Level D Data Package Deliverables

General Information

Project: 01HW019 JPL

APCL Service ID: 02-1098

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: 02-1098

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-1	02-01098-8
MW-21-5	02-01098-6
MW-21-4	02-01098-5
MW-21-3	02-01098-4
MW-21-2	02-01098-3
MW-21-1	02-01098-2
ER-1	02-01098-1
SB-1	02-01098-7

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
E314 (Perchlorate, low level),
6010B (Metals by ICP),
300.0 (Anions by IC),
9040 (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.9 (Arsenic, As, by GFAA),
310.1 (Alkalinity),
SM2320B (Bicarbonate, Carbonate),

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) 524.2:

A foreign sample (NZ-55) was used for MS/MSD. Trichloroethene recoveries in the MS/MSD were outside of control limits due to the high level of spiking analyte in the native sample.

172300

"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 2 of 2

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 SPL Job #00HW019 P.O. #

Project Address PASADENA, CA 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)	TOTAL CR & DIS (200.8)	Na, K, Ca, Mg, Fe (200.7)	NITRATE, SULFATE, CHLORIDE (300.0)	CARBONATE ALK. BICARBONATE (310.1)	CrVI (7196)	PERCHLORATE (314.0)	TDS (160.1)	pH (150.1)	As (200.9)	Remarks
MW-21-1	MW-21-1	1/9/02	1437	WATER	—	1				X	X	X	X	X	X		
ER-1	EQUIP. RINSATE		1215		HCl	3	X										
~~253~~-ER-1					HNO_3	2		X	X							X	AS ONLY BY 200.9 NO 200.7
ER-1					—	1			X			X	X				
SB-1	SOURCE BLANK		1155		HCl	2	X										

1098

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 1/9/02 / 1634 Received by [signature] Date/Time 1-9-02 / 1634

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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Chain of Custody

Please Print in pen Page 1 of 2

Client: SOTA ENVR. 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

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	VOCs (524.2)	Total Cr & Pb (200.8)	Fe, Na, K, Ca, Mg, Fe (200.7)	Nitrate, Sulfate, Chloride (300.0)	Carbonate Alk. Bicarbonate (310.1)	Cr (VI) (7196)	Perchlorate (314.0)	TDS (160.1)	pH (150.1)	As (200.9)	Remarks
TB-1	TRIP BLANK	1/8/02	940	WATER	HCl	2	X										
MW-21-5	MW-21-5		1020		HCl	3	X										
					HNO_3	2		X	X							X	
					—	1				X	X	X	X	X	X		
MW-21-4	MW-21-4		1110		HCl	3	X										
					HNO_3	2		X	X							X	
					—	1				X	X	X	X	X	X		
MW-21-3	MW-21-3		1202		HCl	3	X										
					HNO_3	2		X	X							X	
					—	1				X	X	X	X	X	X		1098
MW-21-2	MW-21-2		1355		HCl	3	X										
					HNO_3	2		X	X							X	
					—	1				X	X	X	X	X	X		
MW-21-1	MW-21-1		1437		HCl	3	X										
MW-21-1	MW-21-1		1437		HNO_3	2		X	X							X	

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 1/9/02 / 1634 Received by Richard Stinson Date/Time 1-9-02 / 1634

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

APCL USE ONLY Service # Note:

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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 2

Client: SOTA ENV. TECH., INC. Contact: MIKE SAYRE Tel #: 858-485-8400 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 # 00W009 P.O. #

Project Address PASADENA, CALIFORNIA APCL Quotation #

Due Date: ☐regular ☐rush: ___ days ___ hours Sampled by: MCS / INT

Field Sample ID No.	Sample Description	Date Collected	Time	Sample Matrix	Preservation	# of Containers	Analysis Items: VOCs (524.2); Terpenes (525.2); Nitrate, Sulfate, Phosphate (300.0); Nitrite (300.0); Carbonate, Bicarbonate (310.1); Cr(VI) (7196); Perchlorate (314.0); TDS (160.1); pH (150.1); As (200.9)	Remarks
TB-1	TRIP BLANK	1/8/02	940	WATER	HCl	2	X	
MW-21-5	MW-21-5	1/8/02	1020	WATER	HCl	3	X	
					HNO_3	2	X X	
					—	1	X X X X X X	
MW-21-4	MW-21-4		1110		HCl	3	X	
					HNO_3	2	X X	
					—	1	X X X X X X	
MW-21-3	MW-21-3		1202		HCl	3	X	
					HNO_3	2	X X	
					—	1	X X X X X X	
MW-21-2	MW-21-2		1355		HCl	3	X	
					HNO_3	2	X X	
					—	1	X X X X X X	
MW-21-1	MW-21-1		1437		HCl	3	X	
MW-21-1	MW-21-1		1437		HNO_3	2	X X	

White - With report
Yellow - Lab copy
Pink - Originator

QC Requirement: ☐Regular; ☐QA/QC Report; ☐WIP; ☐Raw Data; ☐Extended Raw Data ☐CLP; ☐ACE ☐AFCEE ☐NEESA ___ (B, 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 _____ Date/Time 1/9/02 1634 Received by _____ Date/Time 1-9-02 1634

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 4-161, Ver. 4.0, Dec. 31, 1994

01/14/2002 14:14 6194850812 SOTA ENV TECHNOLOGY PAGE 02/02

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

Sample Receiving Checklist

APCL ServiceID: 1098 **Client Name/Project:** Sota Environmental

1. Sample Arrival

Date/Time Received 1/9/02 1634 Date/Time Opened 1/10/02 0830 By (name): Paul

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

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 3.4 _____ _____ _____ _____ _____
(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: 5day ☐ 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: 9 Jan 2002 Time: 9:53 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.

172302

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

Sample Login: Check List

02-01098 (1288_ 296) (4858100_ 296)

01/10/02

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?	*Paul*
	Receiving Date/Time:	*01/09/02 1634*
	COC No.	
☐ Shipping Information	Shipping Company	*APCL pick up*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*3.4 °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*

172303

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-1	524.2	02-01098-8	W	V	C	40	3	G	010802	N	0	7	☐
2	MW-21-5	524.2	02-01098-6-α	W	V	C	40	3	G	010802	N	0	7	☐
	MW-21-5	300	02-01098-6-β	W	P		500	1	G	010802	N	0	7	☐
	MW-21-5	Metal	02-01098-6-γ	W	P	N	500	1	G	010802	N	0	7	☐
3	MW-21-4	524.2	02-01098-5-α	W	V	C	40	3	G	010802	N	0	7	☐
	MW-21-4	300	02-01098-5-β	W	P		500	1	G	010802	N	0	7	☐
	MW-21-4	Metal	02-01098-5-γ	W	P	N	500	1	G	010802	N	0	7	☐
4	MW-21-3	524.2	02-01098-4-α	W	V	C	40	3	G	010802	N	0	7	☐
	MW-21-3	300	02-01098-4-β	W	P		500	1	G	010802	N	0	7	☐
	MW-21-3	Metal	02-01098-4-γ	W	P	N	500	1	G	010802	N	0	7	☐
5	MW-21-2	524.2	02-01098-3-α	W	V	C	40	3	G	010802	N	0	7	☐
	MW-21-2	300	02-01098-3-β	W	P		500	1	G	010802	N	0	7	☐
	MW-21-2	Metal	02-01098-3-γ	W	P	N	500	1	G	010802	N	0	7	☐
6	MW-21-1	524.2	02-01098-2-α	W	V	C	40	3	G	010802	N	0	7	☐
	MW-21-1	300	02-01098-2-β	W	P		500	1	G	010802	N	0	7	☐
	MW-21-1	Metal	02-01098-2-γ	W	P	N	500	1	G	010802	N	0	7	☐
7	ER-1	524.2	02-01098-1-α	W	V	C	40	3	G	010802	N	0	7	☐
	ER-1	300	02-01098-1-β	W	P		500	1	G	010802	N	0	7	☐
	ER-1	Metal	02-01098-1-γ	W	P	N	500	1	G	010802	N	0	7	☐
8	SB-1	524.2	02-01098-7	W	V	C	40	3	G	010802	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

172304

☐ 160.1 Solids, Total Dissolved (TDS)

☐ 206.2/7060 Arsenic, As, by GFAA

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-1	524.2	02-01098-8	W	X							
2	MW-21-5	524.2	02-01098-6-α	W	X							
	MW-21-5	300	02-01098-6-β	W		X	X					
	MW-21-5	Metal	02-01098-6-γ	W				X	X	X	X	X
3	MW-21-4	524.2	02-01098-5-α	W	X							
	MW-21-4	300	02-01098-5-β	W		X	X					
	MW-21-4	Metal	02-01098-5-γ	W				X	X	X	X	X
4	MW-21-3	524.2	02-01098-4-α	W	X							
	MW-21-3	300	02-01098-4-β	W		X	X					
	MW-21-3	Metal	02-01098-4-γ	W				X	X	X	X	X
5	MW-21-2	524.2	02-01098-3-α	W	X							
	MW-21-2	300	02-01098-3-β	W		X	X					
	MW-21-2	Metal	02-01098-3-γ	W				X	X	X	X	X
6	MW-21-1	524.2	02-01098-2-α	W	X							
	MW-21-1	300	02-01098-2-β	W		X	X					
	MW-21-1	Metal	02-01098-2-γ	W				X	X	X	X	X
7	ER-1	524.2	02-01098-1-α	W	X							
	ER-1	300	02-01098-1-β	W		X	X					
	ER-1	Metal	02-01098-1-γ	W				X	X	X	X	X
8	SB-1	524.2	02-01098-7	W	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-1	524.2	02-01098-8	W								
2	MW-21-5	524.2	02-01098-6-α	W								
	MW-21-5	300	02-01098-6-β	W	X	X	X	X	X	X	X	
	MW-21-5	Metal	02-01098-6-γ	W								X
3	MW-21-4	524.2	02-01098-5-α	W								
	MW-21-4	300	02-01098-5-β	W	X	X	X	X	X	X	X	
	MW-21-4	Metal	02-01098-5-γ	W								X
4	MW-21-3	524.2	02-01098-4-α	W								
	MW-21-3	300	02-01098-4-β	W	X	X	X	X	X	X	X	
	MW-21-3	Metal	02-01098-4-γ	W								X
5	MW-21-2	524.2	02-01098-3-α	W								
	MW-21-2	300	02-01098-3-β	W	X	X	X	X	X	X	X	
	MW-21-2	Metal	02-01098-3-γ	W								X
6	MW-21-1	524.2	02-01098-2-α	W								
	MW-21-1	300	02-01098-2-β	W	X	X	X	X	X	X	X	
	MW-21-1	Metal	02-01098-2-γ	W								X
7	ER-1	524.2	02-01098-1-α	W								

172305

	ER-1	300	02-01098-1-β	W		☐
	ER-1	Metal	02-01098-1-γ	W		☐
8	SB-1	524.2	02-01098-7	W	X	☐
						☐

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

☐ **IF ENOUGH SAMPLE**

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

Login By En-Yu Paul Kou

Check By PK

172306

APCL

Applied Physics & Chemistry Laboratory

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

February 12, 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 02-1368 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 #: 801-021368
Collected by: MES/JNT
Collected on: 01/28/02

Received: 01/28/02
Extracted: N/A
Tested: 01/29-02/04/02
Reported: 02/07/02

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

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-1 02-01368-2	MW-22-2 02-01368-3
ALKALINITY	310.1	mg/L	2	275	181
BICARBONATE [a]	SM2320B	mg/L	2	275	181
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	< 2	< 2
PH	150.1	pH unit	0.01	7.17	7.88
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	773	361
Dilution Factor				20	5
CHLORIDE CL$^-$	300.0	mg/L	0.2	129	46.7
NITRATE AS N	300.0	mg/L	0.04	13.2	7.8
SULFATE SO_4^{--}	300.0	mg/L	0.5	193	45.2
Dilution Factor				1	1
CALCIUM	200.7	μg/L	200	150,000	61,900
IRON	200.7	μg/L	50	726	51.0
MAGNESIUM	200.7	μg/L	100	51,100	22,200
POTASSIUM	200.7	μg/L	400	3,090	2,230
SODIUM	200.7	μg/L	2000	35,500	31,500

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-3 02-01368-4	MW-22-4 02-01368-5	MW-22-5 02-01368-6
ALKALINITY	310.1	mg/L	2	145	141	128
BICARBONATE [a]	SM2320B	mg/L	2	145	141	93.7
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	< 2	< 2	34.1
PH	150.1	pH unit	0.01	8.07	8.06	8.74
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	309	219	205
Dilution Factor				4	2	2
CHLORIDE CL$^-$	300.0	mg/L	0.2	32.6	13.0	9.2
NITRATE AS N	300.0	mg/L	0.04	9.2	4.7	< 0.08
SULFATE SO_4^{--}	300.0	mg/L	0.5	27.2	8.4	34.7
Dilution Factor				1	1	1
CALCIUM	200.7	μg/L	200	46,800	32,900	10,700
IRON	200.7	μg/L	50	53.8	48.8J	25.0J
MAGNESIUM	200.7	μg/L	100	14,400	9,610	2,380
POTASSIUM	200.7	μg/L	400	1,990	1,600	1,170
SODIUM	200.7	μg/L	2000	35,200	27,100	65,900

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result ER-12 02-01368-1	MW-22-1 02-01368-2	MW-22-2 02-01368-3
ARSENIC	200.9	µg/L	5	1.9J	<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	<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	0.3J	0.5J	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	0.4J	<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	8.1	0.5J	0.8J
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	2.3	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	0.3J
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-3 02-01368-4	MW-22-4 02-01368-5	MW-22-5 02-01368-6	TB-12 02-01368-7
ARSENIC	200.9	µg/L	5	1.8J	1.6J	1.8J	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	E314	µg/L	4	4.3	<4	<4	-

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-3 02-01368-4	MW-22-4 02-01368-5	MW-22-5 02-01368-6	TB-12 02-01368-7
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	<0.5	<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
METHYLENE CHLORIDE	524.2	µg/L	1	0.6J	0.8J	0.5J	-
TETRACHLOROETHENE	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-22-3 02-01368-4	MW-22-4 02-01368-5	MW-22-5 02-01368-6	TB-12 02-01368-7
TRICHLOROETHENE	524.2	μg/L	0.5	<0.5	<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: 02-1368

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: 02-1368

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-12	02-01368-7
MW-22-5	02-01368-6
MW-22-4	02-01368-5
MW-22-3	02-01368-4
MW-22-2	02-01368-3
MW-22-1	02-01368-2
ER-12	02-01368-1

2. Analytical Methodology

Samples are analyzed by EPA methods

EPA 524.2 (Volatile Organic Compounds),
EPA 7196 (Chromium (VI)),
EPA E314 (Perchlorate, low level),
EPA 300.0 (Nitrate (NO_3^-) as N by IC),
SM2320B (Carbonate),
EPA 150.1 (pH),
EPA 160.1 (Solids, Total Dissolved (TDS)),
EPA 206.9 (Arsenic, As, by GFAA),
EPA 200.7/6010 (Sodium, Na, by ICP),
EPA 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

None

"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 2

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

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-12	TRIP BLANK	1/28/02	11:01	WATER	HCl	2	X										
MW-22-5	MW-22-5		11:31		HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
MW-22-4	MW-22-4		12:46		HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
MW-22-3	MW-22-3		13:30		HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
MW-22-2	MW-22-2		14:23		HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
MW-22-1	MW-22-1		15:02		HCl	3	X										
MW-22-1	MW-22-1		15:02		HNO_3	2		X	X	X							

White – With report
Yellow – Lab copy
Pink – Originator

1368

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 1/28/02 / 1650 Received by [signature] Date/Time 01-28-02 / 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

APCL

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

Chain of Custody

Please Print in pen Page 2 of 2

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

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)	6423 on HPLC, B, CHROM. ALK. (310.1)	NITRATE, SULFATE, CHLORIDE (300.0)	TDS (160.1)	pH (150.1)	Remarks
MW-22-1	MW-22-1	1/28/02	15:02	WATER	—	1					X	X	X	X	X	X	
ER-12	EQUIP. RINSATE		12:28		HCl	3	X										
					HNO_3	2			X	X							
					—	1					X	X					

White – With report
Yellow – Lab copy
Pink – Originator

1368

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 _____ Date/Time 1/28/02 / 1650 Received by Richard Stevens Date/Time 01-28-02 / 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
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 1368 **Client Name/Project:** Sota Environmental

1. Sample Arrival

Date/Time Received 1/28/02 1650 Date/Time Opened 1/28/02 1745 By (name): Richard

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

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: ____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold ____ # Received 7
☑ 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 4.2

(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: Kenny Date: 28 Jan 2002 Time: 9:00 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.

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

Sample Login: Check List

02-01368 (1288_ 310) (4858100_ 310)

01/29/02

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?	*Richard*
	Receiving Date/Time:	*01/28/02 1650*
	COC No.	
☐ Shipping Information	Shipping Company	*APCL pick up*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*4.2 °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*

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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-12	524.2	02-01368-7	W	V	C	40	2	G	012802	N	0	6	☐
2	MW-22-5	524.2	02-01368-6-α	W	V	C	40	3	G	012802	N	0	6	☐
	MW-22-5	Metals	02-01368-6-β	W	P	N	500	1	G	012802	N	0	6	☐
	MW-22-5	300	02-01368-6-γ	W	P		500	1	G	012802	N	0	6	☐
3	MW-22-4	524.2	02-01368-5-α	W	V	C	40	3	G	012802	N	0	6	☐
	MW-22-4	Metals	02-01368-5-β	W	P	N	500	1	G	012802	N	0	6	☐
	MW-22-4	300	02-01368-5-γ	W	P		500	1	G	012802	N	0	6	☐
4	MW-22-3	524.2	02-01368-4-α	W	V	C	40	3	G	012802	N	0	6	☐
	MW-22-3	Metals	02-01368-4-β	W	P	N	500	1	G	012802	N	0	6	☐
	MW-22-3	300	02-01368-4-γ	W	P		500	1	G	012802	N	0	6	☐
5	MW-22-2	524.2	02-01368-3-α	W	V	C	40	3	G	012802	N	0	6	☐
	MW-22-2	Metals	02-01368-3-β	W	P	N	500	1	G	012802	N	0	6	☐
	MW-22-2	300	02-01368-3-γ	W	P		500	1	G	012802	N	0	6	☐
6	MW-22-1	524.2	02-01368-2-α	W	V	C	40	3	G	012802	N	0	6	☐
	MW-22-1	Metals	02-01368-2-β	W	P	N	500	1	G	012802	N	0	6	☐
	MW-22-1	300	02-01368-2-γ	W	P		500	1	G	012802	N	0	6	☐
7	ER-12	524.2	02-01368-1-α	W	V	C	40	3	G	012802	N	0	6	☐
	ER-12	Metals	02-01368-1-β	W	P	N	500	1	G	012802	N	0	6	☐
	ER-12	300	02-01368-1-γ	W	P		500	1	G	012802	N	0	6	☐

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)

5414

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 02-1314 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 #: 801-021314
Collected by: MES/JNT
Collected on: 01/23/02

Received: 01/23/02
Extracted: N/A
Tested: 01/24-28/02
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 ER-9 02-01314-1	MW-23-1 02-01314-2	MW-23-2 02-01314-3	MW-23-3 02-01314-4
ALKALINITY	310.1	mg/L	2	-	277	215	145
BICARBONATE [a]	SM2320B	mg/L	2	-	277	215	145
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	-	<2	<2	<2
PH	150.1	pH unit	0.01	-	7.35	7.61	8.01
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	-	809	663	263
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1	1
PERCHLORATE	E314	µg/L	4	<4	<4	4.0	<4
Dilution Factor				1	20	12.5	5
CHLORIDE CL^-	300.0	mg/L	0.2	-	123	112	25.9
NITRATE AS N	300.0	mg/L	0.04	-	14.8	14.0	8.8
SULFATE SO_4^{--}	300.0	mg/L	0.5	-	195	157	18.4
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	1.8J	<5	<5
CALCIUM	200.7	µg/L	200	-	156,000	123,000	46,700
IRON	200.7	µg/L	50	-	1,320	39.9J	20.1J
MAGNESIUM	200.7	µg/L	100	-	50,800	41,900	14,500
POTASSIUM	200.7	µg/L	400	-	3,170	3,010	1,870
SODIUM	200.7	µg/L	2000	-	35,200	35,900	27,800
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	<0.5	0.5	0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	0.7	<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	0.9J	<1	0.9J	0.9J
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	1.4	0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	1.3	1.1	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<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-23-4 02-01314-5	MW-23-5 02-01314-6	MW-23-3D 02-01314-7	TB-9 02-01314-8
ALKALINITY	310.1	mg/L	2	136	205	143	-
BICARBONATE [a]	SM2320B	mg/L	2	136	117	143	-
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	<2	87.8	<2	-
PH	150.1	pH unit	0.01	8.22	9.60	7.87	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	241	272	276	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	E314	µg/L	4	<4	<4	<4	-
Dilution Factor				4	2	4	1
CHLORIDE CL^-	300.0	mg/L	0.2	18.5	14.1	29.9	-
NITRATE AS N	300.0	mg/L	0.04	7.4	<0.08	10.0	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	10.1	14.3	19.9	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	3.4J	<5	-
CALCIUM	200.7	µg/L	200	35,500	5,100	46,600	-
IRON	200.7	µg/L	50	62.1	122	119	-
MAGNESIUM	200.7	µg/L	100	11,900	453	14,400	-
POTASSIUM	200.7	µg/L	400	1,920	2,340	1,880	-
SODIUM	200.7	µg/L	2000	28,800	111,000	27,800	-
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	<0.5	<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
METHYLENE CHLORIDE	524.2	µg/L	1	<1	0.9J	2	1J
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	0.5J	0.6	0.4J	<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: 02-1314

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

2300

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: 02-1314

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-9	02-01314-8
MW-23-5	02-01314-6
MW-23-4	02-01314-5
MW-23-3	02-01314-4
MW-23-3D	02-01314-7
ER-9	02-01314-1
MW-23-2	02-01314-3
MW-23-1	02-01314-2

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.

052301

"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

052302

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 2

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 #001W019 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-9	TRIP BLANK	1/23/02	9:51	WATER	HCl	2	X										
MW-23-5	MW-23-5		10:38		HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
MW-23-4	MW-23-4		11:50		HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
MW-23-3	MW-23-3		12:50		HCl	3	X										
					HNO_3	2		X	X	X							1314
					—	1					X	X	X	X	X	X	
MW-23-3D	MW-23-3 DUP.				HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
ER-8	EQUIP. RINSATE		13:06		HCl	3	X										
ER-9	EQUIP. RINSATE		13:06		HNO_3	2			X	X							

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 _____ Date/Time 1/23/02 1657 Received by _____ Date/Time 1/23/01 1657

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 Page 2 of 2

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	Analysis • Items: VOCs (524.2)	Mg, Ca, K, Na, Fe (200.7)	Total Cr & P (200.9)	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
ER-9	EQUIP. RINSATE	1/23/02	13:06	WATER	–	1					X	X					
MW-23-2	MW-23-2		14:10		HCl	3	X										
					HNO_3	2		X	X	X							
					–	1					X	X	X	X	X	X	
MW-23-1	MW-23-1		15:02		HCl	3	X										
					HNO_3	2		X	X	X							
					–	1					X	X	X	X	X	X	

1314

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 _____ Date/Time 1/23/02 1657 Received by _____ Date/Time 1/23/02 16:57

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: 1314 **Client Name/Project:** Sota Environmental

1. Sample Arrival

Date/Time Received 1/23/02 1657 Date/Time Opened 1/24/02 0830 By (name): Paul
Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Roy

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 2.1 _____ _____ _____ _____ _____
(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: 23 Jan 2002 Time: 9:05 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.

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52303

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

Sample Login: Check List

02-01314 (1288_ 305) (4858100_ 305)

01/24/02

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?	*Paul*
	Receiving Date/Time:	*01/23/02 1657*
	COC No.	
☐ Shipping Information	Shipping Company	*APCL pick up*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*2.1 °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*

C52304

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-9	524.2	02-01314-8	W	V	C	40	2	G	012302	N	0	7	☐
2	MW-23-5	524.2	02-01314-6-α	W	V	C	40	3	G	012302	N	0	7	☐
	MW-23-5	Metals	02-01314-6-β	W	P	N	500	1	G	012302	N	0	7	☐
	MW-23-5	300	02-01314-6-γ	W	P		500	1	G	012302	N	0	7	☐
3	MW-23-4	524.2	02-01314-5-α	W	V	C	40	3	G	012302	N	0	7	☐
	MW-23-4	Metals	02-01314-5-β	W	P	N	500	1	G	012302	N	0	7	☐
	MW-23-4	300	02-01314-5-γ	W	P		500	1	G	012302	N	0	7	☐
4	MW-23-3	524.2	02-01314-4-α	W	V	C	40	3	G	012302	N	0	7	☐
	MW-23-3	Metals	02-01314-4-β	W	P	N	500	1	G	012302	N	0	7	☐
	MW-23-3	300	02-01314-4-γ	W	P		500	1	G	012302	N	0	7	☐
5	MW-23-3D	524.2	02-01314-7-α	W	V	C	40	3	G	012302	N	0	7	☐
	MW-23-3D	Metals	02-01314-7-β	W	P	N	500	1	G	012302	N	0	7	☐
	MW-23-3D	300	02-01314-7-γ	W	P		500	1	G	012302	N	0	7	☐
6	ER-9	524.2	02-01314-1-α	W	V	C	40	3	G	012302	N	0	7	☐
	ER-9	Metals	02-01314-1-β	W	P	N	500	1	G	012302	N	0	7	☐
	ER-9	300	02-01314-1-γ	W	P		500	1	G	012302	N	0	7	☐
7	MW-23-2	524.2	02-01314-3-α	W	V	C	40	3	G	012302	N	0	7	☐
	MW-23-2	Metals	02-01314-3-β	W	P	N	500	1	G	012302	N	0	7	☐
	MW-23-2	300	02-01314-3-γ	W	P		500	1	G	012302	N	0	7	☐
8	MW-23-1	524.2	02-01314-2-α	W	V	C	40	3	G	012302	N	0	7	☐
	MW-23-1	Metals	02-01314-2-β	W	P	N	500	1	G	012302	N	0	7	☐
	MW-23-1	300	02-01314-2-γ	W	P		500	1	G	012302	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

t52305

☑ *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-9	524.2	02-01314-8	W	X								☑
2	MW-23-5	524.2	02-01314-6-α	W	X								☐
	MW-23-5	Metals	02-01314-6-β	W				X	X	X	X	X	☐
	MW-23-5	300	02-01314-6-γ	W		X	X						☐
3	MW-23-4	524.2	02-01314-5-α	W	X								☐
	MW-23-4	Metals	02-01314-5-β	W				X	X	X	X	X	☐
	MW-23-4	300	02-01314-5-γ	W		X	X						☐
4	MW-23-3	524.2	02-01314-4-α	W	X								☐
	MW-23-3	Metals	02-01314-4-β	W				X	X	X	X	X	☐
	MW-23-3	300	02-01314-4-γ	W		X	X						☐
5	MW-23-3D	524.2	02-01314-7-α	W	X								☐
	MW-23-3D	Metals	02-01314-7-β	W				X	X	X	X	X	☐
	MW-23-3D	300	02-01314-7-γ	W		X	X						☐
6	ER-9	524.2	02-01314-1-α	W	X								☐
	ER-9	Metals	02-01314-1-β	W									☐
	ER-9	300	02-01314-1-γ	W		X	X						☐
7	MW-23-2	524.2	02-01314-3-α	W	X								☐
	MW-23-2	Metals	02-01314-3-β	W				X	X	X	X	X	☐
	MW-23-2	300	02-01314-3-γ	W		X	X						☐
8	MW-23-1	524.2	02-01314-2-α	W	X								☐
	MW-23-1	Metals	02-01314-2-β	W				X	X	X	X	X	☐
	MW-23-1	300	02-01314-2-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-9	524.2	02-01314-8	W									☐
2	MW-23-5	524.2	02-01314-6-α	W									☐
	MW-23-5	Metals	02-01314-6-β	W								X	☐
	MW-23-5	300	02-01314-6-γ	W	X	X	X	X	X	X	X		☐
3	MW-23-4	524.2	02-01314-5-α	W									☐
	MW-23-4	Metals	02-01314-5-β	W								X	☐
	MW-23-4	300	02-01314-5-γ	W	X	X	X	X	X	X	X		☐
4	MW-23-3	524.2	02-01314-4-α	W									☐
	MW-23-3	Metals	02-01314-4-β	W								X	☐

52306

	MW-23-3	300	02-01314-4-γ	W	X	X	X	X	X	X	X		☐
5	MW-23-3D	524.2	02-01314-7-α	W									☐
	MW-23-3D	Metals	02-01314-7-β	W								X	☐
	MW-23-3D	300	02-01314-7-γ	W	X	X	X	X	X	X	X		☐
6	ER-9	524.2	02-01314-1-α	W									☐
	ER-9	Metals	02-01314-1-β	W								X	☐
	ER-9	300	02-01314-1-γ	W									☐
7	MW-23-2	524.2	02-01314-3-α	W									☐
	MW-23-2	Metals	02-01314-3-β	W								X	☐
	MW-23-2	300	02-01314-3-γ	W	X	X	X	X	X	X	X		☐
8	MW-23-1	524.2	02-01314-2-α	W									☐
	MW-23-1	Metals	02-01314-2-β	W								X	☐
	MW-23-1	300	02-01314-2-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-9	524.2	02-01314-8	W			☐
2	MW-23-5	524.2	02-01314-6-α	W			☐
	MW-23-5	Metals	02-01314-6-β	W			☐
	MW-23-5	300	02-01314-6-γ	W	X		☐
3	MW-23-4	524.2	02-01314-5-α	W			☐
	MW-23-4	Metals	02-01314-5-β	W			☐
	MW-23-4	300	02-01314-5-γ	W	X		☐
4	MW-23-3	524.2	02-01314-4-α	W			☐
	MW-23-3	Metals	02-01314-4-β	W			☐
	MW-23-3	300	02-01314-4-γ	W	X		☐
5	MW-23-3D	524.2	02-01314-7-α	W			☐
	MW-23-3D	Metals	02-01314-7-β	W			☐
	MW-23-3D	300	02-01314-7-γ	W	X		☐
6	ER-9	524.2	02-01314-1-α	W			☐
	ER-9	Metals	02-01314-1-β	W			☐
	ER-9	300	02-01314-1-γ	W			☐
7	MW-23-2	524.2	02-01314-3-α	W			☐
	MW-23-2	Metals	02-01314-3-β	W			☐
	MW-23-2	300	02-01314-3-γ	W	X		☐
8	MW-23-1	524.2	02-01314-2-α	W			☐
	MW-23-1	Metals	02-01314-2-β	W			☐
	MW-23-1	300	02-01314-2-γ	W	X		☐

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

☐ IF ENOUGH SAMPLE

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

052307

Login By En-Yu Paul Kou

Check By

52308

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 02-1336 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 #: 801-021336
Collected by: MES/JNT
Collected on: 01/24/02

Received: 01/24/02
Extracted: 01/29/02
Tested: 01/24-31/02
Reported: 02/06/02

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

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-10 02-01336-1	MW-24-1 02-01336-2	MW-24-2 02-01336-3	MW-24-3 02-01336-4
ALKALINITY	310.1	mg/L	2	-	153	146	156
BICARBONATE [a]	SM2320B	mg/L	2	-	153	146	156
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	-	<2	<2	<2
PH	150.1	pH unit	0.01	-	7.72	8.30	8.57
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	-	358	309	275
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Dilution Factor				1	20	1	1
PERCHLORATE	E314	µg/L	4	<4	1,460	11.6	<4
Dilution Factor				1	4	8	4
CHLORIDE CL^-	300.0	mg/L	0.2	-	24.1	50.9	20.0
NITRATE AS N	300.0	mg/L	0.04	-	6.8	2.4	1.6
SULFATE SO_4^{--}	300.0	mg/L	0.5	-	70.6	34.6	16.0
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	1.7J	2.2J	4.3J
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	-	56,700	35,900	26,200
IRON	200.7	µg/L	50	-	350	48.9J	1,740
MAGNESIUM	200.7	µg/L	100	-	18,000	19,300	12,400
POTASSIUM	200.7	µg/L	400	-	2,720	3,060	2,240
SODIUM	200.7	µg/L	2000	-	18,700	40,800	41,500
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	24.2	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	9.3	<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	0.5J	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	0.7	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	1	-	-	-	1.4
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	1.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	7.6	0.4J	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<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-24-4 02-01336-5	MW-24-5 02-01336-6	MW-24-5D 02-01336-7	TB-10 02-01336-8
ALKALINITY	310.1	mg/L	2	134	170	172	-
BICARBONATE [a]	SM2320B	mg/L	2	104	170	172	-
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	29.8	<2	<2	-
PH	150.1	pH unit	0.01	8.66	8.14	8.12	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	192	243	246	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	E314	µg/L	4	<4	<4	<4	-
Dilution Factor				2	2	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	15.8	13.9	10.7	-
NITRATE AS N	300.0	mg/L	0.04	2.6	1.8	1.4	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	9.0	26.6	21.3	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	1.9J	3.2J	3.9J	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	14,000	35,600	36,500	-
IRON	200.7	µg/L	50	60.4	30.4J	94.8	-
MAGNESIUM	200.7	µg/L	100	10,700	8,760	8,860	-
POTASSIUM	200.7	µg/L	400	2,310	1,880	1,900	-
SODIUM	200.7	µg/L	2000	43,000	39,000	39,700	-
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	<0.5	<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
METHYLENE CHLORIDE	524.2	µg/L	1	-	-	-	1.1
TETRACHLOROETHENE	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
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-1 02-01336-2
Dilution Factor				1
1,4-DIOXANE	8270-SIM	µg/L	3	3

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 310.1

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level D Data Package Deliverables

General Information

Project: 00HW019 JPL

APCL Service ID: 02-1336

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: 02-1336

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-10	02-01336-8
MW-24-5	02-01336-6
MW-24-5D	02-01336-7
MW-24-4	02-01336-5
ER-10	02-01336-1
MW-24-3	02-01336-4
MW-24-2	02-01336-3
MW-24-1	02-01336-2

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
E314 (Perchlorate, low level),
200.7 (Sodium, Potassium,Magnesium,Iron,Calcium, by ICP),
300.0 (Nitrate as N by IC),
300.0 (Chloride CL^- as N by IC),
300.0 (Sulfate SO_4^{--} as N by IC),
SM2320B (Carbonate,Bicarbonate),
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

55400

None

"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 2

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)	PEACHLOROATE (314.0)	CARBONATE, BICARB. ALK. (310.1)	NITRATE, SULFATE, CHLORIDE (300.0)	TDS (160.1)	PH (150.1)	Remarks
TB-10	TRIP BLANK	1/24/02	10:03	WATER	HCl	2	X										
MW-24-5	MW-24-5		10:42		HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
MW-24-5D	MW-24-5 DUPLICATE				HCl	3	X										
					HNO_3	2		X	X	X							
					—	1					X	X	X	X	X	X	
MW-24-4	MW-24-4		12:06		HCl	9	X										MS/MSD ON ALL EXCEPT: 200.7, 300.0, 310.1, 160.1 & 150.1
					HNO_3	2		X	X	X							
					—	2					X	X	X	X	X	X	
ER-10	EQUIP. RINSATE		13:03		HCl	3	X										
					HNO_3	2		X	X	X							NO 200.7
					—	1					X	X					
MW-24-3	MW-24-3		13:15		HCl	3	X										
MW-24-3	MW-24-3		13:15		HNO_3	2		X	X	X							

1336

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 _____ Date/Time 1/24/02 / 1633 Received by _____ Date/Time 1/24/02 / 16:33

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 Page 2 of 2

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	Analysis Items: 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
MW-24-3	MW-24-3	1/24/03	13:15	WATER	—	1	Cr VI, Perchlorate, Carbonate, Bicarb. Alk., Nitrate, Sulfate, Chloride, TDS, pH	
MW-24-2	MW-24-2		14:03		HCl	3	VOCs	
					HNO_3	2	Na, K, Ca, Mg, Fe; Total Cr & Pb; As	
					—	1	Cr VI, Perchlorate, Carbonate, Bicarb. Alk., Nitrate, Sulfate, Chloride, TDS, pH	
MW-24-1	MW-24-1		14:34		HCl	3	VOCs	
					HNO_3	2	Na, K, Ca, Mg, Fe; Total Cr & Pb; As	
					—	1	Cr VI, Perchlorate, Carbonate, Bicarb. Alk., Nitrate, Sulfate, Chloride, TDS, pH	
					—	X 1	1,4 Dioxane	
					—	X 1	NDMA	

1336

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 _____ Date/Time 1/24/02 1633 Received by _____ Date/Time 1-24-02 16:33

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

Sample Receiving Checklist

APCL ServiceID: 1336 **Client Name/Project:** Safe Environmental

1. Sample Arrival

Date/Time Received 1/24/02 1633 Date/Time Opened 1/25/02 0833 By (name): Paul

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

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: 5day ☐ 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: 24 Jan 2002 Time: 8:37a.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.

55402

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

Sample Login: Check List

02-01336 (1288_ 307) (4858100_ 307)

01/25/02

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?	*Paul*
		Receiving Date/Time:	*01/24/02 1633*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		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*

55403

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-10	524.2	02-01336-8	W	V	C	40	2	G	012402	N	0	7	☐
2	MW-24-5	524.2	02-01336-6-α	W	V	C	40	3	G	012402	N	0	7	☐
	MW-24-5	Metals	02-01336-6-β	W	P	N	500	1	G	012402	N	0	7	☐
	MW-24-5	300	02-01336-6-γ	W	P		500	1	G	012402	N	0	7	☐
3	MW-24-5D	524.2	02-01336-7-α	W	V	C	40	3	G	012402	N	0	7	☐
	MW-24-5D	Metals	02-01336-7-β	W	P	N	500	1	G	012402	N	0	7	☐
	MW-24-5D	300	02-01336-7-γ	W	P		500	1	G	012402	N	0	7	☐
4	MW-24-4	524.2	02-01336-5-α	W	V	C	40	9	G	012402	N	0	7	☐
	MW-24-4	Metals	02-01336-5-β	W	P	N	500	1	G	012402	N	0	7	☐
	MW-24-4	300	02-01336-5-γ	W	P		500	2	G	012402	N	0	7	☐
5	ER-10	524.2	02-01336-1-α	W	V	C	40	3	G	012402	N	0	7	☐
	ER-10	Metals	02-01336-1-β	W	P	N	500	1	G	012402	N	0	7	☐
	ER-10	300	02-01336-1-γ	W	P		500	1	G	012402	N	0	7	☐
6	MW-24-3	524.2	02-01336-4-α	W	V	C	40	3	G	012402	N	0	7	☐
	MW-24-3	Metals	02-01336-4-β	W	P	N	500	1	G	012402	N	0	7	☐
	MW-24-3	300	02-01336-4-γ	W	P		500	1	G	012402	N	0	7	☐
7	MW-24-2	524.2	02-01336-3-α	W	V	C	40	3	G	012402	N	0	7	☐
	MW-24-2	Metals	02-01336-3-β	W	P	N	500	1	G	012402	N	0	7	☐
	MW-24-2	300	02-01336-3-γ	W	P		500	1	G	012402	N	0	7	☐
8	MW-24-1	524.2	02-01336-2-α	W	V	C	40	3	G	012402	N	0	7	☐
	MW-24-1	Metals	02-01336-2-β	W	P	N	500	1	G	012402	N	0	7	☐
	MW-24-1	300	02-01336-2-γ	W	P		500	1	G	012402	N	0	7	☐
	MW-24-1	8270	02-01336-2-δ	W	G		1000	1	G	012402	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

55404

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 #: 801-021498
Collected by:
Collected on: 02/05/02

Received: 02/05/02
Extracted: N/A
Tested: N/A
Reported: 03/08/02

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-13 02-01498-1	Analysis Result MW-4-2 02-01498-2
NITROSAMINES BY HRMS [a]					

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] Subcontracted to Maxxam Analytics Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory