	μg/L	50	191	42.5J
Magnesium	6010	μg/L	100	40,500	21,500
Potassium	6010	μg/L	400	2,480	3,170
Sodium	6010	μg/L	2000	30,900	28,500

Component Analyzed	Method	Unit	PQL	Analysis Result MW-6 01-01562-1	MW-15 01-01562-2	Trip blank 01-01562-3
Volatile Organic Compounds						
Dilution Factor				1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	0.5J	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-6 01-01562-1	MW-15 01-01562-2	Trip blank 01-01562-3
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	1.1	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	0.4J	<0.5	0.3J
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	1J	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	3.0	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-6 01-01562-1	MW-15 01-01562-2	Trip blank 01-01562-3
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO DR. #212 City: SAN DIEGO State: CA. Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ____ days ____ hours Sampled by:

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	Total Cr 200.8	Cr VI 7196	Perchlorate EPA 314	Lead 200.8	Arsenic 200.8	Major Anions and Cations	TDS 2540-C	pH 4500-H				Remarks
	MW-6	1/30/01	0920	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				
PJ	~~MW-8~~	~~1/30/01~~		~~H_2O~~	~~PER LAB~~	~~6~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	PJ			QA/QC
	MW-15	1/30/01	1415	H_2O	PER LAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENT
	TRIP BLANK	1/30/01	—	H_2O	HCl	2	X												EPA LEVEL
																			IV (D)

1562

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ____ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/30/01 / 1820 Received by [signature] Date/Time 1-30-01 / 1820

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

APCL Form 4-101 Ver. 4.0 Dec. 20, 1994

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011533
Collected by:
Collected on: 01/29/01

Received: 01/29/01
Extracted: N/A
Tested: 01/30-02/01/01
Reported: 02/07/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 01-01533-1	MW-9 01-01533-2	MW-1-D 01-01533-3	Trip blank 01-01533-4
Bicarbonate	SM2320B	mg/L	2	194	192	188	-
Carbonate	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
pH	150.1	pH unit	0.01	7.25	6.83	7.25	-
Solids, Total Dissolved (TDS)	160.1	mg/L	10	316	309	317	-
Chromium (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
Perchlorate	314	μg/L	4	<4	<4	<4	-
Dilution Factor				5	5	5	1
Chloride Cl^-	300.0	mg/L	0.2	21	21	21	-
Nitrate (NO_3^-) as N	300.0	mg/L	0.04	1.2	1.0	1.2	-
Sulfate (SO_4^{--}),	300.0	mg/L	0.5	50	46	49	-
Dilution Factor				1	1	1	1
Arsenic, As	200.9	μg/L	5	<5	2.6J	<5	-
Dilution Factor				1	1	1	1
Calcium, Ca,	6010	μg/L	200	59,600	62,700	58,400	-
Iron, Fe,	6010	μg/L	50	27.0J	1,000	275	-
Magnesium, Mg,	6010	μg/L	100	19,400	19,300	19,300	-
Potassium, K,	6010	μg/L	400	2,980	3,410	3,090	-
Sodium, Na,	6010	μg/L	2000	26,600	24,600	26,400	-
Volatile Organic Compounds							
Dilution Factor				1	1	1	1
Benzene	524.2	μg/L	0.5	0.5J	<0.5	0.8	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	524.2	μg/L	5	<5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 01-01533-1	MW-9 01-01533-2	MW-1-D 01-01533-3	Trip blank 01-01533-4
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 10835. N BERNARDO DR. #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # DOHW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	TOTAL Cr 220.8	Cr VI 7196	PERCHLORATE EPA 314	LEAD 200.8	ARSENIC 200.9	MAJOR ANIONS AND CATIONS	TDS 2540-C	PH 4500H	MS/MSD			Remarks
	MW-9	1/29/01	1150	H_2O	PERLAB	9	X	X	X	X	X	X	X	X	X	X			
	MW-1	1/29/01	1415	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				QA/QC
	MW-1-D	1/29/01	1420	H_2O	PERLAB	6	X	X	X	X	X	X	X	X	X				REQUIREMENT
	TRIP BLANK	1/29/01	—	H_2O	HCl	2	X												EPA LEVEL
																			IV (D)

1533

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact; ☐ Broken Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 1/29/01 / 1650 Received by Roy Aguilar 1/29 Date/Time 1650 /

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory
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APCL Analytical Report

Submitted to:
SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr, Ste. 212
San Diego CA 92127
Tel: (858)485-8100 Fax: (858)485-0812

Service ID #: 801-011924
Collected by:
Collected on: 02/16-17/01

Received: 02/17/01
Extracted: N/A
Tested: 02/23-26/01
Reported: 03/02/01

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-18 01-01924-1	ER-19 01-01924-2	ER-20 01-01924-3	ER-22 01-01924-4
Volatile Organic Compounds							
Dilution Factor				1	1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	5	<5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result ER-18 01-01924-1	ER-19 01-01924-2	ER-20 01-01924-3	ER-22 01-01924-4
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	1.5	1.8	1.9	2.4
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	0.6	0.4J	0.7	0.4J
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-18-1 01-01924-5	MW-18-2 01-01924-6	MW-18-3 01-01924-7	MW-18-4 01-01924-8
Volatile Organic Compounds							
Dilution Factor				1	1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	5	<5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	7.6
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	0.9	2.4	1.6
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-18-1 01-01924-5	MW-18-2 01-01924-6	MW-18-3 01-01924-7	MW-18-4 01-01924-8
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	1.4	1.7	0.4J	0.4J
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	0.4J	4.6
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	0.6	3.3
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-18-5 01-01924-9	MW-19-1 01-01924-10	MW-19-2 01-01924-11	MW-19-3 01-01924-12
Volatile Organic Compounds							
Dilution Factor				1	1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	5	<5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	<0.5	<0.5	0.5J

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-18-5 01-01924-9	MW-19-1 01-01924-10	MW-19-2 01-01924-11	MW-19-3 01-01924-12
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	0.6	0.3J	<0.5	1.7
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	0.5J	1.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	0.8	0.7
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-19-4 01-01924-13	MW-19-5 01-01924-14	MW-19-2D 01-01924-15	MW-20-1 01-01924-16
Volatile Organic Compounds							
Dilution Factor				1	1	1	1
Benzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	μg/L	0.5	0.3J	<0.5	<0.5	<0.5
Bromoform	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	μg/L	5	<5	<5	<5	<5
Carbon tetrachloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	524.2	μg/L	0.5	2.3	<0.5	<0.5	1.2
Chloromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-19-4 01-01924-13	MW-19-5 01-01924-14	MW-19-2D 01-01924-15	MW-20-1 01-01924-16
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	2.7	0.5J	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	0.4J	0.8	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-2 01-01924-17	MW-20-3 01-01924-18	MW-20-4 01-01924-19	MW-20-5 01-01924-20
Volatile Organic Compounds							
Dilution Factor				1	1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	0.5J	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	5	<5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	3.3	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-2 01-01924-17	MW-20-3 01-01924-18	MW-20-4 01-01924-19	MW-20-5 01-01924-20
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	0.4J
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-4D 01-01924-21	MW-22-1 01-01924-22	MW-22-2 01-01924-23	MW-22-3 01-01924-24
Volatile Organic Compounds							
Dilution Factor				1	1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	5	<5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	0.4J	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	µg/L	0.5	<0.5	0.8	<0.5	<0.5
1,2-Dichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-20-4D 01-01924-21	MW-22-1 01-01924-22	MW-22-2 01-01924-23	MW-22-3 01-01924-24
Isopropylbenzene (Cumene)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methyl-t-Butyl ether (MTBE)	524.2	µg/L	1	<1	<1	0.4J	<1
4-Methyl-2-Pentanone	524.2	µg/L	5	<5	<5	<5	<5
Naphthalene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	µg/L	0.5	<0.5	2.9	<0.5	<0.5
Toluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-4 01-01924-25	MW-22-5 01-01924-26	Source Blank 01-01924-27	Trip Blank 01-01924-28
Volatile Organic Compounds							
Dilution Factor				1	1	1	1
Benzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	524.2	µg/L	5	<5	<5	<5	<5
Carbon tetrachloride	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-4 01-01924-25	MW-22-5 01-01924-26	Source Blank 01-01924-27	Trip Blank 01-01924-28
1,2-Dibromoethane (EDB)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-Dichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene (Cumene)	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	524.2	μg/L	0.5	<0.5	<0.5	0.5J	0.9
Methyl-t-Butyl ether (MTBE)	524.2	μg/L	1	<1	<1	<1	<1
4-Methyl-2-Pentanone	524.2	μg/L	5	<5	<5	<5	<5
Naphthalene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	524.2	μg/L	0.5	<0.5	<0.5	0.4J	<0.5
1,2,3-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichlorotrifluoroethane	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-4 01-01924-25	MW-22-5 01-01924-26	Source Blank 01-01924-27	Trip Blank 01-01924-28
1,2,4-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-Xylene	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

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Chain of Custody

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Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 16835 W. BERNARDO SUITE 242 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job # 00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ____ days ____ hours Sampled by:

Analysis Items

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	MS/MSD										Remarks
	MW-20-5	2/16/01	1140	H_2O	HCl	3	X											QA/QC
	MW-20-4	2/16/01	1205	H_2O	HCl	3	X											REQUIREMENT
	MW-20-4D	2/16/01	1205	H_2O	HCl	3	X											EPA LEVEL
	MW-20-3	2/16/01	1250	H_2O	HCl	6	X	X										IV (D)
	MW-20-2	2/16/01	1325	H_2O	HCl	3	X											
	MW-20-1	2/16/01	1435	H_2O	HCl	3	X											
	TRIP BLANK	2/16/01	~~11~~	H_2O	HCl	2	X											
	ER-20	2/16/01	1415	H_2O	HCl	3	X											
	MW-18-5	2/16/01	1520	H_2O	HCl	3	X											
	MW-18-4	2/16/01	1540	H_2O	HCl	3	X											
	MW-18-3	2/16/01	1555	H_2O	HCl	3	X											
	MW-18-2	2/16/01	1610	H_2O	HCl	3	X											
	MW-18-1	2/16/01	1624	H_2O	HCl	3	X											
	ER-18	2/16/01	1550	H_2O	HCl	3	X											

1924

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☒ Intact; ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 2/17/01 / 1521 Received by [signature] Date/Time 2/17/01 / 1522

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Applied P & Ch Laboratory

APCL

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Chain of Custody

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Client: SOTA ENVIRONMENTAL Contact: PAUL JEFFERS Tel #: 858 485-8100 Fax #: 858 485-0812

Address: 10835 N. BERNARDO #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SAME

Project Name/Code JPL Job #00HW019 P.O. #

Project Address APCL Quotation #

Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by:

Analysis Items

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOC 524.2	MS/MSD											Remarks
	MW-19-5	2/17/01	1030	H_2O	HCl	3	X												QA/QC
	MW-19-4	2/17/01	1050	H_2O	HCl	3	X												REQUIREMENT
	MW-19-3	2/17/01	1115	H_2O	HCl	6	X	X											EPA LEVEL
	MW-19-2	2/17/01	1137	H_2O	HCl	3	X												IV (D)
	MW-19-2D	2/17/01	1137	H_2O	HCl	3	X												
	MW-19-1	2/17/01	1155	H_2O	HCl	3	X												
	ER-19	2/17/01	1105	H_2O	HCl	3	X												
	MW-22-5	2/17/01	1250	H_2O	HCl	3	X												
	MW-22-4	2/17/01	1307	H_2O	HCl	3	X												
	MW-22-3	2/17/01	1320	H_2O	HCl	3	X												
	MW-22-2	2/17/01	1335	H_2O	HCl	3	X												
	MW-22-1	2/17/01	1350	H_2O	HCl	3	X												
	ER-22	2/17/01	1300	H_2O	HCl	3	X												
	SOURCE BLANK	2/17/01	1110	H_2O	HCl	2	X												

1924

QC Requirement: ☐ Regular; ☐ QA/QC Report; ☐ WIP; ☐ Raw Data; ☐ Extended Raw Data ☐ CLP; ☐ ACE ☐ AFCEE ☐ NEESA ___ (E, C or D); ☐ Other _____ (Please specify)

Sample Disposal: ☐ Return ☐ Disposal by APCL ☐ Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐ Intact ☐ Broken. Cooler Seal: ☐ Intact; ☐ Broken; ☐ None. Tag # _____ Temperature: ☐ Room ☐ Cold (_____ °C).

Relinquished by [signature] Date/Time 2/17/01 / 1521 Received by [signature] Date/Time 2/17/01 / 1522

Relinquished by Date/Time / Received by Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-20-3
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/12/01 9:20:00 AM
Lab ID:	049146-001A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/12/01 10:00:00 AM
Lab ID:	049146-002A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RD

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-20-2
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/12/01 10:30:00 AM
Lab ID:	049146-003A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

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Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-20-1
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/12/01 12:00:00 PM
Lab ID:	049146-004A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
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1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-19-5
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/15/01 10:40:00 AM
Lab ID:	049146-005A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/15/01 11:00:00 AM
Lab ID:	049146-006A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
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1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-19-4
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/15/01 11:33:00 AM
Lab ID:	049146-007A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-19-3
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/15/01 12:52:00 PM
Lab ID:	049146-008A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124C** BatchID: **2667**						PrepDate: **1/24/01**
Chromium	6.1	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
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Initials: RA

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1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-19-2
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/15/01 2:10:00 PM
Lab ID:	049146-009A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-19-2D
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/15/01 2:40:00 PM
Lab ID:	049146-010A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-19-1
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/15/01 3:35:00 PM
Lab ID:	049146-011A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
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Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-14-5
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/16/01 9:26:00 AM
Lab ID:	049146-012A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

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B - Analyte detected in the associated Method Blank
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S - Spike/Surrogate outside of limits due to matrix interference.
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Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-14-4
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/16/01 10:25:00 AM
Lab ID:	049146-013A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

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B - Analyte detected in the associated Method Blank
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Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/16/01 11:00:00 AM
Lab ID:	049146-014A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
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E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: PA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-14-3
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/16/01 11:30:00 AM
Lab ID:	049146-015A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-14-2
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/16/01 12:15:00 PM
Lab ID:	049146-016A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank
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Initials: RD

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-14-1
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/16/01 12:55:00 PM
Lab ID:	049146-017A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-11-5
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/17/01 9:45:00 AM
Lab ID:	049146-018A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
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Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-11-5D
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/17/01 10:15:00 AM
Lab ID:	049146-019A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
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Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/17/01 10:15:00 AM
Lab ID:	049146-020A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
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Initials: RA

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-11-4
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/17/01 11:10:00 AM
Lab ID:	049146-021A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124A** BatchID: **2663**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-11-3
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/17/01 1:23:00 PM
Lab ID:	049146-022A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-11-2
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/17/01 2:20:00 PM
Lab ID:	049146-023A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-11-1
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/17/01 3:00:00 PM
Lab ID:	049146-024A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	5.0	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-22-5
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/18/01 9:53:00 AM
Lab ID:	049146-025A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT: Applied P & Ch Laboratories
Lab Order: 049146
Project: JPL
Lab ID: 049146-026A

Client Sample ID: Equipment Rinsate
Collection Date: 1/18/01 10:45:00 AM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-22-4
Lab Order: 049146
Project: JPL
Collection Date: 1/18/01 11:20:00 AM
Lab ID: 049146-027A
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-22-4D
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/18/01 11:50:00 AM
Lab ID:	049146-028A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-22-3
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/18/01 1:15:00 PM
Lab ID:	049146-029A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	5.6	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-22-2
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/18/01 2:15:00 PM
Lab ID:	049146-030A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/24/01
Lead	ND	1.0		µg/L	1	1/24/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-22-1
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/18/01 3:15:00 PM
Lab ID:	049146-031A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	6.0	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories

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Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-5
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/19/01 8:10:00 AM
Lab ID:	049146-032A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
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Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-4
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/19/01 9:00:00 AM
Lab ID:	049146-033A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/19/01 9:30:00 AM
Lab ID:	049146-034A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	ND	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-3
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/19/01 10:00:00 AM
Lab ID:	049146-035A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	5.4	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-2
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/19/01 10:35:00 AM
Lab ID:	049146-036A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	5.6	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/2/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-23-1
Lab Order:	049146		
Project:	JPL	**Collection Date:**	1/19/01 11:20:00 AM
Lab ID:	049146-037A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010124B** BatchID: **2666**						PrepDate: **1/24/01**
Chromium	6.2	5.0		µg/L	1	1/29/01
Lead	ND	1.0		µg/L	1	1/29/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: RA

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

APCL

Applied P & Ch Laboratory
13760 E. Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen

TO: Advance Technology | Contact Bing | Tel: (562) 989-4045 | Fax: (562) 989-4040

Address 1500 E 33rd Street | City Signal Hill | State CA | Zip code 90807

APCL Project Title/Code JPL | Sampler | Sample disposition: Date ☐client; ☐APCL

Bill to (if different from above) | Quotation # | P.O.#

Due date ☒regular ☐rush | Client signature | Date

8246

	Sample Description	Date Collected	Time	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
1	MW-20-3	1/12/01	0920	W	HNO_3	N	Total Cr and Pb		1376-26
2	Equipment Rinsate		1000				by 200.8		-1
3	MW-20-2		1030					MS/MSD	-25
4	MW-20-1		1200				With EPA Level III		-24
5	MW-19-5	1/15/01	1040				Package		-22
6	Equipment Rinsate		1100						-2
7	MW-19-4		1133						-21
8	MW-19-3		1252					MS/MSD	-20
9	MW-19-2		1410						-19
10	MW-19-2D		1440						-23
11	MW-19-1		1535						-18
12	MW-14-5	1/16/01	0926						-17
13	MW-14-4		1025						-16
14	Equipment Rinsate		1100						-3
15	MW-14-3		1130						-15
16	MW-14-2		1215						-14
17	MW-14-1		1255						-13
18	MW-11-5	1/17/01	0945						-11

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by [signature] Date/Time 1/23/01 1100A Received by [signature] Date/Time 1-23-01 / 1120

Relinquished by [signature] Date/Time 1-23-01 / 1211 Received by [signature] Date/Time 1/23/01 12:24pm

Relinquished by Date/Time Received by Date/Time

Relinquished by Date/Time Received by Date/Time

010

* APCL must be notified if unit price is incorrect.

4°C

APCL

Applied P & Ch Laboratories
13760 E. Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen

TO:	Contact	Tel: ( )	Fax: ( )
Address	City	State	Zip code
APCL Project Title/Code	Sampler	Sample disposition: Date	☐client; ☐APCL
Bill to (if different from above)	Quotation #		P.O.#
Due date ☐regular ☐rush	Client signature		Date

	Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
019	MW-11-5D	1/17/01	1015	W	HNO_3	N	Total Cr and Pb		1376-12
20	Equipment Rinsate		1015				by 200.8		-4
21	MW-11-4		1110					← MS/MSD	-10
22	MW-11-3		1323				With EDD & Level III		-9
23	MW-11-2		1420				Package		-8
24	MW-11-1		1500						-7
25	MW-22-5	1/18/01	0953					← MS/MSD	-31
26	Equipment Rinsate		1045						-5
27	MW-22-4		1120						-30
28	MW-22-4D		1150						-32
29	MW-22-3		1315						-29
30	MW-22-2		1415						-28
31	MW-22-1		155						-27
32	MW-23-5	1/19/01	0810						-37
33	MW-23-4		0900						-36
34	Equipment Rinsate		0930						-6
35	MW-23-3		1000						-35
36	MW-23-2		1035						-34

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by	Date/Time 1/23/01 1100A	Received by	Date/Time 1-23-01/1120
Relinquished by	Date/Time 1-23-01/1211	Received by	Date/Time 1/23/01/12:24pm
Relinquished by	Date/Time	Received by	Date/Time
Relinquished by	Date/Time	Received by	Date/Time

* APCL must be notified if unit price is incorrect.

4-c

011

APCL

Applied P & Ch Laboratory
13760 E. Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen

TO:	Contact	Tel: ( )	Fax: ( )
Address	City	State	Zip code
APCL Project Title/Code	Sampler	Sample disposition: Date	☐client; ☐APCL
Bill to (if different from above)	Quotation #		P.O.#
Due date ☐regular ☐rush	Client signature		Date

	Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
033	MW-23-1	1/19/01	1120	W	HNO3	N	Total Cr and Pb by 200.8 With EDD & Level III Package		1376-33

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by	Date/Time 1/23/01 1100A	Received by		Date/Time 1-23-01/1120
Relinquished by	Date/Time 1-23-01/1211	Received by		Date/Time 1/23/01 12:24pm
Relinquished by	Date/Time	Received by		Date/Time
Relinquished by	Date/Time	Received by		Date/Time

* APCL must be notified if unit price is incorrect.

4°C

012

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-21-5
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/5/01 8:30:00 AM
Lab ID:	049026-001A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	6.0	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: BY

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-21-4
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/5/01 11:00:00 AM
Lab ID:	049026-002A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	6.0	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KF

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-21-3
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/5/01 1:00:00 PM
Lab ID:	049026-003A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	6.9	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: _____

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-21-2
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/5/01 2:15:00 PM
Lab ID:	049026-004A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	8.0	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KT

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-21-1
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/5/01 3:35:00 PM
Lab ID:	049026-005A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	5.6	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KK

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate 1/15
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/5/01 2:30:00 PM
Lab ID:	049026-006A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-17-5
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/8/01 10:30:00 AM
Lab ID:	049026-007A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117A** BatchID: **2625**						PrepDate: **1/17/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: BK

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-17-4
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/8/01 12:25:00 PM
Lab ID:	049026-008A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117A** BatchID: **2625**						PrepDate: **1/17/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: BF

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-17-3
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/8/01 2:00:00 PM
Lab ID:	049026-009A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117A** BatchID: **2625**						PrepDate: **1/17/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KR

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-17-2
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/8/01 4:00:00 PM
Lab ID:	049026-010A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: VB

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-17-2D
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/8/01 5:15:00 PM
Lab ID:	049026-011A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KA

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-17-1
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/8/01 6:00:00 PM
Lab ID:	049026-012A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: DD

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate 1/18
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/8/01 2:20:00 PM
Lab ID:	049026-013A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: [illegible]

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Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-3-5
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/9/01 9:45:00 AM
Lab ID:	049026-014A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS			**EPA 200.8**			Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KK

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-3-4
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/9/01 10:50:00 AM
Lab ID:	049026-015A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: bz

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate 1/19
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/9/01 11:00:00 AM
Lab ID:	049026-016A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KD

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-3-3
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/9/01 12:15:00 PM
Lab ID:	049026-017A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KT

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-3-2
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/9/01 12:50:00 PM
Lab ID:	049026-018A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: [illegible]

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-3-1
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/9/01 1:30:00 PM
Lab ID:	049026-019A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KS

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-18-5
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/10/01 11:45:00 AM
Lab ID:	049026-020A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: VOT

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-18-4
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/10/01 1:40:00 PM
Lab ID:	049026-021A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: BK

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate 1/10
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/10/01 1:15:00 PM
Lab ID:	049026-022A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: _____

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-18-3
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/10/01 3:20:00 PM
Lab ID:	049026-023A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117B** BatchID: **2623**						PrepDate: **1/16/01**
Chromium	7.5	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: _____

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-18-2
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/10/01 4:10:00 PM
Lab ID:	049026-024A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117C** BatchID: **2708**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: VB

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-20-5
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/11/01 1:45:00 PM
Lab ID:	049026-025A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117C** BatchID: **2708**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: _____

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-20-4
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/11/01 3:00:00 PM
Lab ID:	049026-026A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117C** BatchID: **2708**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KR

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Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate 1/11
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/11/01 3:25:00 PM
Lab ID:	049026-027A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117C** BatchID: **2708**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: VD

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Advanced Technology Laboratories

Print Date: *2/7/01*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-20-4D
Lab Order:	049026		
Project:	JPL	**Collection Date:**	1/11/01 3:30:00 PM
Lab ID:	049026-028A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010117C** BatchID: **2708**						PrepDate: **1/16/01**
Chromium	ND	5.0		µg/L	1	1/17/01
Lead	ND	1.0		µg/L	1	1/17/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: bf

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APCL

Applied P & Ch Laboratories

13760 E. Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

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Page _____ of _____

TO: ADVANCE TECHNOLOGY | Contact BING | Tel: (562) 989-4045 | Fax: (562) 989-4040

Address 1500 E 33rd STREET | City SIGNAL HILL | State CA | Zip code 90807

APCL Project Title/Code JPL | Sampler | Sample disposition: Date ☐client; ☐APCL

Bill to (if different from above) | Quotation # | P.O.#

Due date ☒regular ☐rush | Client signature | Date

9026

	Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
001	MW-21-5	1/05/01	0830	W	HNO_3	N	Total Cr and Pb		1237-28
2	MW-21-4		1100						-27
3	MW-21-3		1300				by 200.8		-26
4	MW-21-2		1415						-25
5	MW-21-1		1535				WITH EDD & LEVEL IV		-24
6	Equipment Rinsate 1/15		1430				PACKAGE		-1
7	MW-17-5	1/08/01	1030						-15
8	MW-17-4		1225						-14
9	MW-17-3		1400						-13
10	MW-17-2		1600						-12
11	MW-17-2D		1715						-16
12	MW-17-1		1800				← MS/MSD please		-11
13	Equipment Rinsate 1/18		1420						-2
14	MW-3-5	1/09/01	0945						-10
15	MW-3-4		1050						-9
16	Equipment Rinsate 1/19		1100						-3
17	MW-3-3		1215						-8
18	MW-3-2		1250						-7

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by	[signature]	Date/Time 1/15/01 1430pm	Received by	[signature] ATL	Date/Time 1/15/01 1615
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time

* APCL must be notified if unit price is incorrect.

007

APCL

Applied P & Ch Laboratory
13760 E. Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

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Page _____ of _____

TO: | Contact | Tel: ( ) | Fax: ( )

Address | City | State | Zip code

APCL Project Title/Code | Sampler | Sample disposition: Date ☐client; ☐APCL

Bill to (if different from above) | Quotation # | P.O.#

Due date ☐regular ☐rush | Client signature | Date

	Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
019	MW-3-1	1/09/01	1330	W	HNO_3	N	Total Cr and Pb		1237-6
20	MW-18-5	1/10/01	1145						-20
21	MW-18-4		1340				by 200.8		-19
22	Equipment Rinsate 1/10		1315						-4
23	MW-18-3		1520				With EDD &		-18
24	MW-18-2		1610				level IV package		-17
25	MW-20-5	1/11/01	1345						-22
26	MW-20-4		1500						-21
27	Equipment Rinsate 1/11		1525						-5
28	MW-20-4D		1530						-23

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by	[signature]	Date/Time 1/15/01 1430pm	Received by	[signature] ATL	Date/Time 1/15/01 1615
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time

*APCL must be notified if unit price is incorrect.

008

Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-12-5
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/22/2001 10:20:00 AM
Lab ID:	049408-001A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	6.4	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: MT

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-12-5D
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/22/2001 10:51:00 AM
Lab ID:	049408-002A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		EPA 200.8				Analyst: EFR
RunID: ICP4_010208A BatchID: 2855						PrepDate: 2/8/2001
Chromium	5.2	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: hr

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-12-4
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/22/2001 11:45:00 AM
Lab ID:	049408-003A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	5.9	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KT

Advanced Technology Laboratories

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/22/2001 12:00:00 PM
Lab ID:	049408-004A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: _____

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Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-12-3
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/22/2001 1:05:00 PM
Lab ID:	049408-005A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KA

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT: Applied P & Ch Laboratories
Lab Order: 049408
Project: JPL
Lab ID: 049408-006A

Client Sample ID: MW-12-2
Collection Date: 1/22/2001 1:52:00 PM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: BK

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT: Applied P & Ch Laboratories
Lab Order: 049408
Project: JPL
Lab ID: 049408-007A

Client Sample ID: MW-12-1
Collection Date: 1/22/2001 2:30:00 PM
Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	8.3	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KR

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-24-5
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/23/2001 10:30:00 AM
Lab ID:	049408-008A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	5.2	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KK

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-24-4
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/23/2001 11:25:00 AM
Lab ID:	049408-009A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		EPA 200.8				Analyst: EFR
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: _____

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-24-3
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/23/2001 1:05:00 PM
Lab ID:	049408-010A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: hm

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-24-2
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/23/2001 1:57:00 PM
Lab ID:	049408-011A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: BT

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-24-1
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/23/2001 2:45:00 PM
Lab ID:	049408-012A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	6.1	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: WJ

Advanced Technology Laboratories

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/23/2001 10:55:00 AM
Lab ID:	049408-013A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KR

Advanced Technology Laboratories

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-4-5
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/24/2001 9:45:00 AM
Lab ID:	049408-014A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KK

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-4-4
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/24/2001 10:34:00 AM
Lab ID:	049408-015A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010212A** BatchID: **2857**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/12/2001
Lead	ND	1.0		µg/L	1	2/12/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: VR

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-4-3
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/24/2001 11:25:00 AM
Lab ID:	049408-016A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	5.1	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KS

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-4-2
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/24/2001 12:47:00 PM
Lab ID:	049408-017A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	11	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: bt

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-4-1
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/24/2001 2:18:00 PM
Lab ID:	049408-018A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: VT

Advanced Technology Laboratories *1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040*

Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	Equipment Rinsate
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/24/2001 10:50:00 AM
Lab ID:	049408-019A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KA

Advanced Technology Laboratories

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-16
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/25/2001 10:27:00 AM
Lab ID:	049408-020A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	7.8	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KT

Advanced Technology Laboratories

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-13
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/25/2001 12:41:00 PM
Lab ID:	049408-021A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208A** BatchID: **2855**						PrepDate: **2/8/2001**
Chromium	110	50		µg/L	10	2/8/2001
Lead	ND	10		µg/L	10	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: VB

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-5
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/26/2001 10:20:00 AM
Lab ID:	049408-022A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208B** BatchID: **2856**						PrepDate: **2/8/2001**
Chromium	5.5	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KT

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-10
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/26/2001 11:50:00 AM
Lab ID:	049408-023A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208B** BatchID: **2856**						PrepDate: **2/8/2001**
Chromium	11	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: _____

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-9
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/29/2001 11:50:00 AM
Lab ID:	049408-024A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010215B** BatchID: **2945**						PrepDate: **2/15/2001**
Chromium	ND	5.0		µg/L	1	2/15/2001
Lead	ND	1.0		µg/L	1	2/15/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: hd

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-1
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/29/2001 2:15:00 PM
Lab ID:	049408-025A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		EPA 200.8				Analyst: EFR
RunID: ICP4_010208B BatchID: 2856						PrepDate: 2/8/2001
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: bd

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-1D
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/29/2001 2:20:00 PM
Lab ID:	049408-026A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208B** BatchID: **2856**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored, Highly Reactive

Initials: VJT

Advanced Technology Laboratories

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-6
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/30/2001 9:20:00 AM
Lab ID:	049408-027A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208B** BatchID: **2856**						PrepDate: **2/8/2001**
Chromium	11	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: MR

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-15
Lab Order:	049408		
Project:	JPL	**Collection Date:**	1/30/2001 2:15:00 PM
Lab ID:	049408-028A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208B** BatchID: **2856**						PrepDate: **2/8/2001**
Chromium	ND	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: KT

Advanced Technology Laboratories

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Advanced Technology Laboratories

Print Date: *2/28/2001*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-8
Lab Order:	049408		
Project:	JPL	**Collection Date:**	2/1/2001 9:45:00 AM
Lab ID:	049408-029A	**Matrix:**	Water

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS		**EPA 200.8**				Analyst: **EFR**
RunID: **ICP4_010208B** BatchID: **2856**						PrepDate: **2/8/2001**
Chromium	6.9	5.0		µg/L	1	2/8/2001
Lead	ND	1.0		µg/L	1	2/8/2001

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interference.
H - Samples exceeding analytical holding time
E - Value above quantitation range
M - Not Monitored. Highly Reactive

Initials: MR

Advanced Technology Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

APCL

Applied P & Ch Laboratory
13760 E. Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

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Page 1 of 2

TO: Advance Technology | Contact Bing | Tel: (562) 989-4045 | Fax: (562) 989-4040

Address 1500 E 33rd Street | City Signal Hill | State CA | Zip code 90807

APCL Project Title/Code JPL | Sampler | Sample disposition: Date ☐client; ☐APCL

Bill to (if different from above) | Quotation # | P.O.#

Due date ☒regular ☐rush | Client signature | Date

99408

	Sample Description	Date Collected	Time	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
001	MW-12-5	1/22/01	1020	W	Y HNO3	N			1524-17
2	MW-12-5D		1051						-18
3	MW-12-4		1145				← MS/MSD		-16
4	Equipment Rinsate		1200						-1
5	MW-12-3		1305						-15
6	MW-12-2		1352				Total Cr and Pb		-14
7	MW-12-1		1430						-13
8	MW-24-5	1/23/01	1030				by 200.8		-23
9	MW-24-4		1125						-22
10	MW-24-3		1305				With EDD &		-21
11	MW-24-2		1357				Level 4 Package		-20
12	MW-24-1		1445						-19
13	Equipment Rinsate		1055						-2
14	MW-4-5	1/24/01	0945						-12
15	MW-4-4		1034						-11
16	MW-4-3		1125						-10
17	MW-4-2		1247						-9
18	MW-4-1		1418						-8

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by	[signature]	Date/Time 2/6/01 1710	Received by	[signature]	Date/Time 2/7/01 12:20pm
Relinquished by	[signature]	Date/Time 2/7/01 11:32	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time

* APCL must be notified if unit price is incorrect.

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APCL

Applied P & Ch Laboratory

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Tel: (909) 590-1828 Fax: (909) 590-1498

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Page 2 of 2

TO: Advance Technology | Contact Bing | Tel: (562) 989-4045 | Fax: (562) 989-4040

Address 1500 E 33rd Street | City Signal Hill | State CA | Zip code 90807

APCL Project Title/Code JPL | Sampler | Sample disposition: Date ☐client; ☐APCL

Bill to (if different from above) | Quotation # | P.O.#

Due date ☒regular ☐rush | Client signature | Date

	Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
019	Equipment Rinsate	1/24/01	1050	W	Y HNO3	N			1524-3
20	MW-16	1/25/01	1027				Total Cr and Pb		-7
21	MW-13	↓	1241				by 200.8		-6
22	MW-5	1/26/01	1020						-4
23	MW-10	↓	1150						-5
24	MW-9	1/29/01	1150				← MS/MSD		-27
25	MW-1		1415						-24
26	MW-1D	↓	1420				with EDD &		-29
27	MW-6	1/30/01	0920						-25
28	MW-15	↓	1415				Level 4 Package		-28
29	MW-8	2/01/01	0945	↓	↓	↓			↓ -26

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by		Date/Time 2/6/01 1700	Received by		Date/Time 2/7/01 11:20AM
Relinquished by		Date/Time 2/7/01 11:32	Received by		Date/Time 02/07/01 11:23
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time

* APCL must be notified if unit price is incorrect.

008

Rec'd Temp. 8°C

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REPORT

Applied P & Ch Laboratory		Date:	February 19, 2001
13760 East Magnolia		Recv'd:	January 26, 2001
Chino, CA 91710		Lab. No.:	**602666/700561**
Attn: Jim Lin		P.O. No.:	JPL

Sample: Six (6) ground water samples labeled:

TLI No.	Sample	Date	Time	Matrix
602666-1	MW-24-1	1/23/01	1445	Water
602666-2	MW-4-2	1/24/01	1247	Water
602666-3	MW-17-3	1/24/01	1600	Water
602666-4	MW-16	1/25/01	1027	Water
602666-4D	MW-16, DUPL.	1/25/01	1027	Water
602666-4MS	MW-16, MS	1/25/01	1027	Water
602666-4MSD	MW-16, MSD	1/25/01	1027	Water
602666-5	MW-13	1/25/01	1241	Water
602666-6	MW-13-D	1/25/01	1245	Water

Investigation: Analyze for 1,4-Dioxane by EPA Method 8315 modified.

RESULTS

NARRATIVE

The sample data is tabulated on pages 2 and 3. The QC data is summarized on pages 4 and 5. Detailed information on the sample analysis can be found under our Laboratory Record Sheets 602666. Detailed information on the QC analysis can be found under our Batch QA/QC Summary Sheet 700561.

The method uses 1,4-dioxane-d8 as a surrogate and internal standard. Therefore, no surrogate recoveries are reported.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC

Joe Bramblett, Manager
Instrumental Methods

This report applied only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these laboratories.

EPA 8315 Modified (Water)

Date Received: January 26, 2001
Date Extracted: January 28, 2001
Date Analyzed: February 1, 2001

Micrograms per Liter (ppb)

Date Sampled: January 23, 2001

Compound	MW-24-1	RL	Method Detection Limit
1,4-Dioxane	3.62	1	0.2

Date Sampled: January 24, 2001

Compound	MW-4-2	RL	Method Detection Limit
1,4-Dioxane	ND	1	0.2

Date Sampled: January 24, 2001

Compound	MW-17-3	RL	Method Detection Limit
1,4-Dioxane	ND	1	0.2

ND-Not detected.
RL-Reporting limit.

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these laboratories.

EPA 8315 Modified (Water)

Date Received: January 26, 2001
Date Extracted: January 28, 2001
Date Analyzed: February 1, 2001

Micrograms per Liter (ppb)

Date Sampled: January 25, 2001

Compound	MW-16	RL	Method Detection Limit
1,4-Dioxane	5.51	1	0.2

Date Sampled: January 25, 2001

Compound	MW-13	RL	Method Detection Limit
1,4-Dioxane	1.94	1	0.2

Date Sampled: January 25, 2001

Compound	MW-13-D	RL	Method Detection Limit
1,4-Dioxane	1.90	1	0.2

ND-Not detected.
RL-Reporting limit.

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these laboratories.

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Applied P & Ch Laborato

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Page ____ of ____

TO: Truesdail Laboratories | Contact Christine Brown | Tel: (714) 730-6462 | Fax: (714) 730-6462

Address 14201 Franklin Avenue | City Tustin | State CA | Zip code 92780

APCL Project Title/Code JPL | Sampler Sota Environmental | Sample disposition: Date ☐client; ☐APCL

Bill to (if different from above) APCL | Quotation # | P.O.#

Due date ☒regular ☐rush | Client signature | Date 1/26/01

	Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
-1	MW-24-1	01/23/01	1445p	W	N	N	1,4 Dioxane		1409-1
-2	MW-4-2	1/24/01	1247pm	↓	↓	↓	With EDD & Level III Package		1421-4
-3	MW-17-3	1/24/01	1600pm	↓	↓	↓			1421-~~3~~1
-4	MW-16	1/25/01	1027pm	↓	↓	↓	MS & MSD		1421-~~2~~3
-5	MW-13	1/25/01	1241pm	↓	↓	↓			1421-2
-6	MW-13-D	1/25/01	1245pm	↓	↓	↓			1421-5

K.C. 1/26/01

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by [signature]	Date/Time 1/26/01 1100AM	Received by [signature]	Date/Time 1-26-01 1130
Relinquished by [signature]	Date/Time 1-26-01 1318	Received by R. Tomova	Date/Time 1/26/1130
Relinquished by	Date/Time	Received by	Date/Time
Relinquished by	Date/Time	Received by	Date/Time

* APCL must be notified if unit price is incorrect.

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Environmental and Analytical Services - Since 1964

Report Date: *Monday, February 05, 2001*
Received Date: *Wednesday, January 24, 2001*
Log By: mr
Log Time: 16:55

Client: Applied P & Ch Laboratory
13760 Magnolia Avenue
Chino, CA 91710
Attn.: Ms. Dominic Liu

Phone: (909) 590-1828
FAX: (909) 590-1498

Project: JPL

P.O. #:
Turnaround Time: Normal

CERTIFICATE OF ANALYSIS

Lab#: A100665-001 **Sample ID:** MW-24-1 / 1409-1 **Matrix:** Water
Sampled By: Sota Environmental **Date:** 1/23/01 **Time:** 14:45

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. EPA 3520C								
N-Nitroso-dimethylamine	ND		ng/L	1	2.0	EPA 1625M	1/29/01 em	WS21590

Authorized Signature

ELAP # 1132
LACSD # 10143

Flags for Data Qualifiers:

B = Compound detected in the blank. Sample result equal or less than 10 times the concentration in the blank.
J = Estimated value, detected but below the reporting limit.
H = Estimated value, result over the calibration range
R = Result is suspect, LCS recovery greater than the upper control limit.
L = Result is suspect, LCS recovery lower than the control limit.
Q = QC result out of acceptance limits.
T = Trace detection, detected but below the reporting limit.

Notes:

Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless specified.
RL = Reporting Limit.
ND = Not detected, below the reporting limit.
Sub = Subcontracted analysis, original report enclosed.

14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
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Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Report Date: *Monday, February 05, 2001*
Received Date: *Friday, January 26, 2001*
Log By: mr
Log Time: 11:53

Client: Applied P & Ch Laboratory
13760 Magnolia Avenue
Chino, CA 91710
Attn.: Ms. Dominic Liu

Phone: (909) 590-1828
FAX: (909) 590-1498

Project: JPL

P.O. #:
Turnaround Time: Normal

CERTIFICATE OF ANALYSIS

Lab#: A100718-001 **Sample ID:** MW-4-2 **Matrix:** Water
Sampled By: Sota Environmental **Date:** 1/24/01 **Time:** 12:47

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. EPA 3520C								
N-Nitroso-dimethylamine	ND		ng/L	1	2.0	EPA 1625M	1/29/01 em	WS21590

Lab#: A100718-002 **Sample ID:** MW-17-3 **Matrix:** Water
Sampled By: Sota Environmental **Date:** 1/24/01 **Time:** 16:00

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. EPA 3520C								
N-Nitroso-dimethylamine	ND		ng/L	1	2.0	EPA 1625M	1/29/01 em	WS21590

Lab#: A100718-003 **Sample ID:** MW-16 **Matrix:** Water
Sampled By: Sota Environmental **Date:** 1/25/01 **Time:** 10:27

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. EPA 3520C								
N-Nitroso-dimethylamine	2.2	B	ng/L	1	2.0	EPA 1625M	1/29/01 em	WS21590

Lab#: A100718-004 **Sample ID:** MW-13 **Matrix:** Water
Sampled By: Sota Environmental **Date:** 1/25/01 **Time:** 12:41

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. EPA 3520C								
N-Nitroso-dimethylamine	ND		ng/L	1	2.0	EPA 1625M	1/29/01 em	WS21590

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Client: Applied P & Ch Laboratory
Project Name: JPL

Report Date: *Monday, February 05, 2001*

CERTIFICATE OF ANALYSIS

Lab#: A100718-005 **Sample ID:** MW-13-D **Matrix:** Water
Sampled By: Sota Environmental **Date:** 1/25/01 **Time:** 12:45

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. ***EPA 3520C***								
N-Nitroso-dimethylamine	ND		ng/L	1	2.0	EPA 1625M	1/29/01 em	WS21590

Authorized Signature

ELAP # 1132
LACSD # 10143

Flags for Data Qualifiers:

B = Compound detected in the blank. Sample result equal or less than 10 times the concentration in the blank.
J = Estimated value, detected but below the reporting limit.
H = Estimated value, result over the calibration range
R = Result is suspect, LCS recovery greater than the upper control limit.
L = Result is suspect, LCS recovery lower than the control limit.
Q = QC result out of acceptance limits.
T = Trace detection, detected but below the reporting limit.

Notes:

Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless specified.
RL = Reporting Limit.
ND = Not detected, below the reporting limit.
Sub = Subcontracted analysis, original report enclosed.

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www.wecklabs.com

APCL

Applied P & Ch Laboratory
13760 E. Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

A100665-001

Please Print in pen

Page 1 of 1

TO: Weck Laboratories | Contact Michelle | Tel: (626) 336-2139 | Fax: (626) 336-2634

Address 14859 East Clark Avenue | City City of Industry | State CA | Zip code 91745

APCL Project Title/Code JPL | Sampler Sota Environmental | Sample disposition: Date ☐client; ☐APCL

Bill to (if different from above) APCL | Quotation # | P.O.#

Due date ☒regular ☐rush | Client signature | Date 1/24/01

Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
MW-24-1	1/23/01	1445p	W	Y	N	NDMA		1409-1
						~~With EDD & Level IV Package~~		
						1-26-01		
						Cancel EDD & level IV		
						as per Kenny		
						See attached		
						Add MS/MSD		
						2-8-01 At 2:50pm		
						add Level IV, he as per Kenny		
						Cancel EDD only.		

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☒Cold ☐ Room; Other Req at 5°C

Relinquished by	Date/Time 1/24/01 1430	Received by		Date/Time 1-24-01/1430
Relinquished by	Date/Time 1-24-01/1617	Received by	Michelle Gray	Date/Time 1-24-01/14:28pm
Relinquished by	Date/Time	Received by		Date/Time
Relinquished by	Date/Time	Received by		Date/Time

* APCL must be notified if unit price is incorrect.

APCL

Applied P & Ch Laboratory
13760 E. Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen

A100718-001-005

Page ____ of ____

TO: Weck Laboratories | Contact Michelle | Tel: (626) 336-2139 | Fax: (626) 336-2634
Address 14859 East Clark Avenue | City City of Industry | State CA | Zip code 91745
APCL Project Title/Code JPL | Sampler Sota Environmental | Sample disposition: Date ☐client; ☐APCL
Bill to (if different from above) APCL | Quotation # | P.O.#
Due date ☒regular ☐rush | Client signature | Date 1/26/01

Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
MW-4-2	1/24/01	1247pm	W	Y	N	NDMA K.O 1/26/01		1421-4
MW-17-3	1/24/01	1600pm	↓	↓	↓	With EDD & level II Package		1421-1
MW-16	1/25/01	1027am				← MS/MSD		1421-3
MW-13	1/25/01	1244pm						1421-2
MW-13-D	1/25/01	1245pm	↓	↓	↓			1421-5
						2-8-01 2:50pm		
						Add Level IV, he - as per Kenny		
						only wanted Edd		
						cancelled		

Sample Conditions: Seal ☐ Intact ☐ Broken ☐ None; Temperature ☐Cold ☐ Room; Other

Relinquished by	Date/Time	Received by	Date/Time
[signature]	1/24/01 1030AM		

* APCL must be notified if unit price is incorrect.

Data Validation

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001
(100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1533	MW-1	Iron		27.0U
49146		Chromium		UJ
49146		Lead		UJ
49146	MW-1D	Chromium		UJ
49146		Lead		UJ
01-1533	MW-9	Arsenic		2.6U
49146		Chromium		UJ
49146		Lead		UJ
49026	MW-3-1	Chromium		UJ
49026		Lead		UJ
49026	MW-3-2	Chromium		UJ
49026		Lead		UJ
01-1135	MW-3-3	Arsenic		2.1U
49026		Chromium		UJ
49026		Lead		UJ
01-1135	MW-3-4	Arsenic		4.1U
49026		Chromium		UJ
49026		Lead		UJ
01-1135	MW-3-5	Arsenic		6.2U
49026		Chromium		UJ
49026		Lead		UJ
01-1135	ER	Iron		30.1U
01-1135		Potassium		68.7U
49026		Chromium		UJ
49026		Lead		UJ
49146	MW-4-1	Chromium		UJ
49146		Lead		UJ
49146	MW-4-2	Chromium	J	
49146		Lead		UJ
49146	MW-4-3	Chromium	J	
49146		Lead		UJ
49146	MW-4-4	Chromium		UJ
49146		Lead		UJ
49146	MW-4-5	Chromium		UJ
49146		Lead		UJ
49146	ER	Chromium		UJ
49146		Lead		UJ

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001
(100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (μg/L)
01-1476	MW-5	Iron		38.6U
49146		Chromium	J	
49146		Lead		UJ
49146	MW-10	Chromium	J	
49146		Lead		UJ
01-1562	MW-6	Arsenic		2.2U
49146		Chromium	J	
49146		Lead		UJ
01-1562	MW-15	Iron		42.5U
49146		Chromium		UJ
49146		Lead		UJ
49146	MW-8	Chromium	J	
49146		Lead		UJ
01-1299	MW-11-1	Iron	J	
01-1299		Sodium	J	
49146		Chromium	J	
49146		Lead		UJ
01-1299	MW-11-2	Iron	J	
01-1299		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ
01-1299	MW-11-3	Iron	J	
01-1299		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ
01-1299	MW-11-4	Iron	J	
01-1299		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ
01-1299	MW-11-5	Arsenic		6.0U
01-1299		Iron	J	
01-1299		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1299	MW-11-5D	Arsenic		5.8U
01-1299		Iron	J	
01-1299		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ
01-1299	ER	Iron	J	
01-1299		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ
01-1382	MW-12-1	Iron	J	
49098		Chromium	J	
49098		Lead		UJ
01-1382	MW-12-2	Iron	J	
49098		Chromium		UJ
49098		Lead		UJ
01-1382	MW-12-3	Iron	J	
49098		Chromium		UJ
49098		Lead		UJ
01-1382	MW-12-4	Iron	J	
49098		Chromium	J	
49098		Lead		UJ
01-1382	MW-12-5	Iron	J	
49098		Chromium	J	
49098		Lead		UJ
01-1382	MW-12-5D	Iron	J	
49098		Chromium	J	
49098		Lead		UJ
49098	ER	Chromium		UJ
49098		Lead		UJ
01-1460	MW-13	Iron	J	81.7U
49146		Chromium	J	
49146		Lead		UJ
01-1460	MW-16	Arsenic		2.4U
01-1460		Iron	J	46.9U
49146		Chromium	J	
49146		Lead		UJ

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
49146	MW-14-1	Chromium		UJ
49146		Lead		UJ
49146	MW-14-2	Chromium		UJ
49146		Lead		UJ
01-1275	MW-14-3	Iron		90.1U
49146		Chromium		UJ
49146		Lead		UJ
01-1275	MW-14-4	Arsenic		2.2U
01-1275		Iron		113U
49146		Chromium		UJ
49146		Lead		UJ
01-1275	MW-14-5	Arsenic		2.7U
49146		Chromium		UJ
49146		Lead		UJ
01-1275	ER	Calcium		311U
01-1275		Iron		27.6U
01-1275		Magnesium		53.5U
01-1275		Potassium		123U
01-1275		Sodium		230U
49146		Chromium		UJ
49146		Lead		UJ
01-1095	MW-17-1	Calcium	None	
01-1095		Iron	None	
01-1095		Magnesium	None	
01-1095		Potassium	None	
01-1095		Sodium	None	
01-1095		Arsenic		2.1U
49026		Chromium		UJ
49026		Lead		UJ
49026	MW-17-2	Chromium		UJ
49026		Lead		UJ
01-1095	MW-17-3	Arsenic		3.2U
49026		Chromium		UJ
49026		Lead		UJ
01-1095	MW-17-4	Arsenic		3.7U
49026		Chromium		UJ
49026		Lead		UJ

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1095	MW-17-5	Arsenic		2.8U
49026		Chromium		UJ
49026		Lead		UJ
01-1095	ER	Calcium		185U
01-1095		Iron		11.9U
01-1095		Potassium		66.3U
49026		Chromium		UJ
49026		Lead		UJ
49026	MW-18-2	Chromium		UJ
49026		Lead		UJ
01-1077	MW-18-3	Iron		58.8U
49026		Chromium	J	
49026		Lead		UJ
49026	MW-18-4	Chromium		UJ
49026		Lead		UJ
01-1077	MW-18-5	Arsenic		2.2U
49026		Chromium		UJ
49026		Lead		UJ
01-1077	ER	Calcium		78.4U
01-1077		Iron		13.6U
01-1077		Magnesium		36.8U
01-1077		Potassium		170U
01-1077		Sodium		278U
49026		Chromium		UJ
49026		Lead		UJ
49146	MW-19-1	Chromium		UJ
49146		Lead		UJ
49146	MW-19-2	Chromium		UJ
49146		Lead		UJ
49146	MW-19-2D	Chromium		UJ
49146		Lead		UJ
49146	MW-19-3	Chromium	J	
49146		Lead		UJ
49146	MW-19-4	Chromium		UJ
49146		Lead		UJ

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
49146	MW-19-5	Chromium		UJ
49146		Lead		UJ
01-1261	ER	Calcium		205U
01-1261		Iron		34.5U
01-1261		Potassium		127U
49146		Chromium		UJ
49146		Lead		UJ
01-1220	MW-20-1	Iron		73.1U
49146		Chromium		UJ
49146		Lead		UJ
01-1220	MW-20-2	Iron		43.6U
49146		Chromium		UJ
49146		Lead		UJ
01-1220	MW-20-3	Chromium		
49146		Chromium		UJ
49146		Lead		UJ
01-1220	ER	Iron		15.7U
01-1220		Potassium		187U
01-1220		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ
49026	MW-20-4	Chromium		UJ
49026		Lead		UJ
49026	MW-20-4D	Chromium		UJ
49026		Lead		UJ
01-1199	MW-20-5	Iron		51.3U
49026		Chromium		UJ
49026		Lead		UJ
01-1199	ER	Calcium		72.5U
01-1199		Iron		12.5U
01-1199		Magnesium		25.6U
01-1199		Potassium		187U
01-1199		Sodium	J	

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001
(100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1077	MW-21-1	Arsenic		UJ
01-1077		Iron		64.6U
01-1077		Potassium	J	
49026		Chromium	J	
49026		Lead		UJ
01-1077	MW-21-2	Arsenic		UJ
01-1077		Iron		106U
01-1077		Potassium	J	
49026		Chromium	J	
49026		Lead		UJ
01-1077	MW-21-3	Arsenic		UJ
01-1077		Iron		68.9U
01-1077		Potassium	J	
49026		Chromium	J	
49026		Lead		UJ
01-1077	MW-21-4	Arsenic		UJ
01-1077		Iron		124U
01-1077		Potassium	J	
49026		Chromium	J	
49026		Lead		UJ
01-1077	MW-21-5	Arsenic		UJ
01-1077		Potassium	J	
49026		Chromium	J	
49026		Lead		UJ
01-1077	ER	Arsenic		UJ
01-1077		Potassium	J	144U
49026		Chromium		UJ
49026		Lead		UJ
49146	MW-22-1	Chromium	J	
49146		Lead		UJ
01-1326	MW-22-2	Arsenic		2.9U
49146		Chromium		UJ
49146		Lead		UJ
01-1326	MW-22-3	Arsenic		2.7U
49146		Chromium	J	
49146		Lead		UJ

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (μg/L)
01-1326	MW-22-4	Arsenic		2.3U
49146		Chromium		UJ
49146		Lead		UJ
01-1326	MW-22-4D	Arsenic		3.1U
49146		Chromium		UJ
49146		Lead		UJ
01-1326	MW-22-5	Arsenic		3.9U
49146		Chromium		UJ
49146		Lead		UJ
49146	ER	Chromium		UJ
49146		Lead		UJ
01-1342	MW-23-1	Iron	J	
01-1342		Sodium	J	
49146		Chromium	J	
49146		Lead		UJ
01-1342	MW-23-2	Arsenic		2.7U
01-1342		Iron	J	
01-1342		Sodium	J	
49146		Chromium	J	
49146		Lead		UJ
01-1342	MW-23-3	Arsenic		3.6U
01-1342		Iron	J	
01-1342		Sodium	J	
49146		Chromium	J	
49146		Lead		UJ
01-1342	MW-23-4	Arsenic		4.2U
01-1342		Iron	J	
01-1342		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ
01-1342	MW-23-5	Arsenic		6.2U
01-1342		Iron	J	
01-1342		Sodium	J	
49146		Chromium		UJ
49146		Lead		UJ
49146	ER	Chromium		UJ
49146		Lead		UJ

DATA VALIDATION SUMMARY OF METAL RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
49146	MW-24-1	Chromium	J	
49146		Lead		UJ
49146	MW-24-2	Chromium		UJ
49146		Lead		UJ
49146	MW-24-3	Chromium		UJ
49146		Lead		UJ
49146	MW-24-4	Chromium		UJ
49146		Lead		UJ
49146	MW-24-5	Chromium	J	
49146		Lead		UJ
49146	ER	Chromium		UJ
49146		Lead		UJ

Notes:

All Data Validation Results Obtained from Laboratory Data Consultants, Inc. (LDC)

D: Duplicate

ER: Equipment Rinsate

SB: Source Blank

TB: Trip Blank

[a] Listed LDC Qualifiers:

U: Indicates the compound or analytes was analyzed for but not detected at or above the stated limit.

J: Indicates an estimated value.

UJ: Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

DATA VALIDATION SUMMARY OF INORGANIC RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1275	MW-14-3	Nitrate as N	J	
01-1275	MW-14-4	Nitrate as N	J	
01-1275	MW-14-5	Nitrate as N	J	0.2U
01-1275	ER	Nitrate as N	J	
01-1077	MW-18-5	Nitrate as N		0.1U
01-1261	MW-19-1	Nitrate as N		0.64U
01-1261	MW-19-4	Nitrate as N		1.5U
01-1220	MW-20-2	Nitrate as N		2.0U
01-1220	MW-20-3	Nitrate as N		0.92U
01-1199	MW-20-5	Nitrate as N		0.05U
01-1077	MW-21-2	Nitrate as N		7.7U
01-1077	MW-21-4	Nitrate as N		7.3U
01-1077	MW-21-5	Nitrate as N		8.0U

Notes:

All Data Validation Results Obtained from Laboratory Data Consultants, Inc. (LDC)

D: Duplicate

ER: Equipment Rinsate

SB: Source Blank

TB: Trip Blank

[a] Listed LDC Qualifiers:

U: Indicates the compound or analytes was analyzed for but not detected at or above the stated limit.

J: Indicates an estimated value.

UJ: Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

DATA VALIDATION SUMMARY OF ORGANIC COMPOUNDS RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001
(100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1533	MW-1	All TCL compounds		UJ
01-1533		Dichlorodifluoromethane		UJ
01-1533		2,2-Dichloropropane		UJ
01-1533	MW-1D	All TCL compounds		UJ
01-1533		Dichlorodifluoromethane		UJ
01-1533		2,2-Dichloropropane		UJ
01-1533	MW-9	All TCL compounds		UJ
01-1533		Dichlorodifluoromethane		UJ
01-1533		2,2-Dichloropropane		UJ
01-1533	TB	Dichlorodifluoromethane		UJ
01-1533		2,2-Dichloropropane		UJ
01-1135	MW-3-1	Methylene Chloride		0.5U
01-1135		MTBE		1U
01-1135		1,1,2,2-Tetrachloroethane		UJ
01-1135	MW-3-2	MTBE		1U
01-1135		1,1,2,2-Tetrachloroethane		UJ
01-1135	MW-3-3	Methylene Chloride		0.5U
01-1135		MTBE		1U
01-1135		1,1,2,2-Tetrachloroethane		UJ
01-1135	MW-3-4	MTBE		1U
01-1135		1,1,2,2-Tetrachloroethane		UJ
01-1135	MW-3-5	Methylene Chloride		0.5U
01-1135		MTBE		1U
01-1135		1,1,2,2-Tetrachloroethane		UJ
01-1135	TB	Methylene Chloride		0.9U
01-1135		1,1,2,2-Tetrachloroethane		UJ
01-1135	ER	Methylene Chloride		0.5U
01-1135		1,1,2,2-Tetrachloroethane		UJ
01-1420	MW-4-3	MTBE		2U
01-1476	MW-10	Methylene Chloride		0.5U
01-1476	TB	Methylene Chloride		1.9U
01-1562	MW-6	Methylene Chloride		0.5U
01-1562	TB	Methylene Chloride		0.5U
01-1611	MW-8	Methylene Chloride		0.5U

DATA VALIDATION SUMMARY OF ORGANIC COMPOUNDS RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001
(100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1299	MW-11-1	4-Methyl-2-pentanone		UJ
01-1299		1,1,2,2-Tetrachloroethane		UJ
01-1299	MW-11-2	4-Methyl-2-pentanone		UJ
01-1299		1,1,2,2-Tetrachloroethane		UJ
01-1299	MW-11-3	4-Methyl-2-pentanone		UJ
01-1299		1,1,2,2-Tetrachloroethane		UJ
01-1299	MW-11-4	All TCL compounds		UJ
01-1299	MW-11-5	All TCL compounds		UJ
01-1299		4-Methyl-2-pentanone		UJ
01-1299		1,1,2,2-Tetrachloroethane		UJ
01-1299	MW-11-5D	MTBE		1U
01-1299	ER	4-Methyl-2-pentanone		UJ
		1,1,2,2-Tetrachloroethane		UJ
01-1382	MW-12-3	2-Butanone		25U
01-1382		1,1,2,2-Tetrachloroethane		UJ
01-1382	MW-12-5	2-Butanone		25U
01-1382		1,1,2,2-Tetrachloroethane		UJ
01-1460	MW-13	Methylene Chloride		0.9U
01-1460	MW-16	Methylene Chloride		0.8U
WS21590		NDMA		2.2U
01-1460	TB	Methylene Chloride		1.8U
01-1275	MW-14-1	Methylene Chloride		0.5U
01-1275		MTBE		1U
01-1275		1,1,2,2-Tetrachloroethane		UJ
01-1275	MW-14-2	Methylene Chloride		0.5U
01-1275		MTBE		1U
01-1275		1,1,2,2-Tetrachloroethane		UJ
01-1275	MW-14-3	Methylene Chloride		8.1U
01-1275		1,1,2,2-Tetrachloroethane		UJ
01-1275	MW-14-4	Methylene Chloride		0.5U
01-1275		MTBE		1U
01-1275		1,1,2,2-Tetrachloroethane		UJ
01-1275	MW-14-5	Methylene Chloride		0.5U
01-1275		MTBE		1U
01-1275		1,1,2,2-Tetrachloroethane		UJ
01-1275	TB	Methylene Chloride		0.9U
01-1275		1,1,2,2-Tetrachloroethane		UJ
01-1275	ER	Methylene Chloride		0.5U
01-1275		1,1,2,2-Tetrachloroethane		UJ

DATA VALIDATION SUMMARY OF ORGANIC COMPOUNDS RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1095	MW-17-1	Bromomethane		UJ
01-1095		1,1,2,2-Tetrachloroethane		UJ
01-1095	MW-17-2	Bromomethane		UJ
01-1095		1,1,2,2-Tetrachloroethane		UJ
01-1095	MW-17-3	Bromomethane		UJ
01-1095		1,1,2,2-Tetrachloroethane		UJ
01-1095	MW-17-4	Bromomethane		UJ
01-1095		1,1,2,2-Tetrachloroethane		UJ
01-1095	MW-17-5	Bromomethane		UJ
01-1095		1,1,2,2-Tetrachloroethane		UJ
01-1095	TB	Bromomethane		UJ
01-1095		1,1,2,2-Tetrachloroethane		UJ
01-1095	ER	Bromomethane		UJ
01-1095		1,1,2,2-Tetrachloroethane		UJ
01-1924	MW-18-1 (Resampling)	Methylene Chloride		1.4U
01-1077	MW-18-2	Bromomethane		UJ
01-1077		MTBE		1U
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1924	MW-18-2 (Resampling)	Methylene Chloride		1.7U
01-1077	MW-18-3	Bromomethane		UJ
01-1077		MTBE		1U
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1924	MW-18-3 (Resampling)	Methylene Chloride		0.5U
01-1077	MW-18-4	Bromomethane		UJ
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1924	MW-18-4 (Resampling)	Methylene Chloride		0.5U
01-1077	MW-18-5	Bromomethane		UJ
01-1077		MTBE		1U
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1924	MW-18-5 (Resampling)	Methylene Chloride		0.6U
01-1077	TB	1,1,2,2-Tetrachloroethane		UJ
01-1077	ER	Bromomethane		UJ
01-1924	ER-18 (Resampling)	Methylene Chloride		1.5U
01-1924	SB (Resampling)	Methylene Chloride		0.5U

DATA VALIDATION SUMMARY OF ORGANIC COMPOUNDS RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001
(100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1261	MW-19-1	MTBE		1U
01-1261		Toluene		0.5U
01-1261		1,1,2,2-Tetrachloroethane		UJ
01-1261	MW-19-2	Bromomethane		UJ
01-1261		Methylene Chloride		1.4U
01-1261		MTBE		1U
01-1261		1,1,2,2-Tetrachloroethane		UJ
01-1261	MW-19-3	Bromomethane		UJ
01-1261		Methylene Chloride		0.7U
01-1261		MTBE		1.1U
01-1261		1,1,2,2-Tetrachloroethane		UJ
01-1924	MW-19-3 (Resampling)	Methylene Chloride		1.7U
01-1261	MW-19-4	Bromomethane		UJ
01-1261		Methylene Chloride		0.8U
01-1261		MTBE		1U
01-1261		Toluene		0.5U
01-1261		1,1,2,2-Tetrachloroethane		UJ
01-1261	MW-19-5	Bromomethane		UJ
01-1261		Methylene Chloride		0.5U
01-1261		MTBE		1U
01-1261		Toluene		0.5U
01-1261		1,1,2,2-Tetrachloroethane		UJ
01-1261	MW-19-2D	Bromomethane		UJ
01-1261		Methylene Chloride		0.7U
01-1261		1,1,2,2-Tetrachloroethane		UJ
01-1261	SB	Methylene Chloride		1U
01-1261	TB	Methylene Chloride		3U
01-1261	ER	Methylene Chloride		3U
01-1261		1,1,2,2-Tetrachloroethane		UJ
01-1924	ER-19 (Resampling)	Methylene Chloride		1.8U

DATA VALIDATION SUMMARY OF ORGANIC COMPOUNDS RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001
(100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1220	MW-20-1	Bromomethane		UJ
01-1220		Methylene Chloride		0.5U
01-1220		1,1,2,2-Tetrachloroethane		UJ
01-1220	MW-20-2	Bromomethane		UJ
01-1220		1,1,2,2-Tetrachloroethane		UJ
01-1220	MW-20-3	Bromomethane		UJ
01-1220		1,1,2,2-Tetrachloroethane		UJ
01-1220	ER	Bromomethane		UJ
01-1220		1,1,2,2-Tetrachloroethane		UJ
01-1199	MW-20-4	MTBE		1U
01-1199	MW-20-4D	MTBE		1U
01-1924	ER-20 (Resampling)	Methylene Chloride		1.9U
01-1077	MW-21-1	Bromomethane		UJ
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1077	MW-21-2	Bromomethane		UJ
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1077	MW-21-3	Bromomethane		UJ
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1077	MW-21-4	Bromomethane		UJ
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1077	MW-21-5	Bromomethane		UJ
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1077	TB	Bromomethane		UJ
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1077	ER	Bromomethane		UJ
01-1077		1,1,2,2-Tetrachloroethane		UJ
01-1326	MW-22-1	MTBE		1U
01-1326	MW-22-2	MTBE		1U
01-1326	MW-22-3	MTBE		1U
01-1924	ER-22 (Resampling)	Methylene Chloride		2.4U
01-1342	MW-23-1	MTBE		1U
01-1342	MW-23-2	MTBE		1U
01-1342	MW-23-5	MTBE		1U

DATA VALIDATION SUMMARY OF ORGANIC COMPOUNDS RESULTS FROM GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, JANUARY-FEBRUARY 2001 (100% Level D Data Validated by LDC)

SDG	Sample Number	Compound	Flag [a] (detects)	Flag (non-detects) [a] (µg/L)
01-1395	MW-24-1	2-Butanone		5U
01-1395		Dichlorodifluoromethane		UJ
01-1395		Dibromochloromethane		0.52U
01-1395		2,2-Dichloropropane		UJ
01-1395		1,1,2,2-Tetrachloroethane		UJ
01-1395	MW-24-2	1,1,2,2-Tetrachloroethane		UJ
01-1395	MW-24-3	Dichlorodifluoromethane		UJ
01-1395		2,2-Dichloropropane		UJ
01-1395		1,1,2,2-Tetrachloroethane		UJ
01-1395	MW-24-4	Dichlorodifluoromethane		UJ
01-1395		2,2-Dichloropropane		UJ
01-1395		MTBE		1U
01-1395		1,1,2,2-Tetrachloroethane		UJ
01-1395	MW-24-5	Dichlorodifluoromethane		UJ
01-1395		2,2-Dichloropropane		UJ
01-1395		1,1,2,2-Tetrachloroethane		UJ
01-1395	TB	1,1,2,2-Tetrachloroethane		UJ
01-1395	ER	Dichlorodifluoromethane		UJ
01-1395		2,2-Dichloropropane		UJ
01-1395		1,1,2,2-Tetrachloroethane		UJ

Notes:

All Data Validation Results Obtained from Laboratory Data Consultants, Inc. (LDC)

D: Duplicate

ER: Equipment Rinsate

SB: Source Blank

TB: Trip Blank

[a] Listed LDC Qualifiers:

U: Indicates the compound or analytes was analyzed for but not detected at or above the stated limit.

J: Indicates an estimated value

UJ: Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

VOC

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 29, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1533

Sample Identification

MW-1
MW-9
MW-1D
Trip Blank
MW-9MS
MW-9MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
2/1/01	Dichlorodifluoromethane	34.98	All samples in SDG 01-1533	J (all detects) UJ (all non-detects)	P
	2,2-Dichloropropane	33.92		J (all detects) UJ (all non-detects)	

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1313MB	2/1/01	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5 ug/L	All samples in SDG 01-1533

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Compound	Flag	A or P
MW-1	Fluorobenzene Chlorobenzene-d5 1,4-Dichlorobenzene-d4	608070 (>663095) 220841 (>252761) 152400 (>194769)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MW-9	Fluorobenzene Chlorobenzene-d5 1,4-Dichlorobenzene-d4	655832 (>663095) 250508 (>252761) 180416 (>194769)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MW-1D	Fluorobenzene Chlorobenzene-d5 1,4-Dichlorobenzene-d4	639724 (>663095) 246463 (>252761) 189804 (>194769)	All TCL compounds	J (all detects) UJ (all non-detects)	P

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples MW-1 and MW-1D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-1	MW-1D	
Benzene	0.5	0.8	46

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1533

SDG	Sample	Compound	Flag	A or P	Reason
01-1533	MW-1 MW-9 MW-1D Trip Blank	Dichlorodifluoromethane 2,2-Dichloropropane	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)
01-1533	MW-1 MW-9 MW-1D	All TCL compounds	J (all detects) UJ (all non-detects)	P	Internal standards (area)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1533

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1533

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 9, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1135

Sample Identification

Equipment Rinsate
MW-3-1
MW-3-2
MW-3-3
MW-3-4
MW-3-5
Trip Blanks

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

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Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

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None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/11/01	1,1,2,2-Tetrachloroethane	90.58	All samples in SDG 01-1135	J (all detects) UJ (all non-detects)	P

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1073MB	1/11/01	Methylene chloride	1.1 ug/L	All samples in SDG 01-1135

Sample concentrations were compared to concentrations detected in the method blanks.

The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
Equipment Rinsate	Methylene chloride	0.5 ug/L	0.5U ug/L
MW-3-1	Methylene chloride	0.4 ug/L	0.5U ug/L
MW-3-3	Methylene chloride	0.4 ug/L	0.5U ug/L
MW-3-5	Methylene chloride	0.3 ug/L	0.5U ug/L
Trip Blanks	Methylene chloride	0.9 ug/L	0.9U ug/L

Sample "Trip Blanks" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blanks	1/9/01	Methylene chloride	0.9 ug/L	Equipment Rinsate MW-3-1 MW-3-2 MW-3-3 MW-3-4 MW-3-5

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/9/01	Methylene chloride Methyl-tert-butyl ether	0.5 ug/L 0.4 ug/L	MW-3-1 MW-3-2 MW-3-3 MW-3-4 MW-3-5

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
Equipment Rinsate	Methylene chloride	0.5 ug/L	0.5U ug/L
MW-3-1	Methylene chloride Methyl-tert-butyl ether	0.4 ug/L 0.4 ug/L	0.5U ug/L 1U ug/L
MW-3-2	Methyl-tert-butyl ether	0.5 ug/L	1U ug/L
MW-3-3	Methylene chloride Methyl-tert-butyl ether	0.4 ug/L 0.6 ug/L	0.5U ug/L 1U ug/L
MW-3-4	Methyl-tert-butyl ether	0.5 ug/L	1U ug/L
MW-3-5	Methylene chloride Methyl-tert-butyl ether	0.3 ug/L 0.3 ug/L	0.5U ug/L 1U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1135

SDG	Sample	Compound	Flag	A or P	Reason
01-1125	Equipment Rinsate MW-3-1 MW-3-2 MW-3-3 MW-3-4 MW-3-5 Trip Blanks	1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1135

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1135	Equipment Rinsate	Methylene chloride	0.5U ug/L	A
01-1135	MW-3-1	Methylene chloride	0.5U ug/L	A
01-1135	MW-3-3	Methylene chloride	0.5U ug/L	A
01-1135	MW-3-5	Methylene chloride	0.5U ug/L	A
01-1135	Trip Blanks	Methylene chloride	0.9U ug/L	A

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1135

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1135	Equipment Rinsate	Methylene chloride	0.5U ug/L	A
01-1135	MW-3-1	Methylene chloride Methyl-tert-butyl ether	0.5U ug/L 1U ug/L	A
01-1135	MW-3-2	Methyl-tert-butyl ether	1U ug/L	A
01-1135	MW-3-3	Methylene chloride Methyl-tert-butyl ether	0.5U ug/L 1U ug/L	A
01-1135	MW-3-4	Methyl-tert-butyl ether	1U ug/L	A
01-1135	MW-3-5	Methylene chloride Methyl-tert-butyl ether	0.5U ug/L 1U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 24, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1420

Sample Identification

Equipment Rinsate
MW-4-1
MW-4-2
MW-4-3
MW-4-4
MW-4-5
Trip Blank
MW-4-1MS
MW-4-1MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/24/01	Methyl-tert-butyl ether	0.4 ug/L	MW-4-1 MW-4-2 MW-4-3 MW-4-4 MW-4-5

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
MW-4-3	Methyl-tert-butyl ether	0.7 ug/L	2U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1420

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1420

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1420

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1420	MW-4-3	Methyl-tert-butyl ether	2U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 26, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1476

Sample Identification

MW-10
MW-5
Trip Blank

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1270MB	1/29/01	Methylene chloride	1.4 ug/L	All samples in SDG 01-1476

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
MW-10	Methylene chloride	0.3 ug/L	0.5U ug/L
Trip Blank	Methylene chloride	1.9 ug/L	1.9U ug/L

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blank	1/26/01	Methylene chloride	1.9 ug/L	MW-10 MW-5

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
MW-10	Methylene chloride	0.3 ug/L	0.5U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1476

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1476

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1476	MW-10	Methylene chloride	0.5U ug/L	A
01-1476	Trip Blank	Methylene chloride	1.9U ug/L	A

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1476

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1476	MW-10	Methylene chloride	0.5U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 30, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1562

Sample Identification

MW-6
MW-15
Trip Blank

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1323MB	2/1/01	Methylene chloride	0.3 ug/L	All samples in SDG 01-1562

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
MW-6	Methylene chloride	0.4 ug/L	0.5U ug/L
Trip Blank	Methylene chloride	0.3 ug/L	0.5U ug/L

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blank	1/30/01	Methylene chloride	0.3 ug/L	MW-6 MW-15

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
MW-6	Methylene chloride	0.4 ug/L	0.5U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1562

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1562

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1562	MW-6	Methylene chloride	0.5U ug/L	A
01-1562	Trip Blank	Methylene chloride	0.5U ug/L	A

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1562

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1562	MW-6	Methylene chloride	0.5U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	February 1, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1611

Sample Identification

MW-8
Trip Blank

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blank	2/1/01	Methylene chloride	0.4 ug/L	MW-8

Sample concentrations were compared to concentrations detected in the field blanks. The

sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
MW-8	Methylene chloride	0.4 ug/L	0.5U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1611

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1611

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1611

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1611	MW-8	Methylene chloride	0.5U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: JPL, 00HW019

Collection Date: January 17, 2001

LDC Report Date: April 24, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level IV

Laboratory: Applied P & Ch Laboratory

Sample Delivery Group (SDG): 01-1299

Sample Identification

Equipment Rinsate
MW-11-1
MW-11-2
MW-11-3
MW-11-4
MW-11-5
MW-11-5D
Trip Blanks
MW-11-4MS
MW-11-4MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/18/01	1,1,2,2-Tetrachloroethane	36.48	Equipment Rinsate MW-11-1	J (all detects) UJ (all non-detects)	A
	4-Methyl-2-pentanone	32.05	MW-11-2 MW-11-3 MW-11-5 MW-11-4MS MW-11-4MSD	J (all detects) UJ (all non-detects)	

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1169MB	1/19/01	Methylene chloride	0.5 ug/L	MW-11-4

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample "Trip Blanks" was identified as a trip blank. No volatile contaminants were found in this blank.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/17/01	Methyl-tert-butyl ether Toluene m,p-Xylenes	12 ug/L 0.8 ug/L 0.5 ug/L	MW-11-1 MW-11-2 MW-11-3 MW-11-4 MW-11-5 MW-11-5D

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
MW-11-5D	Methyl-tert-butyl ether	0.3 ug/L	1U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each

matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Compound	Flag	A or P
MW-11-5	Fluorobenzene Chlorobenzene-d5 1,4-Dichlorobenzene-d4	625416 (675725-1254917) 241349 (258294-479690) 168601 (191316-355300)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MW-11-4	Fluorobenzene Chlorobenzene-d5 1,4-Dichlorobenzene-d4	596877 (668765-1241996 228322 (244014-453170) 149443 (169459-314709)	All TCL compounds	J (all detects) UJ (all non-detects)	P

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples MW-11-5 and MW-11-5D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-11-5	MW-11-5D	
Methyl-tert-butyl ether	1U	0.3	200

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1299

SDG	Sample	Compound	Flag	A or P	Reason
01-1299	Equipment Rinsate MW-11-1 MW-11-2 MW-11-3 MW-11-5	1,1,2,2-Tetrachloroethane 4-Methyl-2-pentanone	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
01-1299	MW-11-5 MW-11-4	All TCL compounds	J (all detects) UJ (all non-detects)	P	Internal standards (area)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1299

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1299

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1299	MW-11-5D	Methyl-tert-butyl ether	1U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: JPL, 00HW019

Collection Date: January 22, 2001

LDC Report Date: April 24, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level IV

Laboratory: Applied P & Ch Laboratory

Sample Delivery Group (SDG): 01-1382

Sample Identification

Equipment Rinsate
MW-12-1
MW-12-2
MW-12-3
MW-12-4
MW-12-5
MW-12-5D
Trip Blank
MW-12-4MS
MW-12-4MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/26/01	1,1,2,2-Tetrachloroethane	31.60	MW-12-3 MW-12-5 G1261MB	J (all detects) UJ (all non-detects)	P

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1297MB	1/30/01	Methylene chloride	0.9 ug/L	Equipment Rinsate

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank.

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blank	1/22/01	Chloroform 2-Butanone Dibromochloromethane	1.2 2 0.5	MW-12-1 MW-12-2 MW-12-3 MW-12-4 MW-12-5 MW-12-5D

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
MW-12-3	2-Butanone	2 ug/L	25U ug/L
MW-12-5	2-Butanone	3 ug/L	25U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples MW-12-5 and MW-12-5D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-12-5	MW-12-5D	
Carbon tetrachloride	2.5U	1	200
2-Butanone	3	5U	200

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1382

SDG	Sample	Compound	Flag	A or P	Reason
01-1382	MW-12-3 MW-12-5	1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1382

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1382

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1382	MW-12-3	2-Butanone	25U ug/L	A
01-1382	MW-12-5	2-Butanone	25U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 25, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1460

Sample Identification

MW-13
MW-16
Trip Blank
MW-16MS
MW-16MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1270MB	1/29/01	Methylene chloride	1.4 ug/L	All samples in SDG 01-1460

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
MW-13	Methylene chloride	0.9 ug/L	0.9U ug/L
MW-16	Methylene chloride	0.8 ug/L	0.8U ug/L
Trip Blank	Methylene chloride	1.8 ug/L	1.8U ug/L

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blank	1/25/01	Methylene chloride	1.8 ug/L	MW-13 MW-16

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
MW-13	Methylene chloride	0.9 ug/L	0.9U ug/L
MW-16	Methylene chloride	0.8 ug/L	0.8U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1460

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1460

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1460	MW-13	Methylene chloride	0.9U ug/L	A
01-1460	MW-16	Methylene chloride	0.8U ug/L	A
01-1460	Trip Blank	Methylene chloride	1.8U ug/L	A

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1460

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1460	MW-13	Methylene chloride	0.9U ug/L	A
01-1460	MW-16	Methylene chloride	0.8U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 16, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1275

Sample Identification

Equipment Rinsate
MW-14-1
MW-14-2
MW-14-3
MW-14-4
MW-14-5
Trip Blank

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/18/01	1,1,2,2-Tetrachloroethane	89.3	All samples in SDG 01-1275	J (all detects) UJ (all non-detects)	P

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1145MB	1/18/01	Methylene chloride	0.7 ug/L	All samples in SDG 01-1275

Sample concentrations were compared to concentrations detected in the method blanks.

The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
Equipment Rinsate	Methylene chloride	0.3 ug/L	0.5U ug/L
MW-14-1	Methylene chloride	0.3 ug/L	0.5U ug/L
MW-14-2	Methylene chloride	0.4 ug/L	0.5U ug/L
MW-14-3	Methylene chloride	8.1 ug/L	8.1U ug/L
MW-14-4	Methylene chloride	0.4 ug/L	0.5U ug/L
MW-14-5	Methylene chloride	0.4 ug/L	0.5U ug/L
Trip Blank	Methylene chloride	0.9 ug/L	0.9U ug/L

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/16/01	Methylene chloride Methyl-tert-butyl ether Toluene m,p-Xylenes	0.3 ug/L 11 ug/L 0.9 ug/L 0.5 ug/L	MW-14-1 MW-14-2 MW-14-3 MW-14-4 MW-14-5

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blank	1/16/01	Methylene chloride	0.9 ug/L	Equipment Rinsate MW-14-1 MW-14-2 MW-14-3 MW-14-4 MW-14-5

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the

associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
Equipment Rinsate	Methylene chloride	0.3 ug/L	0.5U ug/L
MW-14-1	Methylene chloride Methyl-tert-butyl ether	0.3 ug/L 0.5 ug/L	0.5U ug/L 1U ug/L
MW-14-2	Methylene chloride Methyl-tert-butyl ether	0.4 ug/L 0.4 ug/L	0.5U ug/L 1U ug/L
MW-14-4	Methylene chloride Methyl-tert-butyl ether	0.4 ug/L 0.7 ug/L	0.5U ug/L 1U ug/L
MW-14-5	Methylene chloride Methyl-tert-butyl ether	0.4 ug/L 0.6 ug/L	0.5U ug/L 1U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1275

SDG	Sample	Compound	Flag	A or P	Reason
01-1275	Equipment Rinsate MW-14-1 MW-14-2 MW-14-3 MW-14-4 MW-14-5 Trip Blank	1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1275

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1275	Equipment Rinsate	Methylene chloride	0.5U ug/L	A
01-1275	MW-14-1	Methylene chloride	0.5U ug/L	A
01-1275	MW-14-2	Methylene chloride	0.5U ug/L	A
01-1275	MW-14-3	Methylene chloride	8.1U ug/L	A
01-1275	MW-14-4	Methylene chloride	0.5U ug/L	A
01-1275	MW-14-5	Methylene chloride	0.5U ug/L	A
01-1275	Trip Blank	Methylene chloride	0.9U ug/L	A

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1275

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1275	Equipment Rinsate	Methylene chloride	0.5U ug/L	A
01-1275	MW-14-1	Methylene chloride Methyl-tert-butyl ether	0.5U ug/L 1U ug/L	A
01-1275	MW-14-2	Methylene chloride Methyl-tert-butyl ether	0.5U ug/L 1U ug/L	A
01-1275	MW-14-4	Methylene chloride Methyl-tert-butyl ether	0.5U ug/L 1U ug/L	A

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1275	MW-14-5	Methylene chloride Methyl-tert-butyl ether	0.5U ug/L 1U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: JPL, 00HW019

Collection Date: January 8, 2001

LDC Report Date: April 24, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level IV

Laboratory: Applied P & Ch Laboratory

Sample Delivery Group (SDG): 01-1095

Sample Identification

Equipment Rinsate
MW-17-1
MW-17-2
MW-17-3
MW-17-4
MW-17-5
MW-17-2D
Trip Blanks
MW-17-1MS
MW-17-1MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/10/01	Bromomethane	30.35	All samples in SDG 01-1095	J (all detects) UJ (all non-detects)	P
	1,1,2,2-Tetrachloroethane	98.56		J (all detects) UJ (all non-detects)	

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample "Trip Blanks" was identified as a trip blank. No volatile contaminants were found in this blank.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile

contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/8/01	Naphthalene	1.9 ug/L	MW-17-1 MW-17-2 MW-17-3 MW-17-4 MW-17-5 MW-17-2D

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples MW-17-2 and MW-17-2D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-17-2	MW-17-2D	
Chloroform	0.3	0.5	50
Methyl-tert-butyl ether	0.3	0.4	29

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1095

SDG	Sample	Compound	Flag	A or P	Reason
01-1095	Equipment Rinsate MW-17-1 MW-17-2 MW-17-3 MW-17-4 MW-17-5 MW-17-2D Trip Blanks	Bromomethane 1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1095

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1095

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: JPL, 00HW019

Collection Date: January 10, 2001

LDC Report Date: April 24, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level IV

Laboratory: Applied P & Ch Laboratory

Sample Delivery Group (SDG): 01-1172

Sample Identification

Equipment Rinsate
MW-18-2
MW-18-3
MW-18-4
MW-18-5
Trip Blanks

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/15/01	Bromomethane 1,1,2,2-Tetrachloroethane	35.06 84.18	Equipment Rinsate MW-18-2 MW-18-3 MW-18-4 MW-18-5 G1105MB	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
1/16/01	1,1,2,2-Tetrachloroethane	103.34	Trip Blanks G1117MB	J (all detects) UJ (all non-detects)	P

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1105MB	1/15/01	Methylene chloride	0.7 ug/L	Equipment Rinsate MW-18-2 MW-18-3 MW-18-4 MW-18-5

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample "Trip Blanks" was identified as a trip blank. No volatile contaminants were found in this blank.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/10/01	Methyl-tert-butyl ether Toluene m,p-Xylenes	57 ug/L 1.2 ug/L 0.6 ug/L	MW-18-2 MW-18-3 MW-18-4 MW-18-5

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
MW-18-2	Methyl-tert-butyl ether	0.6 ug/L	1U ug/L
MW-18-3	Methyl-tert-butyl ether	0.8 ug/L	1U ug/L
MW-18-5	Methyl-tert-butyl ether	0.6 ug/L	1U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1172

SDG	Sample	Compound	Flag	A or P	Reason
01-1172	Equipment Rinsate MW-18-2 MW-18-3 MW-18-4 MW-18-5	Bromomethane 1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)
01-1172	Trip Blanks	1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1172

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1172

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1172	MW-18-2	Methyl-tert-butyl ether	1U ug/L	A
01-1172	MW-18-3	Methyl-tert-butyl ether	1U ug/L	A
01-1172	MW-18-5	Methyl-tert-butyl ether	1U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: JPL, 00HW019

Collection Date: January 15, 2001

LDC Report Date: April 24, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level IV

Laboratory: Applied P & Ch Laboratory

Sample Delivery Group (SDG): 01-1261

Sample Identification

Equipment Rinsate
MW-19-1
MW-19-2
MW-19-3
MW-19-4
MW-19-5
MW-19-2D
Source Blank
Trip Blanks
MW-19-3MS
MW-19-3MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/18/01	1,1,2,2-Tetrachloroethane	89.30	Equipment Rinsate MW-19-1 G1145MB	J (all detects) UJ (all non-detects)	P
1/17/01	Bromomethane 1,1,2,2-Tetrachloroethane	34.46 109.43	MW-19-2 MW-19-3 MW-19-4 MW-19-5 MW-19-2D Source Blank Trip Blanks MW-19-3MS MW-19-3MSD G1135MB	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1135MB	1/17/01	Methylene chloride	0.6 ug/L	MW-19-2 MW-19-3 MW-19-4 MW-19-5 MW-19-2D Source Blank Trip Blanks
G1145MB	1/18/01	Methylene chloride	0.7 ug/L	Equipment Rinsate MW-19-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
MW-19-2	Methylene chloride	1.4 ug/L	1.4U ug/L
MW-19-3	Methylene chloride	0.7 ug/L	0.7U ug/L
MW-19-4	Methylene chloride	0.8 ug/L	0.8U ug/L
MW-19-5	Methylene chloride	0.5 ug/L	0.5U ug/L
MW-19-2D	Methylene chloride	0.7 ug/L	0.7U ug/L
Source Blank	Methylene chloride	1 ug/L	1U ug/L
Trip Blanks	Methylene chloride	3 ug/L	3U ug/L
Equipment Rinsate	Methylene chloride	3 ug/L	3U ug/L

Sample "Trip Blanks" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blanks	1/15/01	Methylene chloride	2.5 ug/L	Equipment Rinsate MW-19-1 MW-19-2 MW-19-3 MW-19-4 MW-19-5 MW-19-2D Source Blank

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/15/01	Methylene chloride Methyl-tert-butyl ether Toluene o-Xylene m,p-Xylenes	3 ug/L 98 ug/L 5.7 ug/L 2 ug/L 4 ug/L	MW-19-1 MW-19-2 MW-19-3 MW-19-4 MW-19-5 MW-19-2D

Sample "Source Blank" was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Source Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Source Blank	1/15/01	Methylene chloride Methyl-tert-butyl ether Toluene	1 ug/L 0.5 ug/L 0.3 ug/L	MW-19-1 MW-19-2 MW-19-3 MW-19-4 MW-19-5 MW-19-2D

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
Equipment Rinsate	Methylene chloride	3 ug/L	3U ug/L
MW-19-1	Methyl-tert-butyl ether Toluene	0.7 ug/L 0.4 ug/L	1U ug/L 0.5U ug/L
MW-19-2	Methylene chloride Methyl-tert-butyl ether	1.4 ug/L 0.6 ug/L	1.4U ug/L 1U ug/L

Sample	Compound	Reported Concentration	Modified Final Concentration
MW-19-3	Methylene chloride Methyl-tert-butyl ether	0.7 ug/L 1.1 ug/L	0.7U ug/L 1.1U ug/L
MW-19-4	Methylene chloride Methyl-tert-butyl ether Toluene	0.8 ug/L 0.9 ug/L 0.3 ug/L	0.8U ug/L 1U ug/L 0.5U ug/L
MW-19-5	Methylene chloride Methyl-tert-butyl ether Toluene	0.5 ug/L 0.7 ug/L 0.3 ug/L	0.5U ug/L 1U ug/L 0.5U ug/L
MW-19-2D	Methylene chloride	0.7 ug/L	0.7U ug/L
Source Blank	Methylene chloride	1 ug/L	1U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples MW-19-2 and MW-19-2D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-19-2	MW-19-2D	
Methylene chloride	1.4	0.7	67
Methyl-tert-butyl ether	0.6	1U	200
Trichloroethene	0.5	0.6	18

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1261

SDG	Sample	Compound	Flag	A or P	Reason
01-1261	Equipment Rinsate MW-19-1	1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)
01-1261	MW-19-2 MW-19-3 MW-19-4 MW-19-5 MW-19-2D Source Blank Trip Blanks	Bromomethane 1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1261

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1261	MW-19-2	Methylene chloride	1.4U ug/L	A
01-1261	MW-19-3	Methylene chloride	0.7U ug/L	A
01-1261	MW-19-4	Methylene chloride	0.8U ug/L	A
01-1261	MW-19-5	Methylene chloride	0.5U ug/L	A
01-1261	MW-19-2D	Methylene chloride	0.7U ug/L	A
01-1261	Source Blank	Methylene chloride	1U ug/L	A
01-1261	Trip Blanks	Methylene chloride	3U ug/L	A
01-1261	Equipment Rinsate	Methylene chloride	3U ug/L	A

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1261

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1261	Equipment Rinsate	Methylene chloride	3U ug/L	A
01-1261	MW-19-1	Methyl-tert-butyl ether Toluene	1U ug/L 0.5U ug/L	A

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1261	MW-19-2	Methylene chloride Methyl-tert-butyl ether	1.4U ug/L 1U ug/L	A
01-1261	MW-19-3	Methylene chloride Methyl-tert-butyl ether	0.7U ug/L 1.1U ug/L	A
01-1261	MW-19-4	Methylene chloride Methyl-tert-butyl ether Toluene	0.8U ug/L 1U ug/L 0.5U ug/L	A
01-1261	MW-19-5	Methylene chloride Methyl-tert-butyl ether Toluene	0.5U ug/L 1U ug/L 0.5U ug/L	A
01-1261	MW-19-2D	Methylene chloride	0.7U ug/L	A
01-1261	Source Blank	Methylene chloride	1U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 12, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1220

Sample Identification

Equipment Rinsate
MW-20-1
MW-20-2
MW-20-3
Trip Blanks
MW-20-2MS
MW-20-2MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/15/01	Bromomethane 1,1,2,2-Tetrachloroethane	35.06 84.18	All samples in SDG 01-1220	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1105MB	1/15/01	Methylene chloride	0.7 ug/L	All samples in SDG 01-1220

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
MW-20-1	Methylene chloride	0.4 ug/L	0.5U ug/L

Sample "Trip Blanks" was identified as a trip blank. No volatile contaminants were found in this blank.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/12/01	Toluene	0.4 ug/L	MW-20-1 MW-20-2 MW-20-3

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1220

SDG	Sample	Compound	Flag	A or P	Reason
01-1220	Equipment Rinsate MW-20-1 MW-20-2 MW-20-3 Trip Blanks	Bromomethane 1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1220

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1220	MW-20-1	Methylene chloride	0.5U ug/L	A

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1220

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	JPL, 00HW019
Collection Date:	January 11, 2001
LDC Report Date:	April 24, 2001
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level IV
Laboratory:	Applied P & Ch Laboratory
Sample Delivery Group (SDG):	01-1199

Sample Identification

Equipment Rinsate
MW-20-4
MW-20-5
MW-20-4D
Trip Blanks
MW-20-5MS
MW-20-5MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

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A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/11/01	Methyl-tert-butyl ether Toluene m,p-Xylenes	20 ug/L 0.7 ug/L 0.4 ug/L	MW-20-4 MW-20-5 MW-20-4D

Sample "Trip Blanks" was identified as a trip blank. No volatile contaminants were found

in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
Trip Blanks	1/11/01	Dibromochloromethane	0.5 ug/L	MW-20-4 MW-20-5 MW-20-4D

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
MW-20-4	Methyl-tert-butyl ether	0.6 ug/L	1U ug/L
MW-20-4D	Methyl-tert-butyl ether	0.8 ug/L	1U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples MW-20-4 and MW-20-4D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-20-4	MW-20-4D	
Methyl-tert-butyl ether	0.6	0.8	14
Styrene	0.5U	0.6	200

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1199

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1199

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1199

SDG	Sample	Compound	Modified Final Concentration	A or P
01-1199	MW-20-4	Methyl-tert-butyl ether	1U ug/L	A
01-1199	MW-20-4D	Methyl-tert-butyl ether	1U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: JPL, 00HW019

Collection Date: January 5, 2001

LDC Report Date: April 24, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level IV

Laboratory: Applied P & Ch Laboratory

Sample Delivery Group (SDG): 01-1077

Sample Identification

Equipment Rinsate
MW-21-1
MW-21-2
MW-21-3
MW-21-4
MW-21-5
Trip Blanks

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/9/01	Bromomethane	32.54	All samples in SDG 01-1077	J (all detects) UJ (all non-detects)	P
	1,1,2,2-Tetrachloroethane	105.4		J (all detects) UJ (all non-detects)	

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample "Trip Blanks" was identified as a trip blank. No volatile contaminants were found

in this blank.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/5/01	Ethylbenzene Toluene o-Xylene m,p-Xylenes	0.5 ug/L 3.6 ug/L 0.5 ug/L 2.1 ug/L	MW-21-1 MW-21-2 MW-21-3 MW-21-4 MW-21-5

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1077

SDG	Sample	Compound	Flag	A or P	Reason
01-1077	Equipment Rinsate MW-21-1 MW-21-2 MW-21-3 MW-21-4 MW-21-5 Trip Blanks	Bromomethane 1,1,2,2-Tetrachloroethane	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Continuing calibration (%D)

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1077

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1077

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: JPL, 00HW019

Collection Date: January 18, 2001

LDC Report Date: April 24, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level IV

Laboratory: Applied P & Ch Laboratory

Sample Delivery Group (SDG): 01-1326

Sample Identification

Equipment Rinsate
MW-22-1
MW-22-2
MW-22-3
MW-22-4
MW-22-5
MW-22-4D
Trip Blank
MW-22-5MS
MW-22-5MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
G1218MB	1/24/01	Methylene chloride	0.4 ug/L	Trip Blank

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found

in this blank.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/18/01	Methyl-tert-butyl ether Benzene Toluene m,p-Xylenes o-Xylene	36 ug/L 0.4 ug/L 1.5 ug/L 0.8 ug/L 0.3 ug/L	MW-22-1 MW-22-2 MW-22-3 MW-22-4 MW-22-5 MW-22-4D

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
MW-22-1	Methyl-tert-butyl ether	0.4 ug/L	1U ug/L
MW-22-2	Methyl-tert-butyl ether	0.4 ug/L	1U ug/L
MW-22-3	Methyl-tert-butyl ether	0.4 ug/L	1U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples MW-22-4 and MW-22-4D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-22-4	MW-22-4D	
Methylene chloride	2.5U	0.7	200

JPL, 00HW019
Volatiles - Data Qualification Summary - SDG 01-1326

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01-1326

No Sample Data Qualified in this SDG

JPL, 00HW019
Volatiles - Field Blank Data Qualification Summary - SDG 01-1326

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
01-1326	MW-22-1	Methyl-tert-butyl ether	1U ug/L	A
01-1326	MW-22-2	Methyl-tert-butyl ether	1U ug/L	A
01-1326	MW-22-3	Methyl-tert-butyl ether	1U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: JPL, 00HW019

Collection Date: January 19, 2001

LDC Report Date: April 24, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level IV

Laboratory: Applied P & Ch Laboratory

Sample Delivery Group (SDG): 01-1342

Sample Identification

Equipment Rinsate
MW-23-1
MW-23-2
MW-23-3
MW-23-4
MW-23-5
Trip Blank

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

Continue

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for selected compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 30.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample "Equipment Rinsate" was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
Equipment Rinsate	1/19/01	Methyl-tert-butyl ether Toluene m,p-Xylenes	11 ug/L 0.7 ug/L 0.4 ug/L	MW-23-1 MW-23-2 MW-23-3 MW-23-4 MW-23-5

Sample "Trip Blank" was identified as a trip blank. No volatile contaminants were found in this blank.