Level D Data Package Deliverables

General Information

Project: 010HW019 JPL

APCL Service ID: 02-1355

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: 02-1355

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-11	02-01355-7
MW-11-5	02-01355-6
MW-11-4	02-01355-5
MW-11-3	02-01355-4
MW-11-2	02-01355-3
MW-11-1	02-01355-2
ER-11	02-01355-1

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 (Nitrate (NO_3^-) as N by IC),
300.0 (Chloride by IC),
300.0 (Sulfate by IC),
SM2320B (Carbonate),
SM2320B (Bicarbonate),
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

None

53500

"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-1/25	TRIP BLANK	1/25/02	9:12	WATER	HCl	2	X												
MW-11-5	MW-11-5		10:18		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-11-4	MW-11-4		9:43		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-11-3	MW-11-3		10:54		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-11-2	MW-11-2		11:52		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1													
MW-11-1	MW-11-1		12:33		HCl	3	X												
MW-11-1	MW-11-1		12:33		HNO_3	2		X	X	X									

1355

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 1/25/02 / 1342 Received by [signature] Date/Time 1/25/02 / 1342

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 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)	PEACH-CRATE (314.0)	CARBONATE, BICARB ALK. (310.1)	NITRATE, SULFATE CHLORIDE (300.0)	TDS (160.1)	PH (150.1)			Remarks
MW-11-1	MW-11-1	1/25/02	12:33	WATER	—	1					X	X	X	X	X	X			
ER-11	EQUIP. RINSATE		10:33		HCl	3	X												
					HNO_3	2			X	X									
					—	1					X	X							

1355

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 1/25/02 1342 Received by [signature] Date/Time 1/25/02 / 1342

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: 1355 **Client Name/Project:** Sota

1. Sample Arrival

Date/Time Received 1/25/02 1342 Date/Time Opened 1/25/02 1342 By (name): Kenny

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 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 39 _____ _____ _____ _____ _____

(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: 25 Jan 2002 Time: 9:15 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.

53502

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

Sample Login: Check List

02-01355 (1288_ 309) (4858100_ 309)

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?	*Kenny*
		Receiving Date/Time:	*01/25/02 1342*
		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*

53503

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-11	524.2	02-01355-7	W	V	C	40	2	G	012502	N	0	7	☐
2	MW-11-5	524.2	02-01355-6-α	W	V	C	40	3	G	012502	N	0	7	☐
	MW-11-5	Metals	02-01355-6-β	W	P	N	500	1	G	012502	N	0	7	☐
	MW-11-5	300	02-01355-6-γ	W	P		500	1	G	012502	N	0	7	☐
3	MW-11-4	524.2	02-01355-5-α	W	V	C	40	3	G	012502	N	0	7	☐
	MW-11-4	Metals	02-01355-5-β	W	P	N	500	1	G	012502	N	0	7	☐
	MW-11-4	300	02-01355-5-γ	W	P		500	1	G	012502	N	0	7	☐
4	MW-11-3	524.2	02-01355-4-α	W	V	C	40	3	G	012502	N	0	7	☐
	MW-11-3	Metals	02-01355-4-β	W	P	N	500	1	G	012502	N	0	7	☐
	MW-11-3	300	02-01355-4-γ	W	P		500	1	G	012502	N	0	7	☐
5	MW-11-2	524.2	02-01355-3-α	W	V	C	40	3	G	012502	N	0	7	☐
	MW-11-2	Metals	02-01355-3-β	W	P	N	500	1	G	012502	N	0	7	☐
	MW-11-2	300	02-01355-3-γ	W	P		500	1	G	012502	N	0	7	☐
6	MW-11-1	524.2	02-01355-2-α	W	V	C	40	3	G	012502	N	0	7	☐
	MW-11-1	Metals	02-01355-2-β	W	P	N	500	1	G	012502	N	0	7	☐
	MW-11-1	300	02-01355-2-γ	W	P		500	1	G	012502	N	0	7	☐
7	ER-11	524.2	02-01355-1-α	W	V	C	40	3	G	012502	N	0	7	☐
	ER-11	Metals	02-01355-1-β	W	P	N	500	1	G	012502	N	0	7	☐
	ER-11	300	02-01355-1-γ	W	P		500	1	G	012502	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)

53504

☐ *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-11	524.2	02-01355-7	W	X							
2	MW-11-5	524.2	02-01355-6-α	W	X							
	MW-11-5	Metals	02-01355-6-β	W				X	X	X	X	X
	MW-11-5	300	02-01355-6-γ	W		X	X					
3	MW-11-4	524.2	02-01355-5-α	W	X							
	MW-11-4	Metals	02-01355-5-β	W				X	X	X	X	X
	MW-11-4	300	02-01355-5-γ	W		X	X					
4	MW-11-3	524.2	02-01355-4-α	W	X							
	MW-11-3	Metals	02-01355-4-β	W				X	X	X	X	X
	MW-11-3	300	02-01355-4-γ	W		X	X					
5	MW-11-2	524.2	02-01355-3-α	W	X							
	MW-11-2	Metals	02-01355-3-β	W				X	X	X	X	X
	MW-11-2	300	02-01355-3-γ	W		X	X					
6	MW-11-1	524.2	02-01355-2-α	W	X							
	MW-11-1	Metals	02-01355-2-β	W				X	X	X	X	X
	MW-11-1	300	02-01355-2-γ	W		X	X					
7	ER-11	524.2	02-01355-1-α	W	X							
	ER-11	Metals	02-01355-1-β	W								
	ER-11	300	02-01355-1-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-11	524.2	02-01355-7	W								
2	MW-11-5	524.2	02-01355-6-α	W								
	MW-11-5	Metals	02-01355-6-β	W								X
	MW-11-5	300	02-01355-6-γ	W	X	X	X	X	X	X	X	
3	MW-11-4	524.2	02-01355-5-α	W								
	MW-11-4	Metals	02-01355-5-β	W								X
	MW-11-4	300	02-01355-5-γ	W	X	X	X	X	X	X	X	
4	MW-11-3	524.2	02-01355-4-α	W								
	MW-11-3	Metals	02-01355-4-β	W								X
	MW-11-3	300	02-01355-4-γ	W	X	X	X	X	X	X	X	
5	MW-11-2	524.2	02-01355-3-α	W								
	MW-11-2	Metals	02-01355-3-β	W								X
	MW-11-2	300	02-01355-3-γ	W	X	X	X	X	X	X	X	
6	MW-11-1	524.2	02-01355-2-α	W								
	MW-11-1	Metals	02-01355-2-β	W								X
	MW-11-1	300	02-01355-2-γ	W	X	X	X	X	X	X	X	

7	ER-11	524.2	02-01355-1-α	W		
	ER-11	Metals	02-01355-1-β	W		X
	ER-11	300	02-01355-1-γ	W		

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	ALKALIN	SIM
1	TB-11	524.2	02-01355-7	W		
2	MW-11-5	524.2	02-01355-6-α	W		
	MW-11-5	Metals	02-01355-6-β	W		
	MW-11-5	300	02-01355-6-γ	W	X	
3	MW-11-4	524.2	02-01355-5-α	W		
	MW-11-4	Metals	02-01355-5-β	W		
	MW-11-4	300	02-01355-5-γ	W	X	
4	MW-11-3	524.2	02-01355-4-α	W		
	MW-11-3	Metals	02-01355-4-β	W		
	MW-11-3	300	02-01355-4-γ	W	X	
5	MW-11-2	524.2	02-01355-3-α	W		
	MW-11-2	Metals	02-01355-3-β	W		
	MW-11-2	300	02-01355-3-γ	W	X	
6	MW-11-1	524.2	02-01355-2-α	W		
	MW-11-1	Metals	02-01355-2-β	W		
	MW-11-1	300	02-01355-2-γ	W	X	
7	ER-11	524.2	02-01355-1-α	W		
	ER-11	Metals	02-01355-1-β	W		
	ER-11	300	02-01355-1-γ	W		

☐ 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

Check By PK

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 02-1309 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 #: 801-021309
Collected by: MES/JNT
Collected on: 01/22/02

Received: 01/22/02
Extracted: N/A
Tested: 01/23-25/02
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 ER-8 02-01309-1	MW-12-1 02-01309-2	MW-12-2 02-01309-3	MW-12-3 02-01309-4
ALKALINITY	310.1	mg/L	2	-	166	193	198
BICARBONATE [a]	SM2320B	mg/L	2	-	166	193	198
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	-	<2	<2	<2
PH	150.1	pH unit	0.01	-	7.58	7.65	7.67
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	-	268	314	316
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	<4
Dilution Factor				1	2	4	4
CHLORIDE CL^-	300.0	mg/L	0.2	-	9.8	16.2	18.8
NITRATE AS N	300.0	mg/L	0.04	-	0.60	1.5	1.1
SULFATE SO_4^{--}	300.0	mg/L	0.5	-	38.0	38.6	41.4
Dilution Factor				1	1	1	1
ARSENIC	200.9	μg/L	5	<5	<5	<5	<5
CALCIUM	200.7	μg/L	200	-	42,800	54,900	59,900
IRON	200.7	μg/L	50	-	197	149	178
MAGNESIUM	200.7	μg/L	100	-	17,000	18,700	18,100
POTASSIUM	200.7	μg/L	400	-	3,000	3,240	3,020
SODIUM	200.7	μg/L	2000	-	20,100	24,600	23,300
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	4.0
CHLOROFORM	524.2	μg/L	0.5	<0.5	<0.5	<0.5	1.3
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	6.3	0.8J	0.8J	<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	0.4J	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-12-4 02-01309-5	MW-12-5 02-01309-6	MW-12-2D 02-01309-7	TB-8 02-01309-8
ALKALINITY	310.1	mg/L	2	192	181	196	-
BICARBONATE [a]	SM2320B	mg/L	2	192	181	196	-
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	150.1	pH unit	0.01	7.65	7.77	7.64	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	292	280	305	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	E314	μg/L	4	4.0	<4	<4	-
Dilution Factor				4	4	4	1
CHLORIDE CL^-	300.0	mg/L	0.2	15.6	16.7	16.3	-
NITRATE AS N	300.0	mg/L	0.04	1.5	1.8	1.6	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	33.7	22.9	39.4	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	μg/L	5	<5	1.8J	1.7J	-
CALCIUM	200.7	μg/L	200	57,900	43,900	53,000	-
IRON	200.7	μg/L	50	586	372	120	-
MAGNESIUM	200.7	μg/L	100	15,000	11,800	19,200	-
POTASSIUM	200.7	μg/L	400	2,360	2,220	3,300	-
SODIUM	200.7	μg/L	2000	22,400	34,200	23,900	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	μg/L	0.5	3.2	0.8	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	1	<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	2.6	1
TETRACHLOROETHENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	μg/L	0.5	0.8	0.6	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: 02-1309

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: 02-1309

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-8	02-01309-8
MW-12-5	02-01309-6
MW-12-4	02-01309-5
ER-8	02-01309-1
MW-12-3	02-01309-4
MW-12-2	02-01309-3
MW-12-2D	02-01309-7
MW-12-1	02-01309-2

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)	Nitrate, Sulfate, Chloride (300.0)	Carbonate, Bicarb. Alk (310.1)	Perchlorate (314.0)	TDS (160.1)	pH (150.1)			Remarks
TB-8	TRIP BLANK	1/22/02	10:42	WATER	HCl	2	X												
MW-12-5	MW-12-5		11:22		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-12-4	MW-12-4		12:18		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
ER-8	EQUIP. RINSATE		13:11		HCl	3	X												
					HNO_3	2			X	X									
					—	1					X			X					
MW-12-3	MW-12-3		13:19		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			
MW-12-2	MW-12-2		14:04		HCl	3	X												
MW-12-2	MW-12-2		14:04		HNO_3	2		X	X	X									

1309

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

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

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

Relinquished by [signature] Date/Time 1/22/02 / 1753 Received by [signature] Date/Time 1/22/02 / 17:53

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/JMT

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)	Nitrate, Sulfate, Chloride (300.0)	Carbonate, Bicarb, Alk. (310.1)	Perchlorate (314.0)	TDS (160.1)	pH (150.1)			Remarks
MW-12-2	MW-12-2	1/22/02	14:04	WATER	—	1					X	X	X	X	X	X			
MW-12-2D	MW-12-2 DUPLICATE		14:30		HCl	3	X												
MW-12-2D					HNO_3	2		X	X	X									
MW-12-2D					—	1					X	X	X	X	X	X			
MW-12-1	MW-12-1		15:26		HCl	3	X												
					HNO_3	2		X	X	X									
					—	1					X	X	X	X	X	X			

1309

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

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

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

Relinquished by [signature] Date/Time 1/22/02 / 1753 Received by [signature] Date/Time 1/22/02 / 17:53

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: 1309 **Client Name/Project:** Sotaenvironmental

1. Sample Arrival

Date/Time Received 1/22/02 1753 Date/Time Opened 1/23/02 0900 By (name): Paul

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

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 2.4 ____ ____ ____ ____ ____

(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: 22 Jan 2002 Time: 8:34 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.

051603

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

Sample Login: Check List

02-01309 (1288_ 305) (4858100_ 305)

01/23/02

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:	*01/22/02 1753*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*2.4 °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*

C51604

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-8	524.2	02-01309-8	W	V	C	40	2	G	012202	N	0	7	☐
2	MW-12-5	524.2	02-01309-6-α	W	V	C	40	3	G	012202	N	0	7	☐
	MW-12-5	Metals	02-01309-6-β	W	P	N	500	1	G	012202	N	0	7	☐
	MW-12-5	300	02-01309-6-γ	W	P		500	1	G	012202	N	0	7	☐
3	MW-12-4	524.2	02-01309-5-α	W	V	C	40	3	G	012202	N	0	7	☐
	MW-12-4	Metals	02-01309-5-β	W	P	N	500	1	G	012202	N	0	7	☐
	MW-12-4	300	02-01309-5-γ	W	P		500	1	G	012202	N	0	7	☐
4	ER-8	524.2	02-01309-1-α	W	V	C	40	3	G	012202	N	0	7	☐
	ER-8	Metals	02-01309-1-β	W	P	N	500	1	G	012202	N	0	7	☐
	ER-8	300	02-01309-1-γ	W	P		500	1	G	012202	N	0	7	☐
5	MW-12-3	524.2	02-01309-4-α	W	V	C	40	3	G	012202	N	0	7	☐
	MW-12-3	Metals	02-01309-4-β	W	P	N	500	1	G	012202	N	0	7	☐
	MW-12-3	300	02-01309-4-γ	W	P		500	1	G	012202	N	0	7	☐
6	MW-12-2	524.2	02-01309-3-α	W	V	C	40	3	G	012202	N	0	7	☐
	MW-12-2	Metals	02-01309-3-β	W	P	N	500	1	G	012202	N	0	7	☐
	MW-12-2	300	02-01309-3-γ	W	P		500	1	G	012202	N	0	7	☐
7	MW-12-2D	524.2	02-01309-7-α	W	V	C	40	3	G	012202	N	0	7	☐
	MW-12-2D	Metals	02-01309-7-β	W	P	N	500	1	G	012202	N	0	7	☐
	MW-12-2D	300	02-01309-7-γ	W	P		500	1	G	012202	N	0	7	☐
8	MW-12-1	524.2	02-01309-2-α	W	V	C	40	3	G	012202	N	0	7	☐
	MW-12-1	Metals	02-01309-2-β	W	P	N	500	1	G	012202	N	0	7	☐
	MW-12-1	300	02-01309-2-γ	W	P		500	1	G	012202	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

C51605

☑	*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-8	524.2	02-01309-8	W	X								☑
2	MW-12-5	524.2	02-01309-6-α	W	X								☐
	MW-12-5	Metals	02-01309-6-β	W				X	X	X	X	X	☐
	MW-12-5	300	02-01309-6-γ	W		X	X						☐
3	MW-12-4	524.2	02-01309-5-α	W	X								☐
	MW-12-4	Metals	02-01309-5-β	W				X	X	X	X	X	☐
	MW-12-4	300	02-01309-5-γ	W		X	X						☐
4	ER-8	524.2	02-01309-1-α	W	X								☐
	ER-8	Metals	02-01309-1-β	W									☐
	ER-8	300	02-01309-1-γ	W		X	X						☐
5	MW-12-3	524.2	02-01309-4-α	W	X								☐
	MW-12-3	Metals	02-01309-4-β	W				X	X	X	X	X	☐
	MW-12-3	300	02-01309-4-γ	W		X	X						☐
6	MW-12-2	524.2	02-01309-3-α	W	X								☐
	MW-12-2	Metals	02-01309-3-β	W				X	X	X	X	X	☐
	MW-12-2	300	02-01309-3-γ	W		X	X						☐
7	MW-12-2D	524.2	02-01309-7-α	W	X								☐
	MW-12-2D	Metals	02-01309-7-β	W				X	X	X	X	X	☐
	MW-12-2D	300	02-01309-7-γ	W		X	X						☐
8	MW-12-1	524.2	02-01309-2-α	W	X								☐
	MW-12-1	Metals	02-01309-2-β	W				X	X	X	X	X	☐
	MW-12-1	300	02-01309-2-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-8	524.2	02-01309-8	W									☐
2	MW-12-5	524.2	02-01309-6-α	W									☐
	MW-12-5	Metals	02-01309-6-β	W								X	☐
	MW-12-5	300	02-01309-6-γ	W	X	X	X	X	X	X	X		☐
3	MW-12-4	524.2	02-01309-5-α	W									☐
	MW-12-4	Metals	02-01309-5-β	W								X	☐
	MW-12-4	300	02-01309-5-γ	W	X	X	X	X	X	X	X		☐
4	ER-8	524.2	02-01309-1-α	W									☐
	ER-8	Metals	02-01309-1-β	W								X	☐

C51606

	ER-8	300	02-01309-1-γ	W									☐
5	MW-12-3	524.2	02-01309-4-α	W									☐
	MW-12-3	Metals	02-01309-4-β	W								X	☐
	MW-12-3	300	02-01309-4-γ	W	X	X	X	X	X	X	X		☐
6	MW-12-2	524.2	02-01309-3-α	W									☐
	MW-12-2	Metals	02-01309-3-β	W								X	☐
	MW-12-2	300	02-01309-3-γ	W	X	X	X	X	X	X	X		☐
7	MW-12-2D	524.2	02-01309-7-α	W									☐
	MW-12-2D	Metals	02-01309-7-β	W								X	☐
	MW-12-2D	300	02-01309-7-γ	W	X	X	X	X	X	X	X		☐
8	MW-12-1	524.2	02-01309-2-α	W									☐
	MW-12-1	Metals	02-01309-2-β	W								X	☐
	MW-12-1	300	02-01309-2-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-8	524.2	02-01309-8	W			☐
2	MW-12-5	524.2	02-01309-6-α	W			☐
	MW-12-5	Metals	02-01309-6-β	W			☐
	MW-12-5	300	02-01309-6-γ	W	X		☐
3	MW-12-4	524.2	02-01309-5-α	W			☐
	MW-12-4	Metals	02-01309-5-β	W			☐
	MW-12-4	300	02-01309-5-γ	W	X		☐
4	ER-8	524.2	02-01309-1-α	W			☐
	ER-8	Metals	02-01309-1-β	W			☐
	ER-8	300	02-01309-1-γ	W			☐
5	MW-12-3	524.2	02-01309-4-α	W			☐
	MW-12-3	Metals	02-01309-4-β	W			☐
	MW-12-3	300	02-01309-4-γ	W	X		☐
6	MW-12-2	524.2	02-01309-3-α	W			☐
	MW-12-2	Metals	02-01309-3-β	W			☐
	MW-12-2	300	02-01309-3-γ	W	X		☐
7	MW-12-2D	524.2	02-01309-7-α	W			☐
	MW-12-2D	Metals	02-01309-7-β	W			☐
	MW-12-2D	300	02-01309-7-γ	W	X		☐
8	MW-12-1	524.2	02-01309-2-α	W			☐
	MW-12-1	Metals	02-01309-2-β	W			☐
	MW-12-1	300	02-01309-2-γ	W	X		☐

☐ Client"s Requirement: PLEAS~~E RUN MS/MSD ON SAMP~~LE #

☐ IF ENOUGH SAMPLE

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

51607

Login By En-Yu Paul Kou

Check By

51608

APCL

Applied Physics & Chemistry Laboratory

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

February 19, 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 02-1393 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 #: 801-021393
Collected by: MES/JNT
Collected on: 01/29/02

Received: 01/29/02
Extracted: 01/30/02
Tested: 01/30-02/06/02
Reported: 02/07/02

Sample Description: Water
Project Description: 00HW019 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-13 02-01393-1	MW-16 02-01393-2	MW-16D 02-01393-3	TB-13 02-01393-4
ALKALINITY	310.1	mg/L	2	136	145	149	-
BICARBONATE [a]	SM2320B	mg/L	2	136	145	149	-
CARBONATE [a]	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	150.1	pH unit	0.01	7.23	7.32	7.34	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	393	310	311	-
CHROMIUM (VI)	7196	mg/L	0.01	0.034	<0.01	<0.01	-
Dilution Factor				4	50	50	1
PERCHLORATE	E314	µg/L	4	326	2,070	2,070	-
Dilution Factor				8	5	5	1
CHLORIDE CL^-	300.0	mg/L	0.2	44.7	36.2	34.9	-
NITRATE AS N	300.0	mg/L	0.04	7.7	5.8	5.7	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	67.3	34.3	32.6	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	2.7J	2.8J	3.1J	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	60,800	49,100	48,100	-
IRON	200.7	µg/L	50	690	62.1	57.8	-
MAGNESIUM	200.7	µg/L	100	19,900	17,700	17,200	-
POTASSIUM	200.7	µg/L	400	2,570	2,340	2,270	-
SODIUM	200.7	µg/L	2000	24,800	23,400	23,100	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	µg/L	0.5	11.0	12.3	13.2	<0.5
CHLOROFORM	524.2	µg/L	0.5	4.6	15.9	16.7	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	0.7	<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	1	1.4	1.3	<0.5
METHYLENE CHLORIDE	524.2	µg/L	1	1	0.9J	-	1
TETRACHLOROETHENE	524.2	µg/L	0.5	1.2	0.5	0.6	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	12.5	2.5	2.7	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	0.8	-	-	-
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-13 02-01393-1	MW-16 02-01393-2	MW-16D 02-01393-3	TB-13 02-01393-4
Dilution Factor				1	1	1	1
1,4-DIOXANE	8270-SIM	μg/L	3	4	9.9	10	-

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