Level D Data Package Deliverables

General Information

Project: 010HW019 JPL

APCL Service ID: 02-1393

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

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

Case Narrative

Project: JPL/00HW019

For SOTA Environmental

APCL Service No: 02-1393

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-13	02-01393-4
MW-13	02-01393-1
MW-16	02-01393-2
MW-16D	02-01393-3

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
E314 (Perchlorate, low level),
200.7 (Metals, by ICP),
300.0 (Anions by IC),
SM2320B (Carbonate),
150.1 (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.9 (Arsenic, As, by GFAA),
310.1 (Alkalinity),
8270-SIM (1,4-Dioxane),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None.

6. Anomaly

(1) 200.7:

Magnesium recoveries in the MS/MSD spiked on the sample MW-16, were 72-73%, slightly lower than 75-125% control limits.

(2) EPA 314.0:

MS/MSD recoveries, spiked on sample MW-16, were outside of control limit due to an high level of perchlorate in the native sample.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Kevin Xie, Ph.D.,
QA/QC 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 ENVIR. TECH., INC. Contact: MIKE SAYRE Tel #: 858-485-8100 Fax #: 858-485-0812

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

Bill to: SOTA

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

Project Address PASADENA, CALIFORNIA APCL Quotation #

Due Date: ☐regular ☐rush: ___ days ___ hours Sampled by: MES/JRT

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOCs (524.2)	Na, K, Ca, Mg, Fe (200.7)	Total Cr & Pb (200.8)	As (200.9)	Cr VI (7196)	Perchlorate (314.0)	Carbonate, Bicarb., Alk. (310.1)	Nitrate, Sulfate, Chloride (300.0)	TDS (160.1)	pH (150.1)	1,4 Dioxane (8270)	NDMA (1625C)	Remarks
TB-13	TRIP BLANK	1/29/02	1435	WATER	HCl	2	X												
MW-13	MW-13		1435		HCl	3	X												
					HNO_3	2		X	X	X									
					—	13					X	X	X	X	X	X	X	X	MS/MSD ON 8270/1625C
MW-16	MW-16		1604		HCl	~~3~~ 9	X												MS/MSD
					HNO_3	2		X	X	X									MS/MSD ON 200.8/200.9
					—	6					X	X	X	X	X	X	X	X	MS/MSD ON 7196/314.0
MW-16D	MW-16 DUP				HCl	3	X												
					HNO_3	2		X	X	X									
					—	5					X	X	X	X	X	X	X	X	

1399

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 1/29/02 / 1702 Received by [signature] Date/Time 1/29/02 / 1702

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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Sample Receiving Checklist

APCL ServiceID: 1393 **Client Name/Project:** Sota Environmental

1. **Sample Arrival**

Date/Time Received 1/29/02 1702 Date/Time Opened 1/30/02 0930A By (name): Adam

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Adam

2. **Chain-of-Custody (CoC)**

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By:
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold ____ # Received 4
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ☑ #Samples OK?
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs):

3. **Shipping Container/Cooler**

☑ Cooler Used? # of 2 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 3.9 4.3

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. **Sample Preservation**

☐ **pH <2** ☐ pH >12

If Not, pH = ____ Preserved by: ☐ Client ☐ APCL ☐ Third Party

5. **Holding-time Requirements**

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☑ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. **Sample Container Condition**

☑ Intact? ☐ Broken? ☐ Documented? Number: ____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☐ Date/Time ☐ Preserved?

7. **Turn Around Time**

☐ RUSH TAT: ____ ☑ Std (7-10 days) ☐ Not Marked

8. **Sample Matrix**

☐ Drinking H_2O ☑ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: ____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. **Pre-Login Check List Completed & OK?**

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:____)Date/Time:____

Received/Checked by: Khay Date: 29 Jan 2002 Time: 8:50 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

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Sample Login: Check List

02-01393 (1288_ 312) (4858100_ 312)

01/30/02

Part 1: General Information

☐ Company Information	Name:	*SOTA Environmental*
	Address:	*16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127*
☐ Project Information	Project Description:	*JPL*
	Project #:	*00HW019*
☐ Billing Information	P.O. #:	
	Bill Address:	*16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127*
	Lab Project ID:	*2002_0002*
	Client Database #:	*01*
☐ Receiving Information	Who Received Sample?	*Adam*
	Receiving Date/Time:	*01/29/02 1702*
	COC No.	
☐ Shipping Information	Shipping Company	*APCL pick up*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*3.9 4.3 °C*
☐ Container Information	Container Provider:	*Client*
☐ Sampling Information	Sampling Person:	
	Sampling Company:	*Client*
☐ Turn-Around-Time Option:		*Rush 5 working day(s)*
☐ QC Option:		*NEESA D*
☐ Disposal Option:		*Not specify*

56003

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	TB-13	524.2	02-01393-4	W	V	C	40	2	G	012902	N	0	7	☐
2	MW-13	524.2	02-01393-1-α	W	V	C	40	3	G	012902	N	0	7	☐
	MW-13	Metals	02-01393-1-β	W	P	N	500	1	G	012902	N	0	7	☐
	MW-13	8270	02-01393-1-γ	W	G		1000	6	G	012902	N	0	7	☐
	MW-13	300	02-01393-1-δ	W	P		1000	2	G	012902	N	0	7	☐
3	MW-16	524.2	02-01393-2-α	W	V	C	40	9	G	012902	N	0	7	☐
	MW-16	Metals	02-01393-2-β	W	P	N	1000	1	G	012902	N	0	7	☐
	MW-16	8270	02-01393-2-γ	W	G		1000	2	G	012902	N	0	7	☐
	MW-16	300	02-01393-2-δ	W	P		1000	2	G	012902	N	0	7	☐
4	MW-16D	524.2	02-01393-3-α	W	V	C	40	3	G	012902	N	0	7	☐
	MW-16D	Metals	02-01393-3-β	W	P	N	500	1	G	012902	N	0	7	☐
	MW-16D	8270	02-01393-3-γ	W	G		1000	2	G	012902	N	0	7	☐
	MW-16D	300	02-01393-3-δ	W	P		1000	2	G	012902	N	0	7	☐

Part 3: Analysis Information

Test Items:

☑ *524.2*	Volatile Organic Compounds
☐ *7196*	Chromium (VI)
☐ *300.0*	Perchlorate, low level
☐ *200.7/6010*	Sodium, Na, by ICP
☐ *200.7/6010*	Potassium, K, by ICP
☑ *200.7/6010*	Calcium, Ca, by ICP
☐ *200.7/6010*	Magnesium, Mg, by ICP
☑ *200.7/6010*	Iron, Fe, by ICP
☑ *300.0*	Sulfate (SO_4^{--}), by IC
☐ *300.0/SM4500NO3C*	Nitrate (NO_3^-) as N by IC
☐ *300.0*	Chloride Cl^- by IC
☐ *SM2320B*	Carbonate
☑ *SM2320B*	Bicarbonate
☑ *9040/150.1*	pH
☐ *160.1*	Solids, Total Dissolved (TDS)
☑ *206.2/7060*	Arsenic, As, by GFAA
☑ *310.1*	Alkalinity
☐ *PAH-SIM*	PAH (NOAA)

Seq. Client"s Sample ID Sample APCL

56004

#	(as given on COC)	Sub-ID	Sample ID	Matrix	524.2	CHROMIUM	PERCHL	NA	K	CA	MG	FE
1	TB-13	524.2	02-01393-4	W	X							
2	MW-13	524.2	02-01393-1-α	W	X							
	MW-13	Metals	02-01393-1-β	W				X	X	X	X	X
	MW-13	8270	02-01393-1-γ	W								
	MW-13	300	02-01393-1-δ	W		X	X					
3	MW-16	524.2	02-01393-2-α	W	X							
	MW-16	Metals	02-01393-2-β	W				X	X	X	X	X
	MW-16	8270	02-01393-2-γ	W								
	MW-16	300	02-01393-2-δ	W		X	X					
4	MW-16D	524.2	02-01393-3-α	W	X							
	MW-16D	Metals	02-01393-3-β	W				X	X	X	X	X
	MW-16D	8270	02-01393-3-γ	W								
	MW-16D	300	02-01393-3-δ	W		X	X					

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	SO4	NO3	CL	CARBONATE	BICARBON	PH	TDS	AS
1	TB-13	524.2	02-01393-4	W								
2	MW-13	524.2	02-01393-1-α	W								
	MW-13	Metals	02-01393-1-β	W								X
	MW-13	8270	02-01393-1-γ	W								
	MW-13	300	02-01393-1-δ	W	X	X	X	X	X	X	X	
3	MW-16	524.2	02-01393-2-α	W								
	MW-16	Metals	02-01393-2-β	W								X
	MW-16	8270	02-01393-2-γ	W								
	MW-16	300	02-01393-2-δ	W	X	X	X	X	X	X	X	
4	MW-16D	524.2	02-01393-3-α	W								
	MW-16D	Metals	02-01393-3-β	W								X
	MW-16D	8270	02-01393-3-γ	W								
	MW-16D	300	02-01393-3-δ	W	X	X	X	X	X	X	X	

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	ALKALIN	SIM
1	TB-13	524.2	02-01393-4	W		
2	MW-13	524.2	02-01393-1-α	W		
	MW-13	Metals	02-01393-1-β	W		
	MW-13	8270	02-01393-1-γ	W		X
	MW-13	300	02-01393-1-δ	W	X	
3	MW-16	524.2	02-01393-2-α	W		
	MW-16	Metals	02-01393-2-β	W		
	MW-16	8270	02-01393-2-γ	W		X
	MW-16	300	02-01393-2-δ	W	X	
4	MW-16D	524.2	02-01393-3-α	W		
	MW-16D	Metals	02-01393-3-β	W		

56015

	MW-16D	8270	02-01393-3-γ	W		X	☐
	MW-16D	300	02-01393-3-δ	W	X		☐

☐ Client"s Requirement: **PLEASE RUN MS/MSD ON SAMPLE #1,2**

☐ **IF ENOUGH SAMPLE**

☐ **FOR 8270SIM, PLEASE INCLUDE 1,4-DIOXANE**

Login By En-Yu Paul Kou

Check By DY

APCL

Applied Physics & Chemistry Laboratory

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

February 13, 2002

SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr. Suite 212
San Diego CA 92127

Dear Yu,

This package contains samples in our Service ID 02-1267 and your project is 00HW019 JPL. Enclosed please find:

(1) One original report.
(2) One original Chain of Custody.
(3) One diskette containing EDD Deliverable.
(4) One original of Level D Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Kevin Xie, Ph.D.,
QA/QC Director
Applied P & Ch Laboratory

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 #: 801-021267
Collected by: MES/JNT
Collected on: 01/18/02

Received: 01/18/02
Extracted: N/A
Tested: 01/18-25/02
Reported: 01/30/02

Sample Description: Water from Pasadena, CA
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-1 02-01267-2	MW-14-2 02-01267-3
ALKALINITY	310.1	mg/L	2	209	239
BICARBONATE [a]	SM2320B	mg/L	2	209	239
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	<2	<2
PH	150.1	pH unit	0.01	6.98	7.43
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	802	816
Dilution Factor				20	20
CHLORIDE CL^-	300.0	mg/L	0.2	142	112
NITRATE AS N	300.0	mg/L	0.04	19.7	15.3
SULFATE SO_4^{--}	300.0	mg/L	0.5	210	179
Dilution Factor				1	1
CALCIUM	200.7	μg/L	200	154,000	149,000
IRON	200.7	μg/L	50	491	126
MAGNESIUM	200.7	μg/L	100	52,300	52,700
POTASSIUM	200.7	μg/L	400	3,210	3,040
SODIUM	200.7	μg/L	2000	46,600	34,500

Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-3 02-01267-4	MW-14-4 02-01267-5	MW-14-5 02-01267-6
ALKALINITY	310.1	mg/L	2	226	162	136
BICARBONATE [a]	SM2320B	mg/L	2	226	162	136
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
PH	150.1	pH unit	0.01	7.66	7.65	8.39
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	655	404	226
Dilution Factor				20	10	2
CHLORIDE CL^-	300.0	mg/L	0.2	101	44.1	9.2
NITRATE AS N	300.0	mg/L	0.04	15.0	11.7	0.29
SULFATE SO_4^{--}	300.0	mg/L	0.5	147	41.2	16.0
Dilution Factor				1	1	1
CALCIUM	200.7	μg/L	200	120,000	62,700	17,700
IRON	200.7	μg/L	50	36.9J	21.1J	324
MAGNESIUM	200.7	μg/L	100	48,100	21,600	13,600
POTASSIUM	200.7	μg/L	400	3,480	2,330	2,170
SODIUM	200.7	μg/L	2000	40,700	28,800	30,900

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result ER-7 02-01267-1	MW-14-1 02-01267-2	MW-14-2 02-01267-3
ARSENIC	200.9	μg/L	5	<5	<5	<5
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1
PERCHLORATE	E314	μg/L	4	<4	4.0	<4
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
CARBON TETRACHLORIDE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	<0.5	0.6	0.6
1,1-DICHLOROETHANE	524.2	μg/L	0.5	<0.5	0.7	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
METHYLENE CHLORIDE	524.2	μg/L	1	7.3	<1	<1
TETRACHLOROETHENE	524.2	μg/L	0.5	<0.5	1.2	0.8
TRICHLOROETHENE	524.2	μg/L	0.5	<0.5	0.3J	4.7
112TRICHLORO-122TRIFLUOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-14-3 02-01267-4	MW-14-4 02-01267-5	MW-14-5 02-01267-6	TB-7 02-01267-7
ARSENIC	200.9	μg/L	5	<5	<5	<5	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	E314	μg/L	4	5.9	<4	<4	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	0.6	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	μg/L	0.5	0.5J	<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
METHYLENE CHLORIDE	524.2	μg/L	1	0.3J	<1	1	0.4J
TETRACHLOROETHENE	524.2	μg/L	0.5	0.6	0.4J	<0.5	<0.5
TRICHLOROETHENE	524.2	μg/L	0.5	1.6	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	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
[a] Calculated from alkalinity result by EPA 310.1

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level D Data Package Deliverables

General Information

Project: 01HW019 JPL

APCL Service ID: 02-1267

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50200

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Case Narrative

Project: JPL/00HW019

For SOTA Environmental

APCL Service No: 02-1267

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-7	02-01267-7
MW-14-5	02-01267-6
MW-14-4	02-01267-5
ER-7	02-01267-1
MW-14-3	02-01267-4
MW-14-2	02-01267-3
MW-14-1	02-01267-2

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
E314 (Perchlorate, low level),
200.7 (Metals by ICP),
300.0 (Anions by IC),
SM2320B (Carbonate),
150.1 (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.9 (Arsenic, As, by GFAA),
310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None.

6. Anomaly

(1) 200.9 - Arsenic:

ICV analyzed on 02/25/02 at 10:56 did not contain standard and was re-analyzed on 02/25/02 at 11:16 with acceptable recovery.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Kevin Xie, Ph.D.,
QA/QC 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 ENVIR. TECH., INC. Contact: MIKE SAYRE Tel #: 858-485-8100 Fax #: 858-485-0812

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

Bill to: SOTA

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

Project Address PASADENA, CALIFORNIA APCL Quotation #

Due Date: ☐regular ☐rush: ___ days ___ hours Sampled by: MES/JNT

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOCs (524.2)	Na, K, Ca, Mg, Fe (200.7)	Total Cr & Pb (200.8)	As (200.9)	Cr VI (7196)	Perchlorate (314.0)	Carbonate, Bicarb. Alk. (310.1)	Nitrate, Sulfate, Chloride (300.0)	TDS (160.1)	pH (150.1)			Remarks
TB-7	TRIP BLANK	1/8/02	1017	WATER	HCl	2	X												
MW-14-5	MW-14-5		1037		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-14-4	MW-14-4		1122		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
ER-7	EQUIP. RINSATE		1133		HCl	3	X												
					HNO_3	2			X	X									
					—	1					X	X							
MW-14-3	MW-14-3		1208		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-14-2	MW-14-2		1245		HCl	3	X												
MW-14-2	MW-14-2		1245		HNO_3	2		X	X	X									

1267

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 1/18/02 / 1623 Received by [signature] Date/Time 1/18/02 / 1623

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

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

Chain of Custody

Please Print in pen

Client: SOTA ENVIR. TECH., INC. Contact: MIKE SAYRE Tel #: 858-485-8100 Fax #: 858-485-0812

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

Bill to: SOTA

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

Project Address PASADENA, CALIFORNIA APCL Quotation #

Due Date: ☐regular ☐rush: ___ days ___ hours Sampled by: MES/JNT

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time	Sample Matrix	Preservation	# of Containers	VOCs (524.2)	Na, K, Ca, Mg, Fe (200.7)	Total Cr & Pb (200.8)	As (200.9)	Cr-VI (7196)	Nitrate, Sulfate, Chloride (300.0)	Carbonate, Bicarb., Alk. (310.1)	Perchlorate (314.0)	TDS (160.1)	pH (150.1)			Remarks
MW-14-2	MW-14-2	1/18/02	1245	WATER	–	1					X	X	X	X	X	X			
MW-14-1	MW-14-1		1333		HCl	3	X												
					HNO_3	2		X	X	X									
					–	1					X	X	X	X	X	X			

1267

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 1/18/02 1623 Received by [signature] Date/Time 1/18/02 1623

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

Sample Receiving Checklist

APCL ServiceID: 1267 **Client Name/Project:** Sota Environmental

1. Sample Arrival

Date/Time Received 1/18/02 1623 Date/Time Opened 1/18/02 1623 By (name): Paul

Custody Transfer: ☑ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Kenny

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By:
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold ____ # Received ____
☑ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ☑ #Samples OK?
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs):

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 2.6

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ pH <2 ☐ pH >12

If Not, pH = ____ Preserved by: ☐ Client ☐ APCL ☐ Third Party

5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☑ Documented? Number: ____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☐ Date/Time ☐ Preserved?

7. Turn Around Time

☑ RUSH TAT: 5 day ☐ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☑ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: ____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:____)Date/Time:____

Received/Checked by: Paul Date: 18 Jan 2002 Time: 9:09 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

50203

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

Sample Login: Check List

02-01267 (1288_ 304) (4858100_ 304)

01/18/02

Part 1: General Information

☐ Company Information	Name:	*SOTA Environmental*
	Address:	*16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127*
☐ Project Information	Project Description:	*JPL*
	Project #:	*00HW019*
☐ Billing Information	P.O. #:	
	Bill Address:	*16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127*
	Lab Project ID:	*2002_0002*
	Client Database #:	*01*
☐ Receiving Information	Who Received Sample?	*Kenny*
	Receiving Date/Time:	*01/18/02 1623*
	COC No.	
☐ Shipping Information	Shipping Company	*by Client*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*2.6 °C*
☐ Container Information	Container Provider:	*Client*
☐ Sampling Information	Sampling Person:	
	Sampling Company:	*Client*
☐ Turn-Around-Time Option:		*Rush 5 working day(s)*
☐ QC Option:		*NEESA D*
☐ Disposal Option:		*Not specify*

050204

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	TB-7	524.2	02-01267-7	W	V	C	40	2	G	011802	N	0	7	☐
2	MW-14-5	524.2	02-01267-6-α	W	V	C	40	3	G	011802	N	0	7	☐
	MW-14-5	Metals	02-01267-6-β	W	P	N	500	1	G	011802	N	0	7	☐
	MW-14-5	300	02-01267-6-γ	W	P		500	1	G	011802	N	0	7	☐
3	MW-14-4	524.2	02-01267-5-α	W	V	C	40	3	G	011802	N	0	7	☐
	MW-14-4	Metals	02-01267-5-β	W	P	N	500	1	G	011802	N	0	7	☐
	MW-14-4	300	02-01267-5-γ	W	P		500	1	G	011802	N	0	7	☐
4	ER-7	524.2	02-01267-1-α	W	V	C	40	3	G	011802	N	0	7	☐
	ER-7	Metals	02-01267-1-β	W	P	N	500	1	G	011802	N	0	7	☐
	ER-7	300	02-01267-1-γ	W	P		500	1	G	011802	N	0	7	☐
5	MW-14-3	524.2	02-01267-4-α	W	V	C	40	3	G	011802	N	0	7	☐
	MW-14-3	Metals	02-01267-4-β	W	P	N	500	1	G	011802	N	0	7	☐
	MW-14-3	300	02-01267-4-γ	W	P		500	1	G	011802	N	0	7	☐
6	MW-14-2	524.2	02-01267-3-α	W	V	C	40	3	G	011802	N	0	7	☐
	MW-14-2	Metals	02-01267-3-β	W	P	N	500	1	G	011802	N	0	7	☐
	MW-14-2	300	02-01267-3-γ	W	P		500	1	G	011802	N	0	7	☐
7	MW-14-1	524.2	02-01267-2-α	W	V	C	40	3	G	011802	N	0	7	☐
	MW-14-1	Metals	02-01267-2-β	W	P	N	500	1	G	011802	N	0	7	☐
	MW-14-1	300	02-01267-2-γ	W	P		500	1	G	011802	N	0	7	☐

Part 3: Analysis Information

Test Items:

☐ *524.2*	Volatile Organic Compounds
☐ *7196*	Chromium (VI)
☐ *300.0*	Perchlorate, low level
☐ *200.7/6010*	Sodium, Na, by ICP
☐ *200.7/6010*	Potassium, K, by ICP
☐ *200.7/6010*	Calcium, Ca, by ICP
☐ *200.7/6010*	Magnesium, Mg, by ICP
☐ *200.7/6010*	Iron, Fe, by ICP
☐ *300.0*	Sulfate (SO_4^{--}), by IC
☐ *300.0/SM4500NO3*	Nitrate (NO_3^-) as N by IC
☐ *300.0*	Chloride Cl^- by IC
☐ *SM2320B*	Carbonate
☐ *SM2320B*	Bicarbonate
☐ *9040/150.1*	pH
☐ *160.1*	Solids, Total Dissolved (TDS)

C50205

☐ *206.2/7060* Arsenic, As, by GFAA

☐ *310.1* Alkalinity

☐ *PAH-SIM* PAH (NOAA)

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	524.2	CHROMIUM	PERCHL	NA	K	CA	MG	FE	
1	TB-7	524.2	02-01267-7	W	X								☐
2	MW-14-5	524.2	02-01267-6-α	W	X								☐
	MW-14-5	Metals	02-01267-6-β	W				X	X	X	X	X	☐
	MW-14-5	300	02-01267-6-γ	W		X	X						☐
3	MW-14-4	524.2	02-01267-5-α	W	X								☐
	MW-14-4	Metals	02-01267-5-β	W				X	X	X	X	X	☐
	MW-14-4	300	02-01267-5-γ	W		X	X						☐
4	ER-7	524.2	02-01267-1-α	W	X								☐
	ER-7	Metals	02-01267-1-β	W									☐
	ER-7	300	02-01267-1-γ	W		X	X						☐
5	MW-14-3	524.2	02-01267-4-α	W	X								☐
	MW-14-3	Metals	02-01267-4-β	W				X	X	X	X	X	☐
	MW-14-3	300	02-01267-4-γ	W		X	X						☐
6	MW-14-2	524.2	02-01267-3-α	W	X								☐
	MW-14-2	Metals	02-01267-3-β	W				X	X	X	X	X	☐
	MW-14-2	300	02-01267-3-γ	W		X	X						☐
7	MW-14-1	524.2	02-01267-2-α	W	X								☐
	MW-14-1	Metals	02-01267-2-β	W				X	X	X	X	X	☐
	MW-14-1	300	02-01267-2-γ	W		X	X						☐

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	SO4	NO3	CL	CARBONATE	BICARBON	PH	TDS	AS	
1	TB-7	524.2	02-01267-7	W									☐
2	MW-14-5	524.2	02-01267-6-α	W									☐
	MW-14-5	Metals	02-01267-6-β	W								X	☐
	MW-14-5	300	02-01267-6-γ	W	X	X	X	X	X	X	X		☐
3	MW-14-4	524.2	02-01267-5-α	W									☐
	MW-14-4	Metals	02-01267-5-β	W								X	☐
	MW-14-4	300	02-01267-5-γ	W	X	X	X	X	X	X	X		☐
4	ER-7	524.2	02-01267-1-α	W									☐
	ER-7	Metals	02-01267-1-β	W								X	☐
	ER-7	300	02-01267-1-γ	W									☐
5	MW-14-3	524.2	02-01267-4-α	W									☐
	MW-14-3	Metals	02-01267-4-β	W								X	☐
	MW-14-3	300	02-01267-4-γ	W	X	X	X	X	X	X	X		☐
6	MW-14-2	524.2	02-01267-3-α	W									☐
	MW-14-2	Metals	02-01267-3-β	W								X	☐
	MW-14-2	300	02-01267-3-γ	W	X	X	X	X	X	X	X		☐

050206

7	MW-14-1	524.2	02-01267-2-α	W									☐
	MW-14-1	Metals	02-01267-2-β	W								X	☐
	MW-14-1	300	02-01267-2-γ	W	X	X	X	X	X	X	X		☐

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	ALKALIN	SIM	
1	TB-7	524.2	02-01267-7	W			☐
2	MW-14-5	524.2	02-01267-6-α	W			☐
	MW-14-5	Metals	02-01267-6-β	W			☐
	MW-14-5	300	02-01267-6-γ	W	X		☐
3	MW-14-4	524.2	02-01267-5-α	W			☐
	MW-14-4	Metals	02-01267-5-β	W			☐
	MW-14-4	300	02-01267-5-γ	W	X		☐
4	ER-7	524.2	02-01267-1-α	W			☐
	ER-7	Metals	02-01267-1-β	W			☐
	ER-7	300	02-01267-1-γ	W			☐
5	MW-14-3	524.2	02-01267-4-α	W			☐
	MW-14-3	Metals	02-01267-4-β	W			☐
	MW-14-3	300	02-01267-4-γ	W	X		☐
6	MW-14-2	524.2	02-01267-3-α	W			☐
	MW-14-2	Metals	02-01267-3-β	W			☐
	MW-14-2	300	02-01267-3-γ	W	X		☐
7	MW-14-1	524.2	02-01267-2-α	W			☐
	MW-14-1	Metals	02-01267-2-β	W			☐
	MW-14-1	300	02-01267-2-γ	W	X		☐

☐ Client"s Requirement: **PLEA~~SE RUN MS/MSD ON SAMPLE #~~**

☐ **IF ENOUGH SAMPLE**

☐ **FOR 8270SIM, PLEASE INCLUDE 1,4-DIOXANE**

Login By En-Yu Paul Kou

Check By

050207

APCL

Applied Physics & Chemistry Laboratory

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

February 14, 2002

SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr. Suite 212
San Diego CA 92127

Dear Yu,

This package contains samples in our Service ID 02-1442 and your project is 00HW019 JPL. Enclosed please find:

(1) One original report.
(2) One original Chain of Custody.
(3) One diskette containing EDD Deliverable.
(4) One original of Level D Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Kevin Xie, Ph.D.,
QA/QC Director
Applied P & Ch Laboratory

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 #: 801-021442
Collected by: MES/JNT
Collected on: 02/01/02

Received: 02/01/02
Extracted: N/A
Tested: 02/01-11/02
Reported: 02/11/02

Sample Description: Water from Pasadena, CA
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-6 02-01442-1	MW-15 02-01442-2	MW-15D 02-01442-3	TB-16 02-01442-4
ALKALINITY	310.1	mg/L	2	249	212	214	-
BICARBONATE [a]	SM2320B	mg/L	2	249	212	214	-
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	150.1	pH unit	0.01	6.94	7.28	7.32	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	794	381	379	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	E314	μg/L	4	3.2J	<4	<4	-
Dilution Factor				12.5	5	5	1
CHLORIDE CL^-	300.0	mg/L	0.2	122	30.1	32.5	-
NITRATE AS N	300.0	mg/L	0.04	10.7	2.3	2.5	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	173	60.6	64.0	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	μg/L	5	3.4J	3.0J	3.4J	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	μg/L	200	154,000	73,600	73,400	-
IRON	200.7	μg/L	50	1,880	223	166	-
MAGNESIUM	200.7	μg/L	100	48,700	22,900	23,000	-
POTASSIUM	200.7	μg/L	400	2,960	3,510	3,460	-
SODIUM	200.7	μg/L	2000	32,900	27,400	27,500	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	0.9	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	μg/L	0.5	1.3	<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	0.7	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	μg/L	1	0.9J	1J	1J	2
TETRACHLOROETHENE	524.2	μg/L	0.5	4.6	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	μg/L	0.5	0.4J	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	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
[a] Calculated from alkalinity result by EPA 310.1

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level D Data Package Deliverables

General Information

Project: 010HW019 JPL

APCL Service ID: 02-1442

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

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

Case Narrative

Project: JPL/Pasadena, CA/00HW019

For SOTA Environmental

APCL Service No: 02-1442

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-16	02-01442-4
MW-6	02-01442-1
MW-15	02-01442-2
MW-15D	02-01442-3

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
E314 (Perchlorate, low level),
200.7 (Metals by ICP),
300.0 (Anions by IC),
SM2320B (Carbonate),
150.1 (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.9 (Arsenic, As, by GFAA),
310.1 (Alkalinity),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None.

6. Anomaly

(1) EPA 524.2:

Sample TB-16 was analyzed 14 minutes outside of 12 hour BFB tune period.

(2) EPA 314.0:

MS/MSD recoveries, spiked on sample MW-16, were outside of control limit due to an high level of perchlorate in the native sample.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Kevin Xie, Ph.D.,
QA/QC 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 ENVIRTECH., INC. Contact: MIKE SAYRE Tel #: 858-485-8100 Fax #: 858-485-0812

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

Bill to: SOTA

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

Project Address PASADENA, CALIFORNIA APCL Quotation #

Due Date: ☐regular ☐rush: ___ days ___ hours Sampled by: MES/JNT

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOCs (524.2)	Na, Ca, K, Mg, Fe (200.7)	Total Cr & Pb (200.8)	As (200.9)	Cr VI (7196)	Perchlorate (314.0)	Carbonate, Bicarb., Alk. (310.1)	Nitrate, Sulfate, Chloride (300.0)	TDS (160.1)	pH (150.1)			Remarks
TB-16	TRIP BLANK	2/1/02	917	WATER	HCl	2	X												
MW-6	MW-6		1031		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-15	MW-15		917		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-15D	MW-15 DUP~~LICATE~~				HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			

1442

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 2/1/02 / 1154 Received by [signature] Date/Time 2/1/02 / 1154A

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. Root-file:[CUST.DATA.LAB]CHAIN-ROOT.TEX File:[CUST.DATA.LAB]CHAIN4.TEX

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

Sample Receiving Checklist

APCL ServiceID: 1412 **Client Name/Project:** Sata Environmental

1. Sample Arrival

Date/Time Received 2/1/02 1154 Date/Time Opened 2/1/02 1154 By (name): [illegible]

Custody Transfer: ☑ Client ☐ Golden State ☐ UPS ☑ US Mail ☐ FedEx ☐ APCL Empl: _____

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: _____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 4
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 3.7

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☐ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☑ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: [illegible] Date: 1 Feb 2002 Time: 8:49 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

54802

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

Sample Login: Check List

02-01442 (1288_ 315) (4858100_ 315)

02/01/02

Part 1: General Information

☐	Company Information	Name:	*SOTA Environmental*
		Address:	*16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127*
☐	Project Information	Project Description:	*JPL*
		Project #:	*00HW019*
☐	Billing Information	P.O. #:	
		Bill Address:	*16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127*
		Lab Project ID:	*2002_0002*
		Client Database #:	*01*
☐	Receiving Information	Who Received Sample?	*Kenny*
		Receiving Date/Time:	*02/01/02 1154*
		COC No.	
☐	Shipping Information	Shipping Company	*by Client*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.9 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA D*
☐	Disposal Option:		*Not specify*

54893

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	TB-16	524.2	02-01442-4	W	V	C	40	2	G	020102	N	0	7	☐
2	MW-6	524.2	02-01442-1-α	W	V	C	40	3	G	020102	N	0	7	☐
	MW-6	Metals	02-01442-1-β	W	P	N	500	1	G	020102	N	0	7	☐
	MW-6	300	02-01442-1-γ	W	P		500	1	G	020102	N	0	7	☐
3	MW-15	524.2	02-01442-2-α	W	V	C	40	3	G	020102	N	0	7	☐
	MW-15	Metals	02-01442-2-β	W	P	N	500	1	G	020102	N	0	7	☐
	MW-15	300	02-01442-2-γ	W	P		500	1	G	020102	N	0	7	☐
4	MW-15D	524.2	02-01442-3-α	W	V	C	40	3	G	020102	N	0	7	☐
	MW-15D	Metals	02-01442-3-β	W	P	N	500	1	G	020102	N	0	7	☐
	MW-15D	300	02-01442-3-γ	W	P		500	1	G	020102	N	0	7	☐

Part 3: Analysis Information

Test Items:

☒	*524.2*	Volatile Organic Compounds
☒	*7196*	Chromium (VI)
☐	*300.0*	Perchlorate, low level
☐	*200.7/6010*	Sodium, Na, by ICP
☐	*200.7/6010*	Potassium, K, by ICP
☒	*200.7/6010*	Calcium, Ca, by ICP
☒	*200.7/6010*	Magnesium, Mg, by ICP
☒	*200.7/6010*	Iron, Fe, by ICP
☒	*300.0*	Sulfate (SO_4^{--}), by IC
☐	*300.0/SM4500NO3*	Nitrate (NO_3^-) as N by IC
☐	*300.0*	Chloride Cl^- by IC
☒	*SM2320B*	Carbonate
☒	*SM2320B*	Bicarbonate
☒	*9040/150.1*	pH
☒	*160.1*	Solids, Total Dissolved (TDS)
☒	*206.2/7060*	Arsenic, As, by GFAA
☒	*310.1*	Alkalinity
☐	*PAH-SIM*	PAH (NOAA)

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	524.2	CHROMIUM	PERCHL	NA	K	CA	MG	FE	
1	TB-16	524.2	02-01442-4	W	X								☐

54804

2	MW-6	524.2	02-01442-1-α	W	X									☐
	MW-6	Metals	02-01442-1-β	W					X	X	X	X	X	☐
	MW-6	300	02-01442-1-γ	W			X	X						☐
3	MW-15	524.2	02-01442-2-α	W	X									☐
	MW-15	Metals	02-01442-2-β	W					X	X	X	X	X	☐
	MW-15	300	02-01442-2-γ	W			X	X						☐
4	MW-15D	524.2	02-01442-3-α	W	X									☐
	MW-15D	Metals	02-01442-3-β	W					X	X	X	X	X	☐
	MW-15D	300	02-01442-3-γ	W			X	X						☐

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	SO4	NO3	CL	CARBONATE	BICARBON	PH	TDS	AS	
1	TB-16	524.2	02-01442-4	W									☐
2	MW-6	524.2	02-01442-1-α	W									☐
	MW-6	Metals	02-01442-1-β	W								X	☐
	MW-6	300	02-01442-1-γ	W	X	X	X	X	X	X	X		☐
3	MW-15	524.2	02-01442-2-α	W									☐
	MW-15	Metals	02-01442-2-β	W								X	☐
	MW-15	300	02-01442-2-γ	W	X	X	X	X	X	X	X		☐
4	MW-15D	524.2	02-01442-3-α	W									☐
	MW-15D	Metals	02-01442-3-β	W								X	☐
	MW-15D	300	02-01442-3-γ	W	X	X	X	X	X	X	X		☐

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	ALKALIN	SIM	
1	TB-16	524.2	02-01442-4	W			☐
2	MW-6	524.2	02-01442-1-α	W			☐
	MW-6	Metals	02-01442-1-β	W			☐
	MW-6	300	02-01442-1-γ	W	X		☐
3	MW-15	524.2	02-01442-2-α	W			☐
	MW-15	Metals	02-01442-2-β	W			☐
	MW-15	300	02-01442-2-γ	W	X		☐
4	MW-15D	524.2	02-01442-3-α	W			☐
	MW-15D	Metals	02-01442-3-β	W			☐
	MW-15D	300	02-01442-3-γ	W	X		☐

☐ Client"s Requirement: **PLEASE RUN MS/MSD ON SAMPLE #**

☐ **IF ENOUGH SAMPLE**

☐ **FOR 8270SIM, PLEASE INCLUDE 1,4-DIOXANE**

Login By En-Yu Paul Kou

54805

APCL

Applied Physics & Chemistry Laboratory

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

February 8, 2002

SOTA Environmental
Attention: Yu Zeng
16835 W. Bernardo Dr. Suite 212
San Diego CA 92127

Dear Yu,

This package contains samples in our Service ID 02-1118 and your project is 00HW019 JPL. Enclosed please find:

(1) One original report.
(2) One original Chain of Custody.
(3) One diskette containing EDD Deliverable.
(4) One original of Level D Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Kevin Xie, Ph.D.,
QA/QC Director
Applied P & Ch Laboratory

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 #: 801-021118
Collected by: MES/JNT
Collected on: 01/10/02

Received: 01/10/02
Extracted: 01/14/02
Tested: 01/11-16/02
Reported: 01/21/02

Sample Description: Water from Pasadena, CA
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-1 02-01118-2	MW-17-2 02-01118-3
ALKALINITY	310.1	mg/L	2	149	160
BICARBONATE [a]	SM2320B	mg/L	2	149	160
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	<2	<2
PH	150.1	pH unit	0.01	7.53	7.72
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	221	233
Dilution Factor				2	2
CHLORIDE CL^-	300.0	mg/L	0.2	7.9	10.1
NITRATE AS N	300.0	mg/L	0.04	0.71	0.73
SULFATE SO_4^{--}	300.0	mg/L	0.5	30.6	28.1
Dilution Factor				1	1
CALCIUM	200.7	μg/L	200	42,400	42,400
IRON	200.7	μg/L	50	16.4J	271
MAGNESIUM	200.7	μg/L	100	14,500	15,700
POTASSIUM	200.7	μg/L	400	2,140	2,150
SODIUM	200.7	μg/L	2000	14,700	14,700

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-3 02-01118-4	MW-17-4 02-01118-5	MW-17-5 02-01118-6
ALKALINITY	310.1	mg/L	2	173	173	179
BICARBONATE [a]	SM2320B	mg/L	2	173	173	179
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
PH	150.1	pH unit	0.01	8.01	7.79	7.96
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	235	269	259
Dilution Factor				2	2	2
CHLORIDE CL^-	300.0	mg/L	0.2	11.1	13.4	13.1
NITRATE AS N	300.0	mg/L	0.04	1.0	2.1	2.0
SULFATE SO_4^{--}	300.0	mg/L	0.5	33.1	32.0	31.2
Dilution Factor				1	1	1
CALCIUM	200.7	μg/L	200	41,200	47,800	46,200
IRON	200.7	μg/L	50	695	15.9J	117
MAGNESIUM	200.7	μg/L	100	19,000	13,300	13,300
POTASSIUM	200.7	μg/L	400	2,020	1,560	1,660
SODIUM	200.7	μg/L	2000	20,300	27,800	29,000
Dilution Factor				1	1	1
1,4-DIOXANE	8270-SIM	μg/L	3	<3	-	-

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 ER-2 02-01118-1	MW-17-1 02-01118-2	MW-17-2 02-01118-3
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	200.9	μg/L	5	<5	<5	<5
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
CARBON TETRACHLORIDE	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
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
METHYLENE CHLORIDE	524.2	μg/L	1	<1	7.3	15
TETRACHLOROETHENE	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
1,1,2-TRICHLORO-1,2,2-TRIFLUORO	524.2	μg/L	0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-17-3 02-01118-4	MW-17-4 02-01118-5	MW-17-5 02-01118-6	TB-2 02-01118-7
Dilution Factor				1	1	1	1
PERCHLORATE	E314	μg/L	4	6.3	11.0	14.7	-
ARSENIC	200.9	μg/L	5	2.0J	2.9J	<5	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	μg/L	0.5	0.7	<0.5	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	1.5	1.1	1.1	<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
TETRACHLOROETHENE	524.2	μg/L	0.5	<0.5	0.4J	<0.5	<0.5
TRICHLOROETHENE	524.2	μg/L	0.5	1.3	6.2	6.1	<0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUORO	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
(a) Calculated from alkalinity result by EPA 310.1

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory